Organization Configuration

The ElectronRT App allows for users with certain permissions to view and edit organization level configuration settings. The Organization Configuration block is located in the main page of the app and is only visible to users with Physics or higher level permissions.

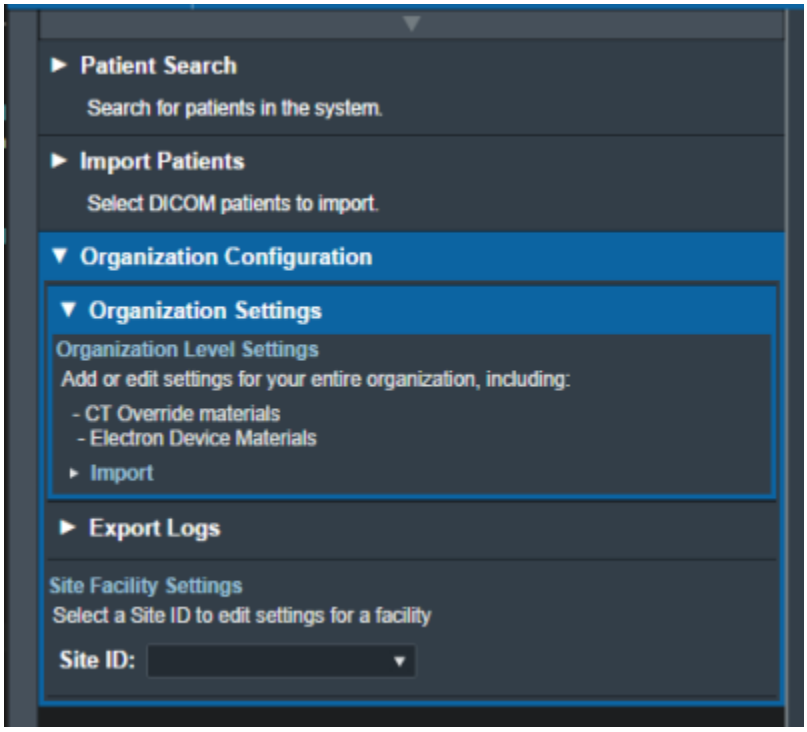

Fig. 1: Organization Configuration UI

Organization Settings

The Organization Settings block allows the user to view and edit settings that affect the entire organization. These settings include organization name, PDF report logo, CT override materials, and electron device materials.

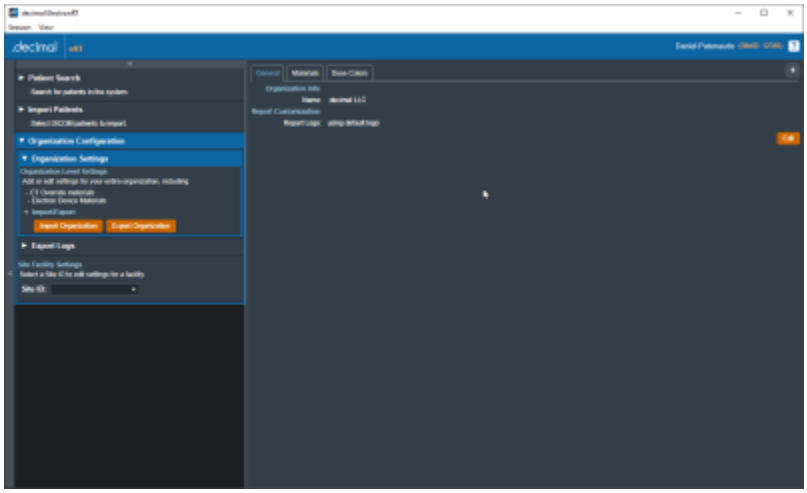

Fig. 2: Organization Settings

While editing the settings in the Organization Configuration block, the UI is changed such that the user cannot click on other sections of the UI until confirming edits with “Done” or canceling edits with “Cancel”. Some settings are grouped into tabs, such as the “General” and “Materials” tabs in the Organization Settings.

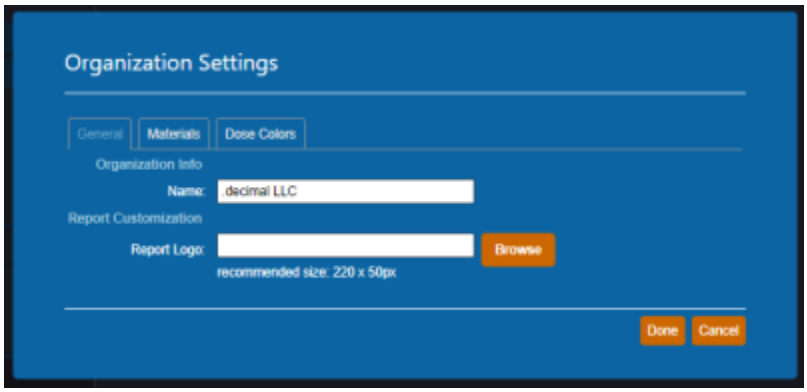

Fig. 3: Organization Edit UI

Materials

The Materials definitions allow specifying the device materials and CT override materials. These materials will be usable across the entire organization and all sites.

The units for the materials are as follows:

- **density**: g/cm3

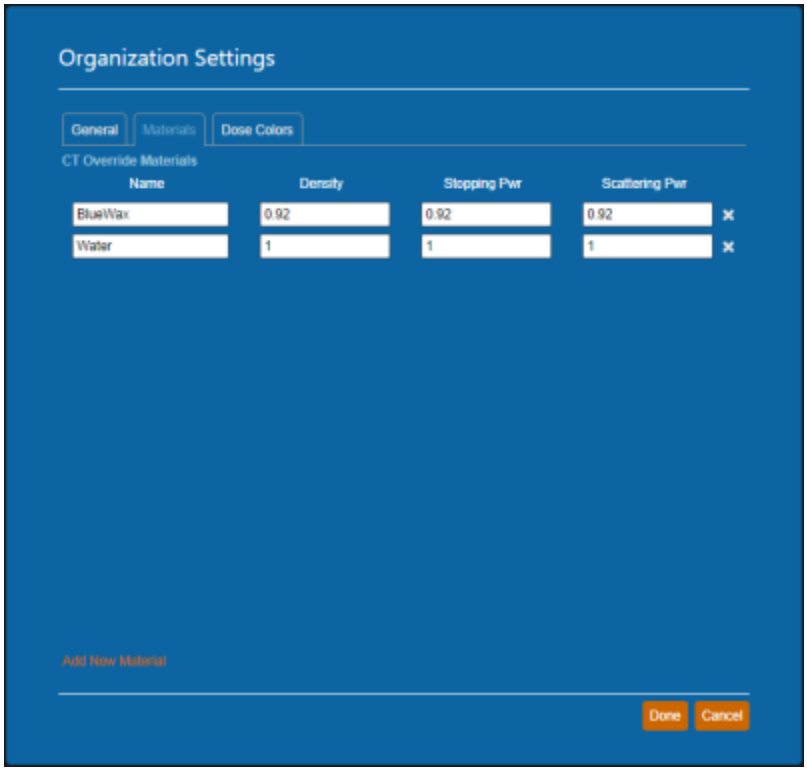

Fig. 4: Materials Configuration

Dose Colors

The Dose Colors definitions allow users to specify the default dose colors and levels when creating new plans. These values will apply to all plans created within the organization across all sites.

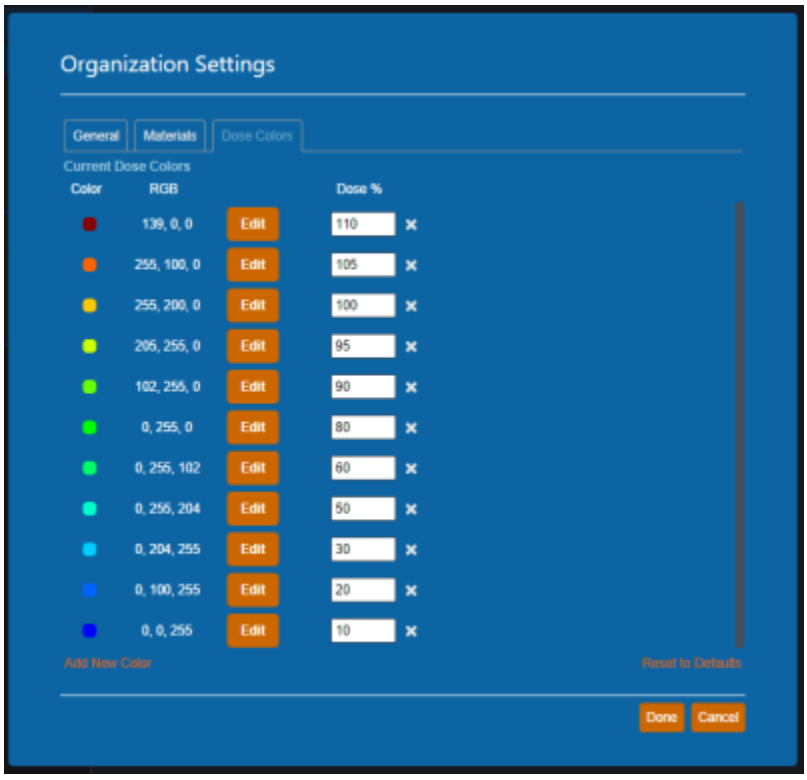

Fig. 5: Dose Colors Configuration

Note: The dose color options set will only be applied to newly created plans. For existing plans select the 'reset to defaults' link within the Dose Controls right hand side user interface to revert to the site level defaults.

Organization Import/Export

The organization import and export user interface allows users to backup, copy, or give their organization data to other individuals as needed. The following details are worth noting about this feature:

- The organization data will not be readable as plain text.
- If applicable, when importing an organization file the organization data will be upgraded to the latest version of the data model and automatic upgrades added where appropriate. Refer to the release notes for previous versions of the organization since it was last exported for the values of these upgrades.
- The application will need to be restarted after successfully importing a new organization.

Export Logs

The Export Logs block allows the user to export a file containing logs of user activity within the app. This .csv file contains data exported from the app database that keeps track of critical user activity, including (but not limited to): opening of patients and plans, plan approvals, report/DICOM exports, and hardware ordering.

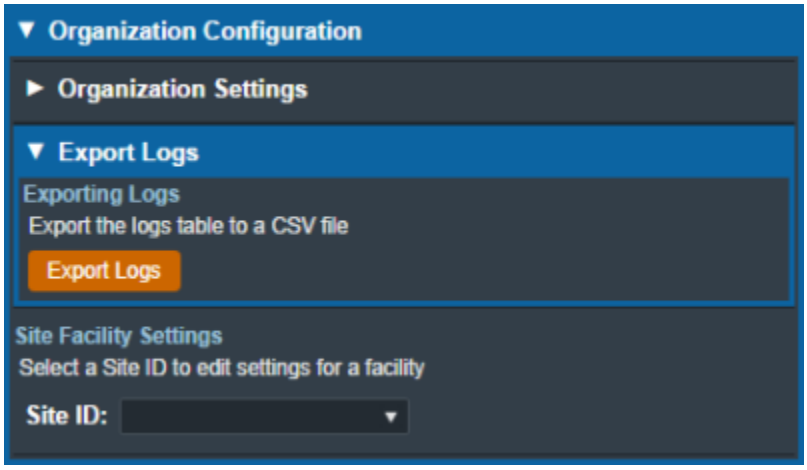

Fig. 6: Export Logs UI

Site Facility Settings

The Site Facility Settings section of the Organization Configuration allows users to view and edit settings for each site in the organization. After selecting a Site ID, the site level settings are divided into five

categories: Site Settings, DICOM Settings, CT Curves, QA Options, and Machine Settings.

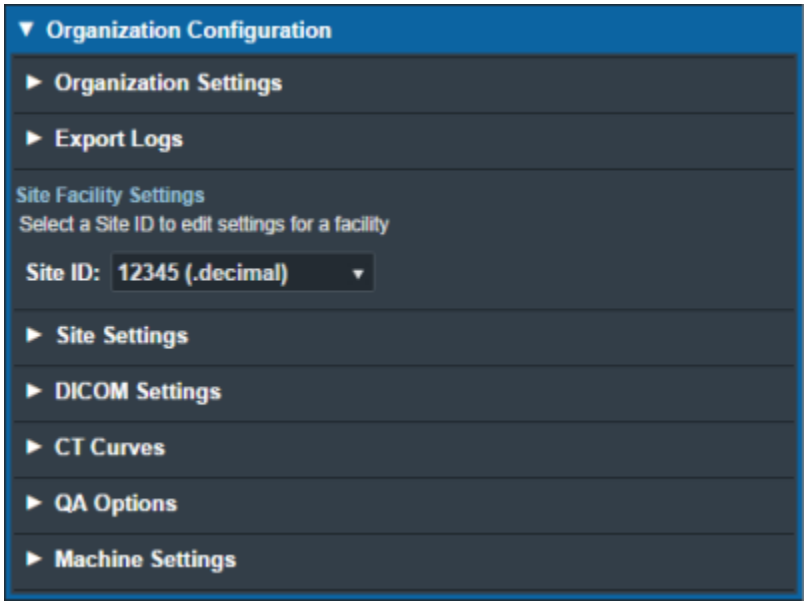

Fig. 7: Site Facility Settings

Site Settings

The Site Settings block allows for the viewing and editing of miscellaneous site level settings including the site address, physicians, and treatment sites. When editing the site address, the UI has an option to set the address to the one assigned to the site in decimal Direct. In order to edit physicians, the user must first click on the physician name on the list of physicians on left side UI and then click on “Edit Physician” on the right side UI (this is also the case with treatment sites). Users can add or remove physicians and treatment sites using the left side UI.

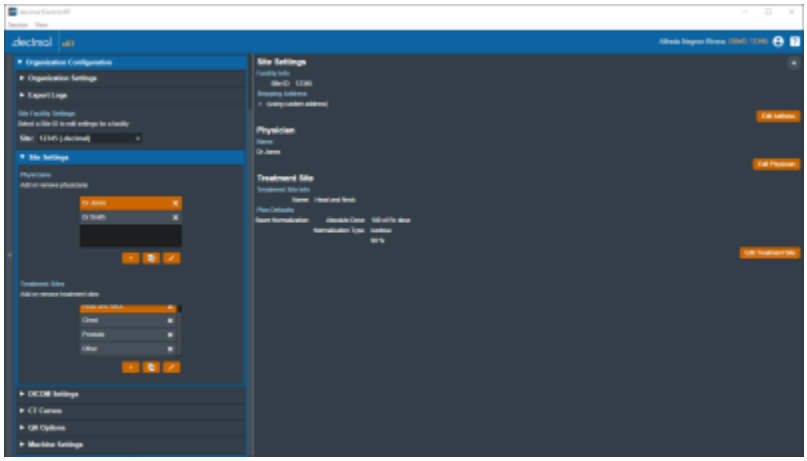

Fig. 8: Site Settings UI

Plan Defaults / Templates

Beam Normalization

The user can assign a beam normalization template when editing a treatment site. This template will be used to set the normalization during automatic beam calculations for plans in the courses that are assigned to that treatment site.

Note: Refer to Electron Beam Normalization for using and the requirements of the beam normalization template within treatment plans.

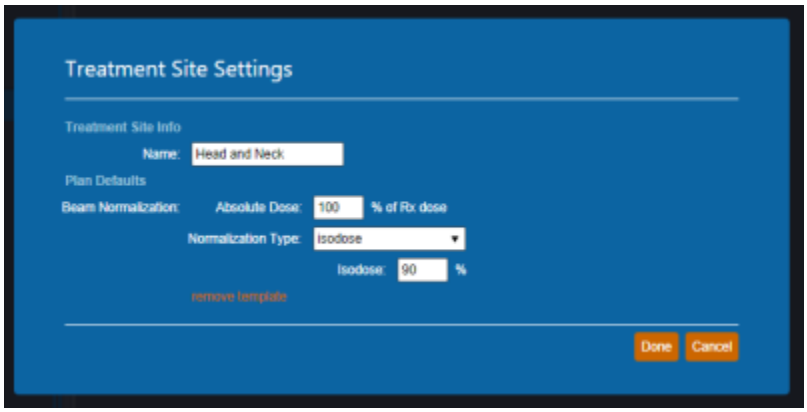

Fig. 9: Treatment Site Settings UI

DICOM Settings

The DICOM Settings block allows the user to view and edit settings related to the export & import of DICOM files. These settings include the default DICOM export directory, a list of DICOM export server AE titles, and the monitoring directory for DICOM Receiver imports.

These settings are applied and available to all users of the selected Site ID for which the settings are present.

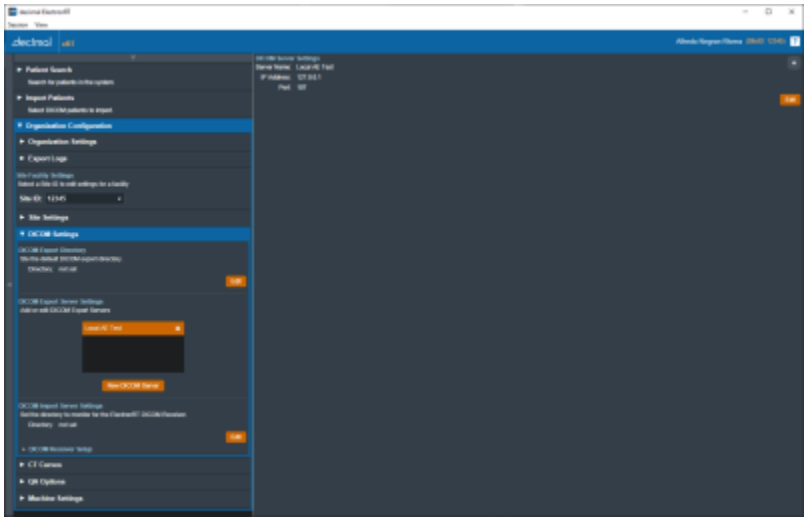

Fig. 10: DICOM Settings UI

DICOM Export Directory		
Export Directory	Sets the default export folder when exporting DICOM files to disk.	
DICOM Export Server Settings		
Export Export Servers	A list of DICOM AE titles (DICOM Receivers from another system) that the ElectronRT app can export to.	
	Server Name:	The name of the DICOM server that will displayed to the user when exporting within the eRT app.
	IP Address:	The local network IP address to which DICOM files will be sent by the eRT DICOM sender.
	Port:	The local network port on which the DICOM sender should transmit the DICOM files.
DICOM Import Server Settings		
DICOM Import Monitoring Directory	Sets the monitoring directory for importing patients received from the ElectronRT DICOM Receiver.	

CT Curves

The CT Curves block allows for the viewing and editing of CT conversion curves. These curves must contain data for both relative stopping and scattering power. The relative stopping power data for the selected curve is displayed on a graph on the right side UI. When adding a new CT conversion curve, the user can select and import a CSV file that fully defines the curve values. If there are no curves present, the user is able to obtain a sample CT curve file to have an example of the CSV formatting and values. Additionally, each CT conversion curve in the site can be exported as a CSV file.

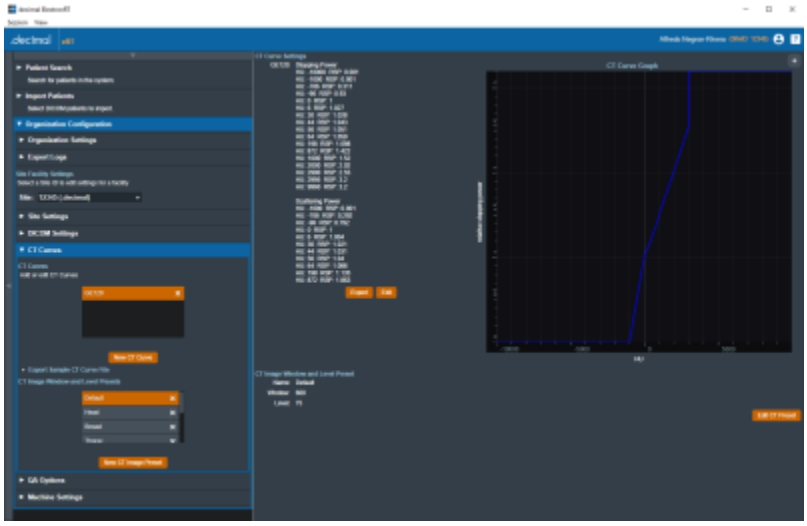

Fig. 11: CT Curves UI

The CT Curves are defined as json as shown in the below example (note: this data is provided as a user guide reference only and should not be used in a commissioned treatment planning system; as such, it does not contain full values of CT curve data):

CT Curve Example

```
{
```

```
   "scattering_power_curve": [
      {
         "key": -1000.0,
         "value": 0.0010
      },
      {
         "key": -706.0,
         "value": 0.2920
      },
      .
      .
      .
   ],
   "stopping_power_curve": [
      {
         "key": -10000.0,
         "value": 0.0010
      },
      {
         "key": -1000.0,
         "value": 0.0010
      },
      .
      .
      .
   ]
}
```


CT Image Window and Level Presets

The CT Curves block allows for the viewing and editing of CT image window and level value presets. These presets will appear as options in the right side CT Controls for electron plans in the selected site.

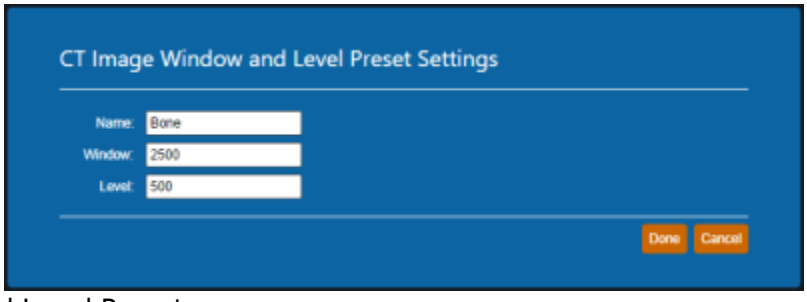

Fig. 12: CT Window and Level Preset

QA Options

The QA Options block allows the user to view and edit settings related to Dose QA. The UI allows the import of a CT image set that defines a custom water phantom. The user must define a surface entry point and select a CT curve when importing a custom phantom. Settings used for the default water phantom include the dimensions of the phantom, dose grid spacing, and the default measurement plane depth.

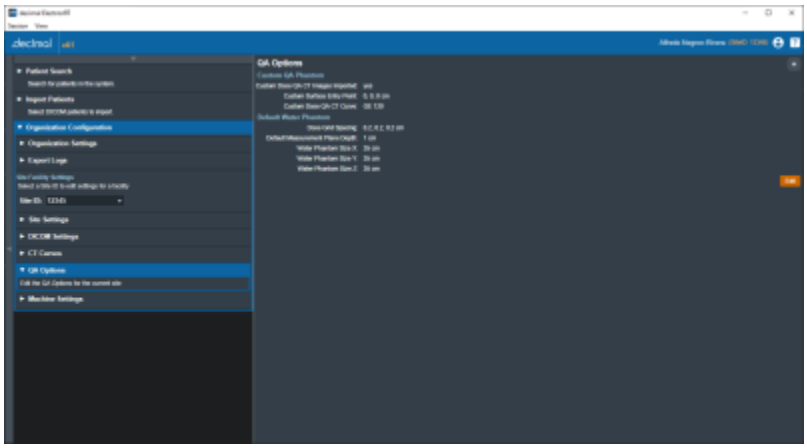

Fig. 13: QA Options UI

Machine Settings

The Machine Settings block allows the user to view, add, clone, and edit machines for the selected site. The machine settings are divided into five tabs: General, Geometry, Applicators, Commissioning, and Advanced.

General Machine Settings

The General tab of the Machine Settings block allows for the viewing and/or editing of general machine information such as the machine name, description, serial, type, and physical SAD.

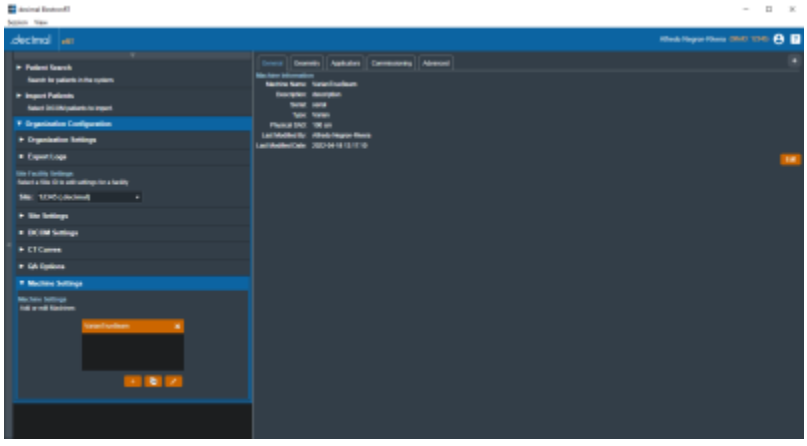

Fig. 14: General Machine Settings UI

Machine Geometry Settings

The Geometry tab of the Machine Settings block allows the user to view and edit Machine (Equipment) coordinate system settings. These settings include the reference gantry angle, reference couch angle, reference collimator angle, and the rotation direction of each axis, relative to IEC 61217 coordinate system.

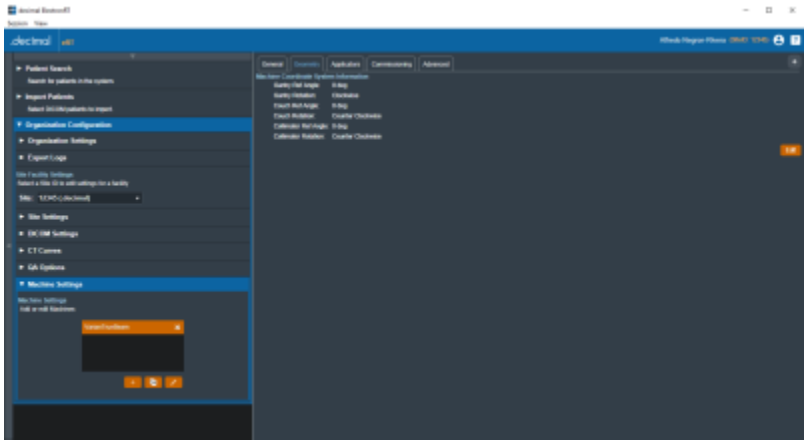

Fig. 15: Machine Geometry Settings UI

Applicator Settings

The Applicators tab of the Machine Settings blocks allows for the viewing and/or editing of applicator and beamline device settings. Information regarding blocks, intensity modulators, and applicators of varying sizes are displayed and the user can choose which applicators are available when creating a treatment plan using the current machine. The available applicators are dependent on type of machine (Siemens, Varian, or Elekta) chosen during the creation of a new machine.

While users are able to change the default target margin of the block, it should be noted that users are unable to change manufacturer specific settings (such as physical block size) as these have been pre-configured and validated by .decimal.

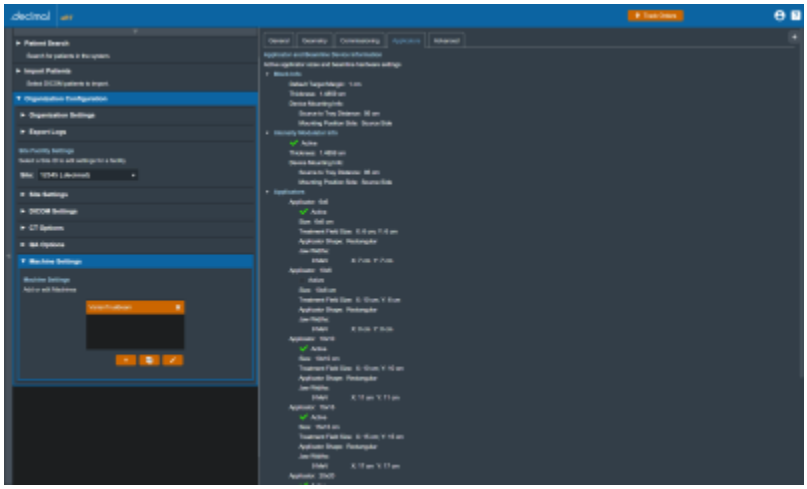

Fig. 16: Applicator Settings UI

Commissioning Data Settings

The Commissioning tab of the Machine Settings block allows the user to view and edit commissioning data by energy. The user can view the nominal energy and R90 values of the current commissioning data or import new commissioning data from a local file. The ElectronRT App currently only has support for commissioning data import from the Pinnacle treatment planning system.

The Commissioning tab also allows the user to import MU dose conversion data tables and display them in the UI. Each MU data file must contain the Output Factor and Air Gap Factor value tables for a given beam energy. The user is able to obtain a sample MU conversion table file to have an example of the CSV formatting and values.

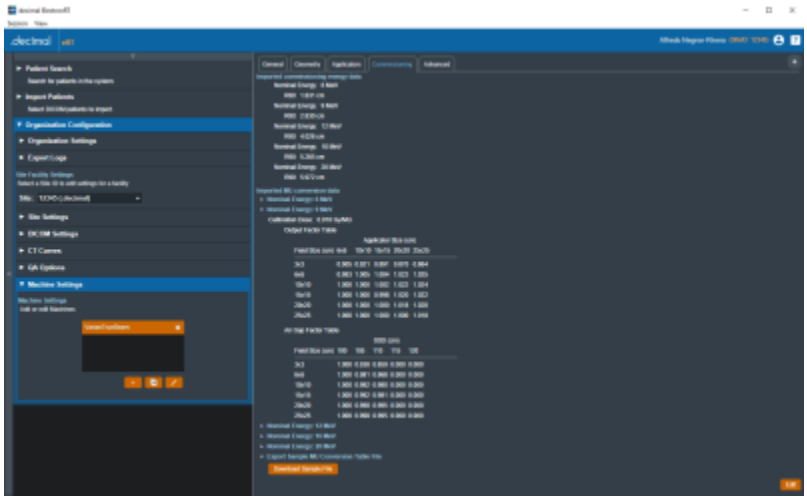

Fig. 17: Commissioning Data Settings UI

Advanced Settings

The Advanced tab of the Machine Settings block allows for the view and editing of advanced machine configuration parameters. These settings include tolerance tables, wedge tray information, blocking tray information, and room imaging parameters. These values are typically not used within the treatment

planning process, but are included in DICOM Plan export to meet end user DICOM RT Plan requirements.

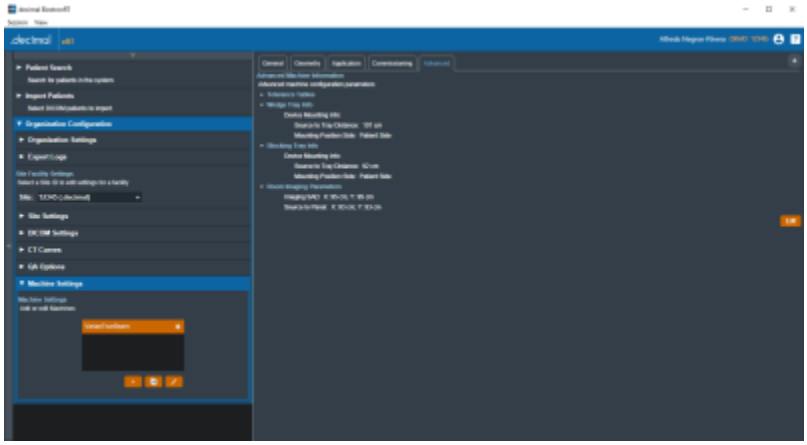

Fig. 18: Advanced Machine Settings UI