DICOM Correction Proposal

STATUS	Final Text
Date of Last Update	2020/11/16
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Submission Date	2020/02/19

Correction Number CP-2039
Log Summary: Enhanced Specification of the Beam Limiting Device Offset
Name of Standard PS3.16 2020d
Rationale for Correction: The description of the RT Beam Limiting Device Offset (300A,064B) in the RT Beam Limiting Device Opening Macro is not sufficiently precise. It is not completely clear what offsets in x and y mean just in respect to Parallel RT Beam Delimiter Positions (300A,064A), since those positions are always defined along the x-axis only. An offset in y effects the Parallel RT Beam Delimiter Boundaries (300A,0649). Further on the role of the offset in respect to the Beam Modifier Orientation Angle (300A,0645) in the RT Beam Limiting Devices Definition Macro should be made explicit, since this angle defines the orientation of the x and z axis of the Beam Modifier Coordinate System against the Base Beam Modifier Coordinate System.
Correction Wording:

In PS3.3, modify C.36.2.2.9 RT Beam Limiting Device Opening Macro as follows:

C.36.2.2.9 RT Beam Limiting Device Opening Macro

This Macro defines the opening created by RT Beam Limiting Devices at a specific Control Point or set of Control Points.

Table C.36.2.2.9-1. RT Beam Limiting Device Opening Macro Attributes

Attribute Name	Tag	Type	Attribute Description
Number of RT Beam Limiting Device Openings	(300A,0657)	1C	Number of RT Beam Limiting Device Openings in the RT Beam Limiting Device Opening Sequence (300A,0656). Required if Number of RT Beam Limiting Devices (300A,0641) is present and has a non-zero value.
RT Beam Limiting Device Opening Sequence	(300A,0656)	1C	Beam limiting device (collimator) settings defining the opening for the current Control Point. Required if Number of RT Beam Limiting Device Openings (300A,0657) is present and has a non-zero value and the conditions in Section C.36.2.2.5.1.1 are satisfied. The number of Items included in this Sequence shall

Attribute Name	Tag	Type	Attribute Description
			equal the value of Number of RT Beam Limiting Device Openings (300A,0657).
>Referenced Device Index	(300A,0607)	1	The value of Device Index (3010,0039) from the RT Beam Limiting Device Definition Sequence (300A,064D) corresponding to the Beam Limiting Device used in this Item.
>RT Beam Limiting Device Offset	(300A,064B)	1C	The offsets (x,y) in mm of the Parallel RT Beam Delimiter Positions (300A,064A) **along the x-axis and the Parallel RT Beam Delimiter Boundaries (300A,0649) along the y-axis of the Beam Modifier Coordinate System~~from the central beam axis,~~ after the Beam Modifier Orientation Angle (300A,0645) is applied**. See Section C.36.2.2.9.1.1 and Section C.36.2.2.8.1.2. Required if the conditions in Section C.36.2.2.5.1.1 are satisfied.
>Parallel RT Beam Delimiter Positions	(300A,064A)	1C	One-dimensional positions of the tip in mm of beam delimiters. If Device Type Code Sequence (3010,002E) contains (130333, DCM, "Single Leaves"), N values shall be provided where N is the Number of Parallel RT Beam Delimiters (300A,0648). If Device Type Code Sequence contains (130330, DCM, "Jaw Pair") or (130331, DCM, "Leaf Pairs"), 2N values shall be provided where N is the Number of Parallel RT Beam Delimiters (300A,0648). The values shall be grouped by the mounting side identified by the Parallel RT Beam Delimiter Leaf Mounting Side (300A,064F) with the values of RT Beam Delimiter Elements on the negative mounting side first. The order of values shall correspond to the order of theParallel RT Beam Delimiter Boundaries (300A,0649). See Section C.36.2.2.9.1.1, Section C.36.2.2.9.1.2 and Section C.36.2.2.9.1.3. Required if the conditions in Section C.36.2.2.5.1.1 are satisfiedand if Device Type Code Sequence contains (130330, DCM, "Jaw Pair"), (130331, DCM, "Leaf Pairs") or (130333, DCM, "Single Leaves").
>RT Beam Delimiter Geometry Sequence	(300A,064C)	1C	The outline of the Beam Limiting Device opening. Required if the conditions in Section C.36.2.2.5.1.1 are satisfiedand if DeviceType Code Sequence (3010,002E) contains (130332, DCM, "Variable Circular Collimator"). See Section C.36.2.2.9.1.1 and Section C.36.2.2.9.1.3. Only a single Item shall be included in this Sequence.
>>Include Table 10.38-1 "Outline Definition Macro Attributes".			*The Outline Shape Type (0018,1630) shall be CIRCULAR.*

Attribute Name	Tag	Type	Attribute Description
			The plane is defined in Section C.36.2.2.9.1.1.