|  |  |
| --- | --- |
| Description: Description: O:\LOGOS\DICOM\DICOM LOGO - MEDIUM.tif | **1300 North 17th Street, Suite 1752 Arlington, VA 22209, USA**  **+1-703- 841-3281**  [http://dicom.nema.org](http://dicom.nema.org/)  E-mail: [**dicom@medicalimaging.org**](mailto:dicom@medicalimaging.org) |

MINUTES

###### DICOM WORKING GROUP SIX

(Base Standard)

**Apr. 4-8, 2013**

### MITA HQ, Arlington, VA

**Members Present Represented by M T W Th F**

ACR James Philbin x x x

Agfa Healthcare Robert Horn x x x x x

CoreLab David Clunie p p p p

GE Healthcare Andrei Leontiev x x x x

Philips Healthcare Bas Revet x x x x x

Siemens Healthcare Bjorn Nolte x x x x x

Toshiba MRI USA Kevin O’Donnell x x x x

**Members Not Present Voting Representative**

\*Carl Zeiss Medical Software Tobias Kurzke

\*DeJarnette Research Systems Fred Ganong

JIRA Makoto Suzuki

Konica Minolta Med. Imaging Michael Laconti

\*Merge Healthcare Ronald Cowan

\*Societe Francaise de Radiologie Joel Chabriais

**Alternate Voting Representatives,**

**Observers, Others Present Affiliation M T W Th F**

Balasubramenian, Shridar Contrast Ad-Hoc/Bayer x x

Busch, Ulrich WG-07/Varian x x x

Casertano, Andrew WG-22/SAW Consulting p

Culp, Timothy WG-27/Harris Corp p

Generaux, Brad WG-27/AGFA Healthcare p

Hersch, Jeff Johns Hopkins Univ. x

Herve, Hoen GE Healthcare p

Kalafut, John Contrast Ad-Hoc/Bayer p

Klyce, Stephen WG-22/Software Port x x

Lum, Flora WG-09/AAO x

Pohlhammer, Jeffrey WG-03/Philips x x

Smith, Charles WG-03/Numa, Inc. x x

Sureda, Francisco WG-02/GE Healthcare p

Solomon, Harry WG-08, WG-01/GE p p

Van Sycle, Don WG-09/ DVS Consulting x x

Vastagh, Stephen MITA x x x x x

Whitby, Jonathan Vital Images x x

(\* = Does not count toward a quorum, P = Phone and/or web, X = Present)

**Presiding Officer:** Bas Revet, Chair

# **Opening**

The Chair called the meeting to order at 08.30 on April 8, 2013. A quorum was present. Members approved the agenda. The minutes of the Feb. 2013 meeting were approved with minor corrections. The Secretary reviewed the antitrust rules.

The Chair announced that Jere Darling resigned as member of WG-06.

# **Report on Ballots**

Committee Secretary Stephen Vastagh reported on the ballots distributed following the June 2012 meeting of WG-06. The ballots passed.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| BALLOT | APPROVE | DISAPPROVE | ABSTAIN | **COMMENTS** |
| CPack 70 | 28 | 3 | 4 | 16 |

# 

# **Discussion: CPs in last Letter Ballot CPack-70 - Review of the Comments, Disposition**

The CPs in the Letter Ballot CPack-70 are listed below together with discussion of comments and decision on Final Text or other disposition.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CP** | **Name** |  | **Consideration of Comments and Other Discussion** | **Dis-position** |
| 1164 | Coronary Artery Codes | H Solomon | Comment was noted.  Adding another coding schema | FT |
| 1218 | Correct further errors in UCUM cades and related meanings | B Revet | Apr. 2012 –J. Keyes’ detailed comments were incorporated. Approved for final text.  Nov. 2012 --Comments were considered and accepted. Due to the many detailed changes required to implement changes the Chair decided, in the interest of accuracy, to make changes deliberately and review changed CP at next meeting for final text. | FT |
| 1220 | Editorial Corrections for PS3.16 | H. Solomon | Comments are very detailed and require more work that will be completed by the June 2013 meeting of WG-06 by B Revet.  Feb. 2013:Corrects typos. Noted that XML will catch such typos. | Postponed to June mtg to approve FT |
| 1244 | Add additional Workitem Codes in Context ID 9241 | U. Busch | One negative vote other comments also noted lack of definitions. The definitions were requested and supplied by U. Busch. B. Revet corrected other editorial items. | FT |
| 1245 | Add Note about SOP Class UID at the Study level | U Busch | Comment to rename SOP Class: the Group agreed with the spirit of the comment but the benefit of renaming may not be worthwhile. Renaming by a separate CP would be acceptable for another discussion.  Responding to the negative comment: accepted the comment and B Revet drafted additional text for Part 3.    Feb. 2013: WG-06 asked to add the note to each occurrence. | FT |
| 1246 | Autosequencing Support in Beam Delivery Instruction | U Busch | Comment: the wrong version was in the ballot, minor change was made. No need to reballot | FT |
| 1247 | Rename CID 21 | U Busch | Comment was accepted.  Feb 2013: Made same change to Part 6 UID list. | FT |
| 1249 | Deprecation of multiple FORs in Structure Set | U Busch | APRIL 2013: Discussed the negative GE Comment due to existing implementation and recommended a re-ballot.. DC: RT Structure set is widely used outside of the RT domain. HS and A. Leontiev were on the call. RT decided to shift to a single reference but other implementations outside of RT continue to use multiple references; accordingly it has been retained.  FEB 2013: CP proposes to remove multiple items and leave only one item. The negative GE comment suggested that RT Structure Sets have been used in other areas (mammo, etc.) Are the multiples just superfluous or actually harmful? GE comment change section title, and to reballot.  Later in the week Group will discuss with U Busch the comments.    NOV.12 DISCUSSION:  D. Clunie reiterated his previous comment. U. Busch reported that WG-07 discussed and concluded that nobody is using this. It was only used in one or two RT products; D.Clunie suggested to make this clear in the Letter Ballot.  Also revised the format of stating retirement.  AUG.12 DISCUSSION: This CP is the RT-relevant response to the concept of CP-1213. D. Clunie noted that RT Structure Set has been implemented outside of RT community and pushback is expected. WG-06 expressed doubts about removing something that works. RT hopes that segmentation IOD will replace it. Expect argument to allow use the registration object but must note that usage outside RT is permitted. Deprecating individual attributes concerns WG-06. | FT |
| 1250 | Stereotactic Information for Breast X-Ray | B. Revet | D. Clunie’s comment was sent to WG-15 and term was changed to ‘tomo scout’. | FT |
| 1251 | Include Series Date, Time in SR IODs | D. Clunie | Discussed the history of the format of this attribute and noted long-time usage. | FT |
| 1252 | Add Real World Value Mapping to General Image Module | D. Clunie |  | FT |
| 1253 | Clarify Recommended Viewing Mode Usage | B. Revet | APRIL 2013: A comment suggested more complete explanation in the note. Text note included on normative description. | FT |
| 1254 | Correct Definition of Irradiation Duration | B. Revet | No comments received. | FT |
| 1255 | Incorrect Note Reference in Beams Module | U Busch | Editorial correction only | FT |
|  |  |  |  |  |

WG-06 decided and voted unanimously to approve, as **final text**, the CPs as marked above.

# **Discussion of CPs in the Voting Package for April 2013**

The CPs listed below have either been proposed for the Apr VP, at the past meetings, or have been proposed for the VP by being posted in the VP directory of this meeting’s folder. The CPs listed below were reviewed and discussed. The CPs were approved by unanimous vote for inclusion in Letter Ballot (CPack 71) or directed for further work or review as shown below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CP#** | **Voting Package for Apr. 2013 -- Title** | **Assigned to** | **Highlights of discussions** | **Disposition** |
| 1219 | Clarify Completion Flag for Dose SR | H. Solomon | April 2013: Lengthy discussion took place with HS and DAC participating by phone: Can one define complete? Dose-yes. Ultrasound exam –partial until radiologist signs off. The value of the flag was discussed R Horn poster version -01 and v-02. Revised and approved for LB  Feb. 2013: RHorn and H Solomon to make new proposal | LB |
| 1248 | Indication for deformed RT Dose | U Busch | APR. 2013: reviewed & approved revised draft.  FEB 13: Rigid and Nonrigid was discussed. Needs more specifics.  NOV 12: Reversing capability needs to be discussed | LB |
| 1256 | Add defined term for MPEG4 | D. Clunie | Looks obvious | LB |
| 1257 | Row and Column offset tags swapped in Whole Slide Imaging | D. Clunie | Corrects typo | LB |
| 1258 | Refactor segment description, extend segment types and anatomy | D. Clunie | APRIL 2013: discussed having attribute for anatomy in two places.  FEB. 2013 Was again discussed with D Clunie.  NOV 2012: Adds macro for segmentation and adds codes for different types of tissues. See Context ID 716x. Reviewed on Monday and reviewed again on Wednesday | LB |
| 1259 | Add Medical Subject Headings (MeSH) as Coding Scheme | D. Clunie |  | LB |
| 1260 | Frame Increment Pointer for Enhanced Images | D. Clunie | The CP clarified pointer. | LB |
| 1261 | Other Double 64 Bit Floating Point Value Representation | D. Clunie | NOV. 2012: R. Horn recalled the past request for new value and that WG-06 was negative. Double would make more sense for large dynamic ranges. | LB |
| 1262 | Distinguish JPEG Interchange Format from JPEG File Interchange Format | D. Clunie | NOV. 2012: R. Horn noted the need for return to this issue for the RESTful supplement. | LB |
| 1263 | Relax rescale restrictions for Multi-frame Grayscale Word IOD to allow use as parametric maps | D. Clunie | Moves constraint to SOP Class specific. | LB |
| 1264 | Define exact windowing functioning for use with small rescaled pixel values | D. Clunie |  | LB |
| 1265 | References to slices on which segmentation was performed | D. Clunie |  | LB |
| 1266 | Extend SR Image Library with cross-sectional content items | D. Clunie | FEB. 2012: Discussed with D Clunie.  NOV. 2012: Postponed till Discussion with D Clunie | LB |
| 1267 | Video streams are independent and may not span instances | D. Clunie |  | LB |
| 1269 | Add Target Information for Mammography Biopsy | Bas Revet/Janet Keyes | Group confirmed need for target | LB |
| 1270 | Correct Reference in C-Find Protocol Specification | U Busch |  | LB |
| 1271 | Corrections for IEEE Nomenclature | A. Leontiev | APRIL 2013: D Clunie asked whether this means that the IEEE Code cannot be used without license? HS confirmed the opposite, and noted that reportedly IEEE allows the use through NIST; however, no documented agreement was found. The purpose of CP is general clean-up not the IEEE issue. It was noted that a specific note in DICOM would be helpful: HS added specific text and will further review during then letter ballot process.    FEB 2013: R. Horn: Should there be a note to include reference to agreement btw DICOM and SNOMED? | LB |
| 1272 | DCID for Referenced Frame | A. Leontiev | This is a way to macros to get overridden. | LB |
| 1273 | Navigation Sequence Item references one frame | A. Leontiev |  | LB |
| 1275 | Correct PS3.19 example | A. Leontiev |  | LB |
| 1276 | Correction of Description of Reference to Recorded Wedge Number | U. Busch | Corrected format | LB |
| 1277 | Correction of Intraoperative Applicator Type In Ion Beam | U. Busch | Corrected format | LB |
|  |  |  |  |  |

# **Letter Ballot CPack-71**

WG-06 decided unanimously to submit for legal review and thereafter circulate in a **Letter Ballot CPack 71,** for vote by the DICOM Standards Committee, the Correction Proposals (CPs) listed below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CP#** | **Letter Ballot to Be Issued CPack-71 – Title** |  |  |  |
| 1219 | Clarify Completion Flag for Dose SR |  |  |  |
| 1248 | Indication for deformed RT Dose |  |  |  |
| 1256 | Add defined term for MPEG4 |  |  |  |
| 1257 | Row and Column offset tags swapped in Whole Slide Imaging |  |  |  |
| 1258 | Refactor segment description, extend segment types and anatomy |  |  |  |
| 1259 | Add Medical Subject Headings (MeSH) as Coding Scheme |  |  |  |
| 1260 | Frame Increment Pointer for Enhanced Images |  |  |  |
| 1261 | Other Double 64 Bit Floating Point Value Representation |  |  |  |
| 1262 | Distinguish JPEG Interchange Format from JPEG File Interchange Format |  |  |  |
| 1263 | Relax rescale restrictions for Multi-frame Grayscale Word IOD to allow use as parametric maps |  |  |  |
| 1264 | Define exact windowing functioning for use with small rescaled pixel values |  |  |  |
| 1265 | References to slices on which segmentation was performed |  |  |  |
| 1266 | Extend SR Image Library with cross-sectional content items |  |  |  |
| 1267 | Video streams are independent and may not span instances |  |  |  |
| 1269 | Add Target Information for Mammography Biopsy |  |  |  |
| 1270 | Correct Reference in C-Find Protocol Specification |  |  |  |
| 1271 | Corrections for IEEE Nomenclature |  |  |  |
| 1272 | DCID for Referenced Frame |  |  |  |
| 1273 | Navigation Sequence Item references one frame |  |  |  |
| 1275 | Correct PS3.19 example |  |  |  |
| 1276 | Correction of Description of Reference to Recorded Wedge Number |  |  |  |
| 1277 | Correction of Intraoperative Applicator Type In Ion Beam |  |  |  |
|  |  |  |  |  |

# **Discussion of assigned CPs (CPs in the “Assigned” meeting folder and other previously assigned CPs)**

(The table below records discussion of CPs that were NOT in the last Letter Ballot CPack 70 (Table 3) and were NOT in the current (April 2013) Voting Packet (Table 4.)

VP=for next meeting’s voting package, AS=remains assigned

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Title** | **Assigned to** | **Discussion** | **Dis-position** |
| 375 | Correct CID 4017 | K O’Donnell | APRIL 2013: HS suggested a slow transition. WG-06 encourages DVS to work with H. Solomon and make a new version, correct typos. Is this a DICOM issue?  A revised version was posted | VP |
| 1173 | Clarify basis for Total Fluoro Time and Total Acquisition Time in XA Dose Report | K O’Donnell |  | VP |
| 1223 | Additional Items for Dose SR (by IEC PT 61910-1) | B. Revet | APR 2013 – Need more discussion with WG-02  NOV 2012-The Chair noted that a t-con is needed between WG-06 and WG-02 and the IEC Committee members (H Blendinger, Chair) to discuss the terminology used. The t-con should be organized in early January 2013. | VP |
| 1268 | Additional Registration Input Information | U Busch |  | VP |
| 1274 | Type 1 SQ Empty Items in Functional Groups | D Clunie | APRIL 2013: DC will amend CP to include Type 1  FEB. 2013: Noted that IHE is starting to check for correctness of objects which will stop these kinds of problems. Need to discuss in WG-06 more | AS |
| 1279 | Structural MR known safe private elements and codes for structures | D Clunie | APRIL 2013 – Suggested to split into 2 CPs: privacy and codes. Privacy is ready for VP. Sec. note: Make 1279 privacy, change title to remove ‘codes’ ; make new CP for ‘codes’ | VP (Pt 1) AS (Pt 2) |
| 1280 | Breast tomo known safe private elements | D Clunie |  | VP |
| 1281 | Correct wrong SNOMED View codes | D Clunie |  | VP |
| 1282 | Value Multiplicity of Positioner Increments in 3D X-Ray and Breast Tomo | D Clunie | APRIL 2013: revision not yet made  FEB 2013: Needs more work before VP.. DC will talk to the submitter and J Keyes | AS |
| 1283 | Cleanup Lossy Image Compression descriptions and conditions | D Clunie | APRIL 13: Comment on changing Type 2 – legacy equipmen t cannot make change. Also discussed lossy image compression at length: HS clarified that the purpose it to inform the radiologist whether the image is compressed. Needs more discussion.  FEB 13: Noted that new supplements also need changing. | VP |
| 1284 | Correct Typos in X-Ray 3D IODs | Bas Revet |  | VP |
| 1285 | Add Irradiation Event UID to X-Ray 3D IODs | Bas Revet | Needs substantial discussion with WG-02 | AS |
| 1286 | Additional Report Section Names | H Solomon | APRIL 13: Discussed transitioning to using LOINC as the primary coding system for CID 7001. Concluded to make switch. Table needs rewritten. Andrei will rewrite. | VP |
| 1287 | Add Structure Classification Code to RT Structure Set | U Busch | APRIL 13: It was mentioned that the use of ‘enhanced’ may be confusing with multiframe. Other issues have been identified. Will be rewritten.  FEB 13: Attribute names must be valid. None proposed. | AS |
| 1289 | Note on transitivity of registrations | U Busch |  | VP |
| 1291 | Additional Derivation Codes For Dose Composition | U Busch |  | VP |
| 1292 | Concept Code For Beam Delivery Instructio | U Busch | APRIL 13: Rewrite the definition | VP |
| 1293 | Remove Invocation Statement For Scheduled Parameters | U Busch | APRIL 13: DC suggested this proposal | VP |
| 1294 | Add "Intended Purpose" and "Echo Peak Position" to the Enhanced Spectroscopy object and include explanation for Zero Fill mechanism | Bas Revet |  | VP |
|  |  |  |  |  |

# **VP (Voting Package) for June 2013**

Based on discussions and decisions as recorded in Tables 3, 4, and/or 6, the Voting Package for June 2013 is: (CPs are copied from previous tables for convenient reference.)

VP=for next meeting’s voting package

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CP# | Title | Assigned | Discussion | Disposition |
| 375 | Correct CID 4017 | K O’Donnell | APRIL 2013: HS suggested a slow transition. WG-06 encourages DVS to work with H. Solomon and make a new version, correct typos. Is this a DICOM issue?  A revised version was posted | VP |
| 1173 | Clarify basis for Total Fluoro Time and Total Acquisition Time in XA Dose Report | K O’Donnell |  | VP |
| 1223 | Additional Items for Dose SR (by IEC PT 61910-1) | B. Revet | APR 2013 – Need more discussion with WG-02  NOV 2012-The Chair noted that a t-con is needed between WG-06 and WG-02 and the IEC Committee members (H Blendinger, Chair) to discuss the terminology used. The t-con should be organized in early January 2013. | VP |
| 1268 | Additional Registration Input Information | U Busch |  | VP |
| 1279 (Pt 1 ) | Structural MR known safe private elements and codes for structures | D Clunie | APRIL 2013 – Suggested to split into 2 CPs: privacy and codes. Privacy is ready for VP. Sec. note: Make 1279 privacy, change title to remove ‘codes’; make new CP for ‘codes’ | VP (Pt 1) AS (Pt 2) |
| 1280 | Breast tomo known safe private elements | D Clunie |  | VP |
| 1281 | Correct wrong SNOMED View codes | D Clunie |  | VP |
| 1283 | Cleanup Lossy Image Compression descriptions and conditions | D Clunie | APRIL 13: Comment on changing Type 2 – legacy equipmen t cannot make change. Also discussed lossy image compression at length: HS clarified that the purpose it to inform the radiologist whether the image is compressed. Needs more discussion.  FEB 13: Noted that new supplements also need changing. | VP |
| 1284 | Correct Typos in X-Ray 3D IODs | Bas Revet |  | VP |
| 1286 | Additional Report Section Names | H Solomon | APRIL 13: Discussed transitioning to using LOINC as the primary coding system for CID 7001. Concluded to make switch. Table needs rewritten. Andrei will rewrite. | VP |
| 1289 | Note on transitivity of registrations | U Busch |  | VP |
| 1291 | Additional Derivation Codes For Dose Composition | U Busch |  | VP |
| 1292 | Concept Code For Beam Delivery Instructio | U Busch | APRIL 13: Rewrite the definition | VP |
| 1293 | Remove Invocation Statement For Scheduled Parameters | U Busch | APRIL 13: DC suggested this proposal | VP |
| 1294 | Add "Intended Purpose" and "Echo Peak Position" to the Enhanced Spectroscopy object and include explanation for Zero Fill mechanism | Bas Revet |  | VP |
|  |  |  |  |  |

# **List of Assigned CPs that were discussed at this meeting and remain “Assigned”** As recorded in Tables 4, 5, and/or 7 (CPs are copied from previous tables for convenient reference)

# AS=assigned / remains assigned

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CP#** | **Title** | **Assigned to** | **Discussion** | **Dis-position** |
| 1274 | Type 1 SQ Empty Items in Functional Groups | A. Leontiev | APRIL 2013: DC will amend CP to include Type 1  FEB. 2013: Noted that IHE is starting to check for correctness of objects which will stop these kinds of problems. Need to discuss in WG-06 more | AS |
| Pt 2 of old 1279 | Structural MR known safe private elements and codes for structures | D Clunie | APRIL 2013 – Suggested to split into 2 CPs: privacy and codes. Privacy is ready for VP. Sec. note: Make 1279 privacy, change title to remove ‘codes’; make new CP for ‘codes’ | VP (Pt 1) AS (Pt 2) |
| 1282 | Value Multiplicity of Positioner Increments in 3D X-Ray and Breast Tomo | D Clunie | APRIL 2013: revision not yet made  FEB 2013: Needs more work before VP.. DC will talk to the submitter and J Keyes | AS |
| 1285 | Add Irradiation Event UID to X-Ray 3D IODs | Bas Revet |  | AS |
| 1286 | Additional Report Section Names | H Solomon | APRIL 13: Discussed transitioning to using LOINC as the primary coding system for CID 7001. Concluded to make switch. Table needs rewritten. Andrei will rewrite. | AS |
| 1287 | Add Structure Classification Code to RT Structure Set | U Busch | APRIL 13: It was mentioned that the use of ‘enhanced’ may be confusing with multiframe. Other issues have been identified. Will be rewritten.  FEB 13: Attribute names must be valid. None proposed. | AS |
|  |  |  |  |  |

# **New CPs Submitted that were assigned a CP Number and an Editor**

The following new change proposals were received and posted in the “New” subdirectory of the meeting folder. CP numbers shown were assigned by WG-06. They will be placed in the “Assigned” folder of the next WG-06 meeting:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CP# assigned** | **New Correction Proposals -- Title** | **Assigned to** | **Discussion** | **File ID** |
| 1295 | De-identification method code meaning too long | D Clunie |  | Dac-216 |
| 1296 | Correct incorrect Acquisition Start Time attribute name in NM | D Clunie |  | Dac-217 |
| 1297 | Correct incorrect Acquisition Start Time attribute name in NM | D Clunie |  | Dac-218 |
| 1298 | Update description of Detector ID de-identification | D Clunie |  | Dac-219 |
| 1299 | Add volume based calculation technique for tomosynthesis | D Clunie |  | Dac-220 |
| 1300 | Include PPS End Date & Time in Composite IODs and de-identification | D Clunie |  | Dac-221 |
| 1301 | Clarify Distance Source to Patient in Mammo and CR | D Clunie |  | Dac-222 |
| 1302 | Correct example of Chinese encoding | A Leontiev | Discussed the carat issue and added to CP draft | HS-62 |
| 1303 | Correct HAS CONCEPT MOD-NUM relationships | A Leontiev |  | HS-63 |
| 1304 | Various corrections related to MPEG-4 AVC/H.264 Transfer Syntax | D. Clunie |  | Cpxx-F Knicker |
| 1305 | Correct TID 10001 template structure figure | B Revet |  | Heinz Blendinger |

# **New CPs Submitted– No CP Number Assigned**

None

Note: The comprehensive list of all CPs (including all FT and cancelled) is posted in this meeting’s folder.

# **Other CP Related Discussion (Prompted During CP Sessions, etc.)**

# 11.1 Length of field

# J. Philbin noted that AE Title and Station Names of 16 Characters are too short for human readable implementation. It was discussed that new data type could be proposed in a CP; however, this would break massive implementations. Discussion could evolve further looking for a solution for the need for longer fields.

11.2 CP-375

Significant discussion took place on this CP.

* The SCT codes included in CP-375 have not yet been published, expect publication in July, the Chair suggested to hold CP-375 until that time.
* Mixing RT and CT style codes. Some suggested simply that DICOM stays with RT style as there are billions of images with that code. Others argued that nothing is to be done with those billions of images while data that is processed needs to be CT style
* It was not known how long the RT style will be sustained by SNOMED
* DICOM needs to have a written and accepted strategy to provide meaningful guidance to implementers.
* All tables other than 4025n have both styles
* WG-22 would accept some RT and some CT styles although new codes may not have a RT style equivalent.
* Context ID 4016 would not change
* New CID 4017 wold be SCT only
* 4025 must be clearly marked as a temporary placeholder

CONCLUSION: WG-10 and DSC to review and develop DICOM strategy/plan

# **CPs on Hold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CP#** | **Title** | **Assigned to** | **Discussion** |  |
| 1071 | Additions to various CIDs of Supplement 78 | B. Revet | Waiting for SNOMED Codes | ON HOLD |

# 

# **List of all remaining assigned CPs at the end of this WG-06 meeting**

(AS=assigned)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CP#** | **Title** | **Assigned to** | **Discussion** |  |
| 145 | Curve Data Value Representation Clarification | D. Clunie |  | AS |
| 235 | Clarify NM detector start angle usage | J. Pohlhammer |  | AS |
| 296 | Eliminate Duplicate Terms and Provide Missing Definitions | H. Solomon |  | AS |
| 430 | Additions to PS 3.16 for Cardiac Cath SR | H. Solomon |  | AS |
| 450 | Correct Myocardium Mass |  | Note: submitter was Doug Sluis | AS |
| 464 | Add SOP Common to the Print-related N-CREATEs | R. Horn |  | AS |
| 471 | Add Common Finding Template | H. Solomon |  | AS |
| 591 | Attribute Identifier List for Errors in Sequence Attributes | H. Solomon |  | AS |
| 596 | Add Request and Schedule Information to Results and MPPS | R. Horn |  | AS |
| 597 | Instance Availability Notification Structure | H. Solomon |  | AS |
| 757 | Add RTSS ROI Feature UID | H. Solomon |  | AS |
| 802 | Incorporate Fixes on 702 and 706 | D. Clunie |  | AS |
| 804 | Indicator for Cone Beam CT | K. O’Donnell |  | AS |
| 811 | Note for Forwarders Regarding SCP-assigned  Instance UIDs during N-CREATE | D. Harvey |  | AS |
| 812 | Clarification that Pixel Padding Value Is a Raw  Value before Any Transformations | D. Harvey |  | AS |
| 833 | Transfer Syntax Availability and Selection for Q/R | R. Horn |  | AS |
| 836 | Clarify Usage of Attributes for Normalized IODs | K. O’Donnell |  | AS |
| 838 | Consistent Naming of Error Code Tables | K. O’Donnell |  | AS |
| 934 | Fix Inconsistency of C-FIND Only Number of Patient Related XXX Attributes | D. Harvey |  | AS |
| 941 | More Clarification of Instance References | D. Clunie |  | AS |
| 991 | Clarify Handling of Private Data in the Retrieve Without Bulk Data Service | R. Horn |  | AS |
| 992 | Clarify Allowable Length Values for Certain PDUs | K. O’ Donnell |  | AS |
| 1005 | Make Keywords Valid Java/C Identifiers | R. Horn |  | AS |
| 1006 | Add Keywords to Command Dictionary | R. Horn |  | AS |
| 1013 | RT Ion Beams Recording Clarifications | WG-07 |  | AS |
| 1019 | Add Body Part at the Study Level | K O’Donnell |  | AS |
| 1030 | Re-factor Common Attributes for Enhanced Images | B. Revet |  | AS |
| 1031 | Use of OIDs and Non-ASCI Characters in Codes | R. Horn |  | AS |
| 1032 | Fix Position Angle Sign Inconsistency in Mammography Image | K. O’Donnell |  | AS |
| 1066 | Encoding of Attributes with Value Length > 64KiB with Explicit VR | R. Horn |  | AS |
| 1086 | New DICOMDIR ZIP File Extension | R. Horn |  | AS |
| 1106 | Assign a Namespace for Audit Schema Elements | R. Horn |  | AS |
| 1115 | Add Dose Reference Point Codes for CR/DR | K. O’Donnell |  | AS |
| 1126 | Corrections LOINC Codes Sup78 | B. Revet |  | AS |
| 1127 | Add Fields for Organ Dose to Dose SR | K. O’Donnell |  | AS |
| 1163 | Conformance for Application Hosting | H Solomon |  | AS |
| 1180 | Use LOINC\_Short Name | H. Solomon | Was in Aug 12 VP | AS |
| 1189 | Add usage of Temporal Position Time Offset to Per Frame content Macro as needed for Enhanced MR and Enhanced CT objects. | W. Corbijn |  | AS |
| 1196 | Add phantom-specific Total DLP Values to allow for Head and Body in same RDSR scope of accumulation | D. Clunie | Need to be discussed in WG-21 | AS |
| 1203 | PDR Pulse Details in RT Brachy Session Record | U. Busch |  | AS |
| 1207 | Change Multi-frame Dimension module usage to “User Option” for IVOCT IOD | B. Revet | Tom Probasco-WG-06 needs more information and examples for when it is meaningful [BR to contact TP] | AS |
| 1208 | Clarify the unambigous use of Private Creator Data | B. Revet | B Revet clarified that the intent of the CP is to prevent the same identifier issued for different blocks. It was suggested to state that the “same privet creator shall not be used for different blocks.”  ACTION: B Revet will reword it to include more normative text and include examples in the notes. Also make it clear that there is no implication in the order of the blocks. | AS |
| 1217 | Add Extensible SR SOP Class for new types of Content Item | D.. Clunie | June discussion: Postponed discussion when D Clunie and R Horn are present in Aug  ++++++++++++++++++++++++++++++  August: should there also be a Supplement developed instead of a CP? Discussed what warning might need to be given if content is not understood. The question was posed whether this should be pursued. It was noted that SR cannot handle many content such as vectors (e.g. BP waveform.) Members were concerned of safety but acknowledged the value of this CP. Another value is the advancement of SR in general. This CP could add contents of the Evidence Document. It was suggested to include a few illustrations. | AS |
| 1224 | Add Expiration Date to UPS | K O’Donnell |  | AS |
| 1225 | Add Procedure Step Completion Codes to UPS | K. O’Donnell |  | AS |
| 1226 | Add more specific post-processing codes to CID 9231 | K. O’Donnell |  | AS |
| 1227 | Fix Estimated Dose Saving attribute | K. O’Donnell |  | AS |
| 1228 | Correct inconsistency between Table C.30.3-1 and Table CC.2.5-3 of UPS | K O’Donnell |  | AS |
| 1241 | Restrict claming UPS Workitems AS to another AE | K O’Donnell |  | AS |
| 1274 | Type 1 SQ Empty Items in Functional Groups | A. Leontiev | APRIL 2013: DC will amend CP to include Type 1  FEB. 2013: Noted that IHE is starting to check for correctness of objects which will stop these kinds of problems. Need to discuss in WG-06 more | AS |
| 1278 | Additional cardiac image types for enhanced CT | D Clunie |  | AS |
| Pt 2 of old 1279 | Structural MR known safe private elements and codes for structures | D Clunie | APRIL 2013 – Suggested to split into 2 CPs: privacy and codes. Privacy is ready for VP. Sec. note: Make 1279 privacy, change title to remove ‘codes’; make new CP for ‘codes’ | VP (Pt 1) AS (Pt 2) |
| 1282 | Value Multiplicity of Positioner Increments in 3D X-Ray and Breast Tomo | D Clunie | APRIL 2013: revision not yet made  FEB 2013: Needs more work before VP.. DC will talk to the submitter and J Keyes | AS |
| 1285 | Add Irradiation Event UID to X-Ray 3D IODs | Bas Revet |  | AS |
| 1287 | Add Structure Classification Code to RT Structure Set | U Busch | APRIL 13: It was mentioned that the use of ‘enhanced’ may be confusing with multiframe. Other issues have been identified. Will be rewritten.  FEB 13: Attribute names must be valid. None proposed. | AS |
| 1288 | Add templates and code definitions for QAPV support | U Busch |  | AS |
| 1290 | Correct ROI Physical Property Value for Elemental Composition | U Busch |  | AS |
| 1295 | De-identification method code meaning too long | D Clunie |  | AS |
| 1296 | Correct incorrect Acquisition Start Time attribute name in NM | D Clunie |  | AS |
| 1297 | Correct incorrect Acquisition Start Time attribute name in NM | D Clunie |  | AS |
| 1298 | Update description of Detector ID de-identification | D Clunie |  | AS |
| 1299 | Add volume based calculation technique for tomosynthesis | D Clunie |  | AS |
| 1300 | Include PPS End Date & Time in Composite IODs and de-identification | D Clunie |  | AS |
| 1301 | Clarify Distance Source to Patient in Mammo and CR | D Clunie |  | AS |
| 1302 | Correct example of Chinese encoding | A Leontiev |  | AS |
| 1303 | Correct HAS CONCEPT MOD-NUM relationships | A Leontiev |  | AS |
| 1304 | Various corrections related to MPEG-4 AVC/H.264 Transfer Syntax | D. Clunie |  | AS |
| 1305 | Correct TID 10001 template structure figure | B Revet |  | AS |
|  |  |  |  |  |

**14. Supplement 121 – Modality Procedure Plan and Protocol Storage {WI 2006-04-E}**

This was a continued reading to obtain approval for Public Comment.

K. O’Donnell (KOD) presented the document, <sup121\_14.doc> that was posted in the meeting folder. It included material from the recent discussions of WG-21 and subsequent changes. WG-06 provided comments that were noted as revisions and/or comments in the document. The post discussion document posted was <sup121\_14c.doc> .

KOD proposed that various simplifications could be made now that the overall structure and use cases are stabilizing. This included:

* Consolidating/simplifying the pre-execution details into a single “Instructions” sequence that can be populated as the protocol author sees fit.
* Removing the Plan layer that combines “related” protocols and assume that logic is handled in the scheduling activity by scheduling related protocol codes/protocols and letting the modalities work from those.
* Removing the Specification Level (Acceptable, Target, Ideal) in favour of sites making multiple variants of the protocol if useful, rather than combining those levels in a single protocol
* Merging Standard and Private Tags in a single parameters sequence rather than maintaining separate sequences. (Separation raised questions of matching, and only had the benefit of slight simplification of conditions/validation)
* Removing digital signatures from the Approvals sequence.
* Factoring the protocol timing related details into:
  + Gating type details that are parameters inside an acquisition element
  + Triggering details (like bolus ROI location and levels, or delay times) which go inside the acquisition element being triggered
  + Scheduling constraints (like performing the scan X hours before surgery) which are simply recorded in the instructions

WG-6 agreed with the simplifications.

KOD reported that –

* WG-21 was concerned that the anatomical location attributes might not be executed precisely by the operator and thus should include the word ‘intended’ in the attribute name. WG-06 felt that this could be better communicated in the definition.
* WG-21 proposed to make Intended Acquisition Start Location Type 3, WG-06 directed to change to Type 1
* Object Lifecycle
  + Delayed reconstructions (Line 242) -reviewed use cases and the alternative approaches of extending protocol instances VS adding supplemental protocol instances, concluded that neither approach can be prohibited
* Signatures-
  + reviewed use cases for signatures. D Clunie (DAC) noted that digital signatures have not been accepted, implemented, adopted during attempts in the last 15 years or so. DICOM henceforth should keep handling of cryptographic signatures outside the object/DICOM. It was further affirmed by R. Horn that attempts to include digital or cryptographic signatures ends in errors due to improper data input or coding.
  + discussed identification (included) and authentication (not included). Real life examples noted were: falsification in malpractice cases, accidental revisions,
  + signatures (identification or authentication, etc.) should related not to a single object but a collection of objects.
* Content Creator’s Identification Code Sequence can be kept in a separate code sequence from the Device Identification
* Device Identification Macro – expanding to long device UID (Prepare for stabilized FDA UID)
* Pertinent Document Sequence- added URL based document references

 The Supplement will be worked on further in WG-21.

# The Supplement will **return** to WG-06 for continued reading.

# **Supplement 147 – Second Generation Radiotherapy {WI 2007-06-B}**

This was a continuation of reading for Public Comment. U. Busch presented < sup147\_39 Draft4.doc> . This document included changes directed by WG-06 and made pursuant to WG-07 meetings, held since the February 2013 WG-06 meeting. The version reviewed contains only minor changes now (which mostly are responses to WG-06 reviews), otherwise the content of the supplement is settled now.

The discussion in the first session included:

* Remaining significant issues Nos. 191, 197, 200
* Last changes on Conceptual Volumes have been reviewed
* Multi-Axial Sub-Control Point Sequence and related attributes - After detailed discussion WG-06 has concluded the need to rewrite the description due to the now clarified understanding of the concept herein. The discussion clarified, that the approach is not a run-length encoding. Rather than the approach ensures to unambiguous indication, which parameters are constant and which ones do change between control points. Those changes are individual per treatment, therefore any of the 50+ parameters where the concept applies, can be constant of varying on a case-ba-case basis. Additionally the apprach saves a lot of space (e.g. on 10 beam times 300 control points). Other approaches like multi-value representation or repeating the set of parameters on Radiation level (one level above) for the constant ones have been disucssed, but dropped out of various reasons (sequences, loose o focus of control points sequence, more complicated structure etc.).  
  To enhance the specification, the following 2 decisions have been made: The attribute description should state something like ‘Shall be present, if index number is 1, or is the value of this attribute is not the same in all items.’ Additionally, an explanatory section to describe that approach should be added and referred too. Esp. it should point out, that those attributes, which do not change, shall be only included in the first control point.
* Final changes on Conceptual Volumes have been reviewed .
* The chapter for second generation RT modules may likely be located still under C.8.<nn> and not directly under C<nn>. That is an editor decision, and U. Busch will contact D. Clunie on that issue.
* There was a significant discussion about the need for and the lack of terminology in the draft Supplement.

The Supplement with changes and notes and some post processing from this meeting will be posted as the final Draft of Version 39. This will also become Version 40 to restart work of WG-07.

The Supplement will return to WG-06 for continued reading for Public Comment, at the June 2013 WG-06 meeting in Arlington, VA.

# **Supplement 157 – Multi-Frame Converted Legacy Images {WI 2011-09-A}**

This was a reading to obtain approval for Letter Ballot.

D. Clunie posted the draft Supplement <sup157\_21.doc> in the meeting folder. He reviewed in the session <sup157\_22.doc>; this discussion continued and completed the resolution of public comments, which was started at the WG-06 t-con, on March 27. The issues discussed included the decision that Series number definition to be left up to then implementers

It was decided to hold a t-con on March 27, 10.00-12.00 USA Eastern Time to make more progress on the line-by-line review so LB may be approved at the April meeting.

The Sup. 157 was approved for **Letter Ballot.**

# **Supplement 159 – NM Dose Structured Report {WI 2010-04-B}**

This was a reading for approval for Letter Ballot.

Editor C. Smith and WG-03 Chair J. Pohlhammer presented the draft Supplement < sup159\_pc1.docx> which was posted in the meeting folder. This version included the changes proposed based on the public comments.

The comments by AAPM argued to not make ‘effective dose’ mandatory and SNM commented to not include either ‘effective’ or ‘organ absorbed’ dose and if included it should be optional. A long discussion followed which distinguished between recording factually what happened during the study and what radiopharmaceutical(s) were used. As the medical physics and clinical communities develop and converge on the science of calculating relevant organ dose and otherwise calculate other individual patient effective dose, the recorded data can be used using any methods of calculation. Accordingly the organ dose now on the product labels of radiopharmaceuticals will be recorded in fields that are clearly labeled with the source of that data. ‘Effective dose’ will not be included.

The extensive comments by H. Solomon/GE were processed.

Changes and clarifications were recommended by WG-06.

A line-by-line review was partly completed and the Supplement **will be further discussed in a t-con before the june meeting.**

# **Supplement 163, STOW (Store Over the Web) [WI-2011-09-B]**

The Group reviewed public comments.

Philips comment No. 1: suggested to show use cases to illustrate that EMR/EHR communication was not the only intended application. The comment called for PACS-to-PACS, PACS-to-VNA and PACS-to Viewing stations.

The Group identified revisions to be made to the Scope and Field of Application as well as adding additional use cases to Section HHH.3.2 to respond to this comment.

Philips comment No. 2:

Both application/dicom and application/dicom+xml need to be supported since STOW-RS is intended to be used by both back-end modalities and PACS systems (which would favor application/dicom) and front-end web clients (which would favor application/dicom+xml).

AGFA Comments:

* Open issue 1.1 – the lack of information in the response (e.g. lack of reference to which object failed and lack of reason for the failure) makes automatic error correction and troubleshooting much more difficult – Accepted. Will add an XML response to the StoreInstances resource. A single status shall be returned for the entire transmission that indicates success, failure, or partial success, followed by an XML response with status codes for individual SOP Instances. There is still reluctance on adding a ServerInfo resource but agree more detailed error response is required.
* Open issue 1.2 - status codes and a list of problem DICOM attributes (and DICOM instances, where appropriate) should be returned in the body of the STOW-RS response. Accepted in part. An XML response shall contain status codes for individual SOP instances and optional can include more information regarding attributes that caused the failure.
* Open issue 1.3 - , it would not be worthwhile to add a success code to differentiate between instances that are received/stored and validated/committed. Agreed.
* Closed issue 1.4 – StudyInstanceUID mismatch - will be resolved in WG-27 Accepted. Will make it clear what error code is returned for StudyInstanceUID mismatch.
* Closed issue 1.5 – specified transfer syntax is not supported, there should be a more explicit error code – Accepted. Will make it clear what error code is returned for TransferSyntax not supported.
* Closed issue 1.6 – Expand Use Cases to include adding an image from a web client and moving objects from one institution to another over the WAN. Accepted. Will also provide information on how to retrieve a StudyInstanceUID from a UUID.
* Closed issue 1.7 – Need rationale while application/dicom+xml format exists. Accepted. Will add explanatory information to Part 17 that explains this format mirrors WADO-RS. Will also explain how wrap secondary capture images as application/dicom+xml.
* Closed issue 1.8 – It is ambiguous when additional dicom+xml is uploaded in the same request. Accepted, will provide additional explanatory text.

Next steps: WG-27 will incorporate the changes and present the Supplement for approval for letter ballot, in June 2013. Sup163 will **return** achieve letter ballot**.**

# **Supplement 164 – Contrast Agent Administration Reporting [WI-2011-04-A]**

This was a continuation of reading for Public Comment.

In the first session S. Balasubramanian presented the document <sup164\_Contrast\_Agent\_Admin\_Reporting\_v09.docx>, posted in the meeting folder. The revisions suggested in the first session were incorporated in <sup164\_Contrast\_Agent\_Admin\_Reporting\_v11.docx>, which was discussed in the second session.

The major items of discussion were:

* Line by line review of templates, concepts.
* Need to add definition section in Part 16 for all the new concepts included
* Discussion on adding new “programmed” IOD definition
* Discussed Open issues:
  + As an Infusion Manager, one who creates the Contrast Agent Admin. objects, how do we link to the related radioactivity/dosimetry objects (sup159) ? Do we share a common event UID and have it referred under use General Series module?

If the answer is yes for the above question, how does one obtain the Event UID string?

* + - Answer from Committee: They are permitted to be same and how they are coordinated is out of scope of the document. If they are different, it seems traceable to find pairing on based on patient and time.
* In relation to closed issue#1 – if we have decided to support data from radiopharmaceuticals, then what items from radiopharmaceutical template should be included? Sup159 has exhaustive details – should we include just the radio-pharmaceutical volume alone ignoring the dose activity?
* Had a discussion with the work-group committee, needs to be discussed further.
* Should we add billing code? If so, do we do for all consumables?
* Added concept into consumables template
* Discussion on addition of adverse event reporting concepts, in harmonization with CID 9301 “Modality PPS Discontinuation Reasons”
* Discussion on inclusion of radio-pharmaceutical concepts into supplement 164.

The post discussion document posted was <Sup164\_v12.docx>.

The Supplement will **return** to WG-06 for continued reading, in June.

# **Supplement 166, QIDO-RS (Query based on ID for DICOM Objects by RESTful Services) [WI-2011-09-B]**

This was a First Read. J. Whitby presented the document <sup166\_06\_QIDO-RS.docx>, which has been posted in the meeting folder before the meeting. The Scope and Field of Application and the Open and Closed Issues were reviewed and revised (see marked-up document posted at the end of this meeting.)

Many technical concepts and issues were discussed, including but not limited to :

* Whether or not a patient-level search was needed.
* Whether it is possible to make more attributes – such as issuer of patient ID – mandatory without creating too much of a burden for service providers.
* Removing the includefield parameter in favor of just passing attributes with no matching criteria
* The need to ensure matching rules are well defined (if only by reference to C-FIND)
* The need for more http response codes

Brad Generaux has introduced and reviewed the Annex on JSON. The concepts and issues related to JSON included but were not limited to:

* In general, reception and feedback on the JSON Annex was favorable.
* The use of sequences has to be clarified, with an example to be provided. The group discussed and developed a sample sequence piece which was agreed upon.
* The DICOM tag must be present in the result, for a few reasons. First, that in order to promote better interoperability between other DICOM formats (binary and XML), the hexadecimal tag must be listed. As well, because certain attribute values may include a pointer back to other DICOM tags, it makes more sense to include the tag ID.
* There were some minor adjustments to the VR to JSON mapping.
* There’s a question to look into further about including binary data (or referencing binary data as bulk items), rather than Base64 encoding them.
* Section F4 will be removed (on client-side cross-domain access), and an addendum to part 17 will be considered.

The Supplement will **return** in June 2013.

# **Supplement 167, X-Ray 3D Angiographic IOD Informative Annex) [WI-2005-09-C]**

This was a First Read. F. Sureda presented the document < Sup167\_X-Ray\_3D\_Angiographic\_Informative\_Annex\_Draft14.doc>, which has been posted in the meeting folder before the meeting. The Scope and Field of Application and the high level technical concepts were discussed. Next F. Sureda explained the use cases.

Members of WG-06 asked for clarifications and provided advice throughout the sessions. The concepts so discussed will be noted as notes or open/closed issues in the Draft Supplement.and will be posted in this meeting’s folder as the post-reading version.

Sup167 will **return** to WG-06 for further readings.

# **Supplement 168, Corneal Topography Mapping Storage [WI-2006-04-F]**

This was a first read of the draft Supplement. Don Van Syckle introduced his collaborator, Stephen Klyce of Software Port. The technological and clinical background was explained.

This Supplement to the DICOM Standard introduces two Storage SOP classes related to devices that create and review ophthalmic corneal maps. They are:

* Corneal Topography Map SOP Storage Class

These SOP Classes will be used with several types of ophthalmic devices, alone and/or in conjunction with other DICOM IODs.

These ophthalmic devices produce curvature and/or elevation measurements of corneal anterior and posterior surfaces (e.g., maps that display corneal curvatures, corneal elevations, and corneal thickness). The principle methods used include reflection of light from the corneal surface (e.g. Placido ring topography) and multiple optical sectioning or slit beam imaging (e.g. Scheimpflug tomography). A monochrome image is generated and the measurements are mapped topographically as pseudo-color maps as a Palette Color LUT, and used extensively for diagnostic purposes by clinicians and to fit contact lenses in difficult cases.

Privacy considerations were suggested by R. Horn (iris scanning, etc,) The images cannot be de-identified so other means of security or warnings may be needed.

D. Clunie asked that the Supplement include pictures to explain the concepts (to help implementers, explain planes, elevations, etc.) .

Sup168 will **return** to WG-06 for further readings.

# **Future Meetings**

* T-con, date TBD: continue LB review of Sup 159
* T-con, prior to the June meeting - – at the call of the Chair
* Meeting June 17-21, 2013 in Arlington, VA
* T-con, prior to the Aug meeting – – at the call of the Chair
* Meeting Aug. 12-16, 2013 in Stockholm, Sweden
* Meeting Oct. 14-18, 2013 in Arlington, VA
* T-con, prior to the Oct meeting – at the call of the Chair

# **Next Meeting Agenda**

A detailed agenda for the next meeting (June 2013) will be prepared at a later date. The preliminary agenda plan was prepared and recorded in the ‘Agenda Plan for June 2013.xls’, which may be found in this meeting’s folder.

# **Adjournment**

The meeting recessed at 17.30 daily and resumed at 08.30 the next day. The meeting was adjourned at 12.00, on April 12, 2013.

Reported by: Stephen Vastagh, Secretary

Reviewed by counsel: CRS 2013-05-03