DICOM Correction Proposal

STATUS	Assigned
Date of Last Update	2024/03/05
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Correction Number	CP-2349
Log Summary: Relax Multi-energy CT Rescale Type constraint	
Name of Standard PS3.3 2023c	
Rationale for Correction: cp2189 asserted that ORIGINAL multi-energy types may include: • Objective Image Family: VMI, ELECTRON_DENSITY, EFF_ATOMIC_NUM • Material Quantification Family: MAT_SPECIFIC, MAT_REMOVED • Material Visualization Family: MAT_MODIFIED The CT Pixel Value Transformation Macro requires HU as the Rescale Type (0028,1054) for ORIGINAL images. The same conditions for Rescale Intercept (0028,1052) within the CT Image Module (Table C.8-3) should apply.	
Correction Wording: Allow Rescale Types other than HU for ORIGINAL Multi-energy acquisitions.	

Modify Table C.8-126. CT Pixel Value Transformation Macro Attributes as follows:

Table C.8-126. CT Pixel Value Transformation Macro Attributes

Attribute Name	Tag	Type	Attribute Description
Pixel Value Transformation Sequence	(0028,9145)	1	Contains the Attributes involved in the transformation of stored pixel values. Only a single Item shall be included in this Sequence.
>Rescale Intercept	(0028,1052)	1	The value b in relationship between stored values (SV) and the output units. Output units = m*SV + b.
>Rescale Slope	(0028,1053)	1	m in the equation specified by Rescale Intercept (0028,1052).

| >Rescale Type | (0028,1054) | 1 | Specifies the output units of Rescale Slope (0028,1053) and Rescale Intercept (0028,1052).

See Section C.11.1.1.2 for further explanation.

If Frame Type (0008,9007) Value 1 of this frame is ORIGINAL and Frame Type (0008,9007) Value 3 is not LOCALIZER **and Multi-energy CT Acquisition (0018,9361) is either absent or NO**, the value shall be HU (Hounsfield Units). |

Table C.8-3. CT Image Module Attributes

Attribute Name	Tag	Type	Attribute Description
…			
Rescale Intercept	(0028,1052)	1	The value b in relationship between stored values (SV) and the output units. Output units = m*SV+b If Image Type (0008,0008) Value 1 is ORIGINAL and Value 3 is not LOCALIZER, and Multi-energy CT Acquisition (0018,9361) is either absent or NO, output units shall be Hounsfield Units (HU).
Rescale Slope	(0028,1053)	1	m in the equation specified in Rescale Intercept (0028,1052).
Rescale Type	(0028,1054)	1C	Specifies the output units of Rescale Slope (0028,1053) and Rescale Intercept (0028,1052). See Section C.11.1.1.2 for Defined Terms and further explanation. Required if the Rescale Type is not HU (Hounsfield Units), or Multi-energy CT Acquisition (0018,9361) is YES. May be present otherwise.