

CTB-01174**Date:** *March 27, 2023***Author:** Service Engineering, R&D**Product:** Selenia Dimensions/3Dimensions **Subsystem:** I-View**Subject:** I-View User Interface X-Ray Tube Loading Indicators

Purpose

For customers using the I-View Contrast Enhanced Mammography feature on Selenia Dimensions/3Dimensions systems running Version 1.11/2.2 and higher, the user interface now provides a *Tube Loading* indicator and a *System Status* icon to allow for better planning of I-View contrast enhanced procedures in relation to x-ray tube heating.

This technical bulletin provides guidance on how to interpret the indicators and actions that are needed.

Scope

This document applies only to Selenia Dimensions and 3Dimensions systems operating with the I-View feature.

Technical Bulletin (cont.)

Instructions

An example of the X-Ray Tube Loading user interface is provided in Figure 1. Arrows point to the *Tube Loading* indicator (blue arrow) on the right side of the screen and the *System Status* icon (yellow arrow) on the bottom of the screen.

There are three scenarios a user might experience when performing an I-View contrast enhanced procedure.

Note: The Tube Loading Indicator was introduced in Version 1.11/2.2 software

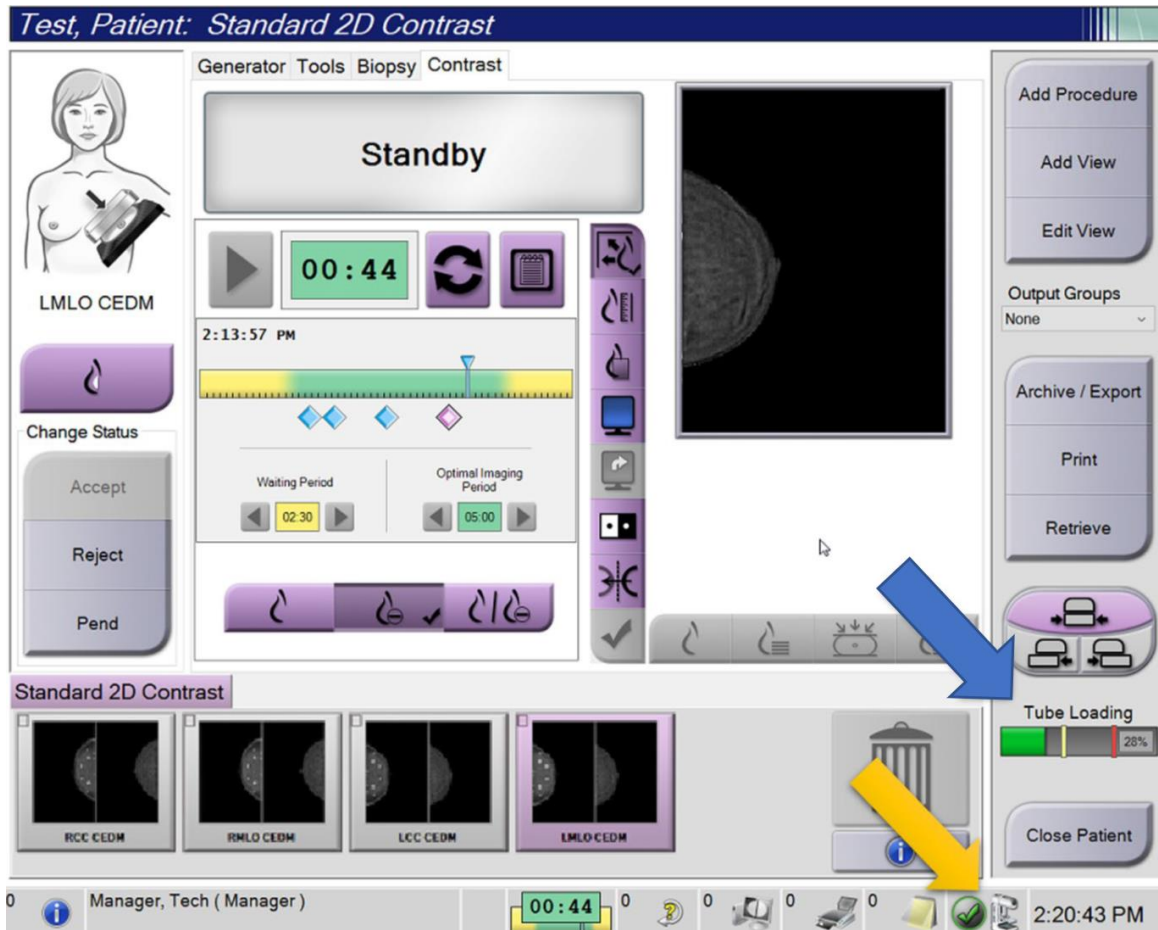


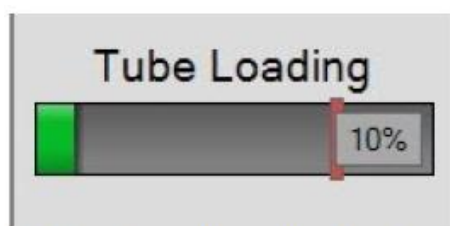
Figure 1: I-View procedure user interface; arrows point to the Tube Loading indicator and System Status icon.

Technical Bulletin (cont.)

Scenario A – Green Tube Loading Indicator

A green status indicates that the heat loading of the x-ray tube is below what is considered as steady state heat loading. Under the green indication the system can accommodate 4 patients per hour of I-View contrast enhanced procedures. The System Status icon appears green under this scenario.

Note: The Tube Loading Indicator was introduced in Version 1.11/2.2 software



Tube Loading Indicator



System Status Icon

Figure 2: Example Tube Loading and System Status indicators for Scenario A.

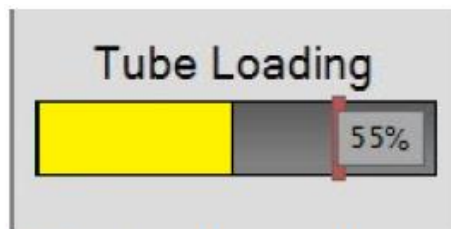
NOTE: Steady state heat loading of the Dimensions x-ray tube is defined as operating at 55% of x-ray tube heat capacity continuously. Steady state represents continuous Combo imaging at 8 patients per hour.

Technical Bulletin (cont.)

Scenario B – Yellow Tube Loading Indicator

The yellow status indicates that the x-ray tube heat loading is above what is considered as steady state operation (see note above). Under yellow status the system still has plenty of heat capacity to accommodate a full I-View contrast enhanced procedure and sustain such acquisitions for up to 4 patients per hour.

Note: The Tube Loading Indicator was introduced in Version 1.11/2.2 software



Tube Loading Indicator



System Status Icon

Figure 3: Example Tube Loading and System Status indicators for Scenario B.

The number displayed at the corner of the Tube Loading indicator shows the estimated tube heat loading with 55% representing steady state. **It is expected that the Tube Loading indicator will turn yellow during an I-View contrast enhanced procedure and will remain yellow for the duration of the procedure.** It is also possible, but rare that the Tube Loading indicator appears yellow when opening a patient to start an I-View contrast enhanced procedure. In either case, the I-View procedure can continue uninterrupted. While the Tube Loading indicator remains yellow, the tube heat loading is considered safe.

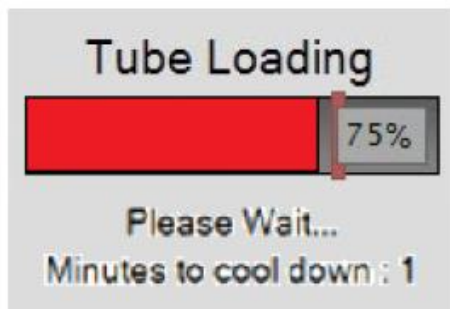
During a yellow Tube Loading indicator, the System Status icon may flash red with a number representing the number of minutes it will take to drop below the steady state heat loading. There is no need to wait before acquiring images under a yellow Tube Loading indicator despite the flashing System Status icon. The System Status icon is only informational and does not require action under a yellow Tube loading indicator.

Technical Bulletin (cont.)

Scenario C – Red Tube Loading Indicator

The red status indicates that the x-ray tube heat loading just passed a threshold, which is considered potentially risky when attempting to acquire additional images. Under red status the system still has some heat capacity left (threshold is set to 75% of tube heat loading capacity). However, waiting is recommended for the suggested number of minutes indicated under the Tube Loading indicator prior to acquiring an additional image. Typically, this time is very short. (Approximately one minute) As soon as the Tube Loading indicator returns to yellow state, an additional image can be acquired.

Note: The Tube Loading Indicator was introduced in Version 1.11/2.2 software



Tube Loading Indicator



System Status Icon

Figure 4: Example Tube Loading and System Status indicators for Scenario C.

Under certain circumstances (i.e. large compressed breast thickness and/or more than four contrast views), it is normal to see the Tube Loading indicator turn red after the last exposure of an I-View contrast enhanced procedure. The system will quickly come back to equilibrium, and it will return to yellow or even green status within minutes. Even if the Tube Loading indicator turns red occasionally, the system can still maintain a rate of 4 patients per hour undergoing I-View contrast enhanced exams. There is still space for additional heat loading to the x-ray tube.