# Customer Release Notes for DP-1005 CRN-0137

This document describes the following:

- ZAP-X® system software content that is new with the DP-1005 CRN-0137 release.

- Changes to ZAP-X® system software since the prior release (DP-1005 CRN-0136).

- Known issues and workarounds.

## 1. Compatibility

ZAP-X® software is a set of major software components. These release notes are for the following version:

- Treatment Planning Software: v1.8.55.

- Treatment Delivery Software: v1.8.52.

- Treatment Delivery Control Service Software: v1.8.52.

- System Database Software:  v1.8.18.

## 2. Content of DP-1005 CRN-0137

## 2.1.    DP-1005 CRN-0137 changes

The most recent release of ZAP-X® software is the DP-1005 CRN-0137 release. It contains the following:

| Title & Description | ID |
|---|---|
| *Addresses patient alignment issues*<br>    Improved performance and robustness of automatic alignment, transitional alignment, and multi-image tracking. | 12962, 12963, 13675, 13677, 13679, 13865 |
| *Addresses automatic alignment logic error*<br>    Correct logic error where automatic alignment would fail after the fifth round despite convergence. | 13674 |
| *Improved visualization of make-up fraction message*<br>    Improved the message that is shown to the operator if the fraction was only partially delivered and a make-up fraction is available. | 13764 |
| *Message when importing discontinuous structures*<br>    The system will warn the user when a discontinuous structure is imported. | 13621, 13818 |

# 3. Known issues and workarounds

- **Image rendering not optimal (12334)**
  With the new release, CT images will have the headrest removed. However, the headrest will be displayed for CT series that had been imported prior to upgrade. The display may not be optimized for these images.  This issue will go away as new CT series are imported.

- **Failed Self-Check (4613, 4989):**
  If self-check fails, recover using the following steps:
  - Make sure there is nothing on the table.
  - Make sure the table cushion is correctly positioned.
  - Check for other obstacles in or around the system.
  - Power down the system and power it back up again.

  If there is still an issue after following these steps, call Zap service for additional support.

- **MV exit dose conflicts with prediction (5650)**
  Occasionally, the exit beam attenuation is not calculated accurately based on the CT information. This can result in an error when the MV imager provides data that conflicts with the calculated value. Referencing the MV dosimeter graph can confirm if the problem is from a few miscalculated beams or a broader problem with the dosimetry. To continue with treatment, turn off the dose check by right clicking on the overlay image in the delivery view and uncheck 'enable' in the context menu.

- **Patient extract from Operator Console inoperable after E-stop (7683):**
  Use the pendant to extract the patient if patient extract from the Operator Console is inoperable after an E-stop was triggered.

- **Final beam may not be fully recorded when a treatment is aborted (8981)**
  When a treatment is aborted partially through a beam the final beam record may be off by several MU.  Note the actual beam delivered and compare that to what is in the report.  Adjust the make-up fraction as needed.

- **Dosimeter calibration factors in QA page not saved automatically (9657)**
  The dosimeter calibration factors in QA page need to be saved manually to take effect.

- **Cameras were not showing images (10155)**
  In rare cases the video monitoring panels on the right-hand monitor are blank after booting. Restart the Treatment View application to view the video monitoring panels.

- **MV Imager measurement timed out during treatment (10284)**
  Occasionally, the beam does not trigger the MV imager to start recording. This results in a time out error that can be cleared to continue treatment. Unless this happens repeatedly, there is no concern about the accuracy of the treatment.

- **Door and shell hesitate while opening/closing (12460, 12988)**
  When the operator presses the extract button in the Treatment View application, sporadically, the door and shell start opening and then stop several times. The solution is to click the extract button three times or to restart the Pendant application.

- **Five second image interval is disabled in Treatment View (12556)**
  The button to change the time interval between x-ray images to 5 seconds is temporarily disabled. This will be addressed in a future release.

- **TDCS does not always restart after terminating Treatment View mid-treatment and then restarting (12559, 12591)**
  When the Treatment View application is restarted after losing response or being accidentally closed, in rare cases, the Treatment Delivery Control Service is not started automatically. The workaround in the error state is to exit the Treatment View application and restart it.

- **Therapist user has insufficient permissions for recording treatment (12604)**
  The default permissions for the therapist user group have been found to be insufficient for recording treatment reports. To avoid this issue, use the admin user group.

- **kV images not re-submitted if database computer goes offline during delivery (13194)**
  In the unlikely scenario where communication between database and console computer is interrupted during treatment, beam data and delivery times are uploaded to the database when the connection is restored. If this interruption occurs, the kV images are available on the console computer but are not transferred to the database computer. Contact Zap service to retrieve them.

- **Automatic subvolume fusion fails when whole head is not in secondary dataset (13443)**
  For large datasets, automatic subvolume fusion fails when whole head is not in the secondary dataset. The workaround is to perform manual subvolume fusion.

- **Daily QA interface does not adequately indicate collimator move is in progress (13782)**
  When the collimator size is changed or the user selects "Configure" in the Daily QA: Dose tab, the dropdown menu changes to "None", but the system does not indicate that the collimator is moving to a new position. The move takes approximately eight seconds and any additional collimator move commands issued by the user during this time will be queued. Depending on the number of move commands issued it will appear to the user that the collimator change takes a long time or fails. To avoid this issue, wait at least eight seconds after initiating a collimator change command.

- **CT segmentation fails when multiple series are approved sequentially in a short time (13809)**
  If multiple CT series are uploaded to the database computer in a short time, only

the first CT will be segmented successfully. To avoid this issue, wait a few minutes between importing CT series.

- **Isocenters must be re-created after head center change (13864)**
  If the head center is changed in TPS, all placed isocenters must be re-created by the user to avoid potentially creating a path with undeliverable nodes. Zap recommends setting and confirming the head center placement before creating isocenters.

- **Plan load failure (13874)**
  Sporadically, the treatment system reports a plan load failure after powering up. Logout and re-login with the current user to proceed.

- **Old overlay image displayed after automatic alignment (13968)**
  Occasionally, the system displays old overlay images in the treatment screen after an automatic alignment that had to be performed in the middle of a treatment. If this issue occurs the table is at the correct treatment position as determined by the automatic alignment, however the UI is not updated accordingly.

- **Select isocenter from list of isocenters (14109)**
  Use the Locate isocenter button to select an isocenter from the list of isocenters in TPS

- **Three images are taken during transitional alignment (14210)**
  Occasionally, the system will take three instead of two kV images during transitional alignment.

- **Fraction partially delivered message displayed (15253)**
  Systems with the newer version of the Linac Beam Control Board (LBCB) may display this message at the end of some treatment fractions. The newer version of the board terminates the treatment beam slightly early resulting in the total beam delivered for each isocenter being 0.3-0.4 MU less than planned. If the total delivered dose is less that fraction's planned dose by more than 1 MU this message is displayed at the end of the fraction without a make-up fraction generated. Please note that in cases where some beams were wholly or partially skipped for any reason, a make-up fraction is generated as expected.