

DICOM Correction Item

Correction Number CP-486	
Log Summary: RT Control Point Dose	
Type of Modification Omission	Name of Standard PS 3.3, PS 3.6 2004
<p>Rationale for Correction:</p> <p>In order to have the options to:</p> <ul style="list-style-type: none"> • interactively change the clinical wedge angle in the case of a motorized wedge without having to recalculate the dose distribution, • to edit some of the MLC segments in the case of a multi-segmented beam, without having to recalculate the dose for the MLC segments that have not been affected, <p>it is required to store the dose calculated for each beam segment for which the number of Monitor Units is changing. The current definition does not allow for that.</p>	
<p>Sections of documents affected</p> <p>PS 3.3, C.8.8 (Radiotherapy modules)</p> <p>PS 3.6 Section 6 (Registry of DICOM Data Elements)</p>	
Correction Wording:	

In PS 3.3, C.8-39 (RT Dose Module Attributes) modify the following attributes as indicated in bold:

Attribute Name	Tag	Type	Attribute Description
Dose Summation Type	(3004,000A)	1	Type of dose summation. Defined Terms: PLAN = dose calculated for entire RT Plan FRACTION = dose calculated for a single Fraction Group within RT Plan BEAM = dose calculated for one or more Beams within RT Plan BRACHY = dose calculated for one or more Brachy Application Setups within RT Plan CONTROL POINT = dose calculated for one or more Control Points within a Beam
Referenced RT Plan Sequence	(300C,0002)	1C	Introduces sequence of one Class/Instance pair describing RT Plan associated with dose. Required if Dose Summation Type (3004,000A) is PLAN, FRACTION, BEAM, or BRACHY, or CONTROL POINT . Only a single item shall be permitted in this sequence. See Note 1.
...			
>Referenced Fraction Group	(300C,0020)	1C	Introduces sequence of one Fraction Group

Sequence			containing beams or brachy application setups contributing to dose. Required if Dose Summation Type (3004,000A) is FRACTION, BEAM, or BRACHY, or CONTROL POINT . Only a single item shall be permitted in this sequence. See Note 1.
...			
>>Referenced Beam Sequence	(300C,0004)	1C	Introduces sequence of Beams in current Fraction Group contributing to dose. Required if Dose Summation Type (3004,000A) is BEAM or CONTROL POINT . One or more items may be included in this sequence.

In PS 3.3, C.8-39 (RT Dose Module Attributes) add the following attributes directly after Referenced Beam Number (300C,0006):

Attribute Name	Tag	Type	Attribute Description
...			
>>>Referenced Control Point Sequence	(300C,00F2)	1C	<u>Sequence defining the Control Points in current Beam contributing to dose.</u> <u>Required if Dose Summation Type (3004,000A) is CONTROL POINT.</u> <u>Only a single item shall be present in this sequence.</u>
>>>>Referenced Start Control Point Index	(300C,00F4)	1	<u>Identifies Control Point specified by Control Point Index (300A,0112) within Beam referenced by Referenced Beam Number (300C,0006). This is the first of the two Control Points from which the Dose contribution to the Control Point can be calculated.</u>
>>>>Referenced Stop Control Point Index	(300C,00F6)	1	<u>Identifies Control Point specified by Control Point Index (300A,0112) within Beam referenced by Referenced Beam Number (300C,0006). This is the second of the two Control Points from which the Dose contribution to the Control Point can be calculated.</u> <u>The Control Point Index (300A,0112) referenced by Referenced Stop Control Point Index (300C,00F6) shall be the Control Point Index (300A,0112) immediately following the Control Point Index (300A,0112) referenced by Referenced Start Control Point Index (300C,00F4) within the Referenced Beam Number (300C,0006).</u>

In PS 3.3, C.8-50 (RT Beams Module Attributes) add the following attributes directly after Cumulative Dose Reference Coefficient (300A,010C):

Attribute Name	Tag	Type	Attribute Description
...			
>>Referenced Dose Sequence	(300C,0080)	1C	<u>Sequence describing related instances of RT Dose (for grids, isodose curves, and named/unnamed point doses). One or more items may be included in this sequence.</u> <u>Required if RT Dose is being sent, and Dose Summation Type (3004,000A) equals CONTROL POINT.</u>
>>>Referenced SOP Class UID	(0008,1150)	1	<u>Uniquely identifies the referenced SOP Class.</u>
>>>Referenced SOP Instance UID	(0008,1155)	1	<u>Uniquely identifies the referenced SOP Instance.</u>

In PS3.6, Section 6, add the following new attributes:

Tag	Name	VR	VM
(300C,00F2)	<u>Referenced Control Point Sequence</u>	<u>SQ</u>	<u>1</u>
(300C,00F4)	<u>Referenced Start Control Point Index</u>	<u>IS</u>	<u>1</u>
(300C,00F6)	<u>Referenced Stop Control Point Index</u>	<u>IS</u>	<u>1</u>