Secretariat: MITA/NEMA
1300 North 17th Street, Suite 900
Arlington, VA 22209, USA
+1-703-841-3259
http://www.dicomstandard.org/
dicom@dicomstandard.org

Minutes

DICOM Working Group Seven
(Radiotherapy)

Meeting Location	Brainlab AG Olof-Palme-Str. 9 Munich, Germany	
Dates:	March 4, 2019 – March 8, 2019	
Dates and Times:	Monday, March 4, 2019	8:30 – 17:30
	Tuesday, March 5, 2019	8:30 – 17:30
	Wednesday, March 6, 2019	8:30 – 17:30
	Thursday, March 7, 20189	8:30 – 17:30
	Friday, March 8, 2019	8:30 – 12:00
Presiding Officers:	Ulrich Busch, Chairman Christof Schadt, Vice-Chair	

(See appendix for information on administrative topics, document status, abbreviations and alike)

Name	Affiliation	Mon	Tue	Wed	Thur	Fri
Bob Pekarek	Accuray	X	X	X	X	X
Luiza Kowalczyk	MITA	X	X	X	X	X
Kari Jyrkkälä	Varian	X	X	X	X	X
Ulrich Busch	Varian	X	X	X	X	X
Harold Beunk	ICT	X	X	X	X	X
Walter Bosch	AAPM	X	X	X	X	X
Stefan Pal Boman	RaySearch	X	X	X	morning	-
Yulong Yan	AAPM	X	X	X	X	-
Bruce Rakes	Mevion	X	X	X	X	X
Christof Schadt	Brainlab	X	X	X	X	X
Bruce Curran	AAPM	-	afternoon	X	X	X

1. Opening

The meeting started at 08:50 a.m. local time.
The participants were identified.

- U. Busch announced that Kari Jyrkkala, who will be his successor as representative of Varian Medical Systems.

The Antitrust Rules were stated.
The following Minutes were presented approved by WG-07 without objection:

- Face-to-Face Meeting December 2018
  (includes decision to use Parametric Map IOD for RT Dose Image)
- TCons of Jan 23, 2019 and Feb 12, 2019
  (discussed Sup 177, includes decision to defer support for statistical ensembles for future Supplement(s))

The agenda was reviewed and slightly revised.
The group expressed thanks to Christof Schadt and Brainlab AG for hosting this meeting.

2. Project, Subgroup and related Group Status

2.1 IHE-RO

W. Bosch reported on the planned Connectathon and that vendors are asked to report the profiles they are planning to test (without actual commitment). The number of estimated participants should be communicated as well.
The experience with the test tools during the last Connectathon was good. H. Beunk reported that the latest rules have been implemented and therefore the test tools should now be more robust.
BRTO-II, MMRO-III, TPPC, TDW-II will be formally tested.
CDEB will be informally tested. A discussion took place on the CDEB profile and the corresponding testing. The question was: how requirements in CDEB are generally tested as they are currently not linked to e.g. the TPPC profile. On the other hand CDEB can be used for treatment modalities, which cannot adhere to existing beam types of TPPC, so it should stay an independent profile. One possibility is to add it as an option this profile. It was agreed that this is a discussion that should take place within the IHE-RO TC.
RXRO Profile, dealing with RT Physician Intent IOD: The current state of this profile was not known, as main author just changed. But WG-07 had the overall question how an implementation of Physician Intent could be started using this profile. It was also noted, that the state that was last known to some WG-07 members may need some improvement to ease implementation. It is not clear whether the Actors in the Profile correspond to clinical reality and implementation in actual products.

2.2 IEC

The update on 62083 "Treatment Planning System" is out to national committees for review.
A draft for a 3rd revision of 61217 is available. So far it is mainly a re-naming of existing terms. The question came up if this really makes sense and what the scope of the update would be? Members, who are involved in IEC, should make sure, that there is no re-definition of IEC 61217 to avoid any confusion.
Action Item: This is to be clarified and discussed at the next WG-07 meeting.
The next WG01 meeting is at the end of March in Frankfurt, Germany.

2.3 DICOM WG-28 Physics

DICOM WG-28 is working on imaging dose. There is no interest regarding of the use of volumetric dose IODs as used in RT.

2.4 DICOM Brachytherapy Subgroup

The chairman asked the subgroup to approach the IHE-RO TC for having an informal Connectathon in order to get the profile tested and make a fact-finding session in respect to the existing applications.

It is expected that the Brachytherapy group will have capacity to go for 2nd Generation specification. U. Busch created a new Supplement supNN5_01_BrachytherapyRadiationObjects.doc that contains three potential Radiation IODs as start and base for discussion.
Post-meeting Note: The Supplement got number 216 assigned and the ftp is updated accordingly.
The chair asked who could take over guidance for the Brachy subgroup when it comes to define the 2nd Gen IODs. Y. Yan (clinical Brachy background) and C. Schadt (editorial 2nd Gen background) volunteered. C. Schadt will approach J. Percy whether he would be willing to support with a technical/vendor background. U. Busch offered to provide some extended support after he retired.
Action Item: A primary editor for this Supplement has to be defined by the Brachytherapy subgroup.

2.5 DICOM Ion Subgroup

B. Rakes is finalizing the IHE-RO Supplement.
The chair presented the 2nd Gen Supplement for Ion devices which was prepared for the subgroup to provide a fast start into 2nd Generation specifications (supNN4_01_IonRadiationObjects.doc).
Post-meeting Note: The Supplement got number 215 assigned and the ftp is updated accordingly.
B. Rakes will serve as the primary editor of this Supplement.

2.6 DICOM Motion Management Subgroup

B. Pekarek reported that the group is going to take one or two of the specific use cases and identify what is already available in the Standard and in Supplement 160 to see where the gaps are.
U. Busch presented supNN6_01_MotionManagement.doc which contains the parts of interest for motion management subjects extracted from Supplement 160 were taken over (in coordination with the primary editor of Supplement 160, T. Schwere).
B. Pekarek and S. Swerdloff will pick up this Supplement and use it in the group for further discussion.
Independent from the Motion Management group scope it was noted that the lack of a Setup Instruction IOD may be an issue for implementing the treatment workflow by 2nd Generation and for the DPDW Profile in IHE-RO.

2.7 Other Supplements (Sups)

In the context of the new Supplements for the subgroups above, the group was shortly reminded on the following other two Supplements:

2.7.1 SupNN1: Planning Record

The Supplement aims to capture and document proprietary planning information, Various ideas and initial proposals are already included. The group should remember the presence of the Supplement in case planning-specific information is considered to be added somewhere else.
Yulong Yan is primary editor of Sup NN1.

2.7.2 SupNN2: Treatment Session Record

Chris Pauer is primary editor of SupNN2
The framework in the Supplements includes two IODs: Treatment Session Record and Verification Session Record. The IODs should include the references to all artifacts of a treatment session and capture every information which belong to the treatment session in total.

3. Correction Proposals (CPs)

See also in Appendix: List of CPs which are already moved in the WG-06 process. More details also in the CP Status Document referenced in the Appendix.

3.1 CPs new to WG-07

cp_RT132 - Additional Category codes for CID 9502
The CP makes use of Category Codes from the Segmentation context (CID 7150) for the Segment Annotation context (CID 9502). The Segment Annotation Category Code is also used to define a Baseline Context Group Identifier (BCID) for the Segment Annotation Property Type Code.

It was decided to include CID 7150 (Segmentation Property Categories) in CID 9502 (RT Segment Annotation Categories) and remove code for Physical Object (since this code is already in CID 7150).
A requirement was added that "for code values in Segment Annotation Category Code which are not present in Table C.36.8-2 RT Segment Annotation Type CIDs, the Baseline CIDs for codes in the Segment Annotation Type Code Sequence (3010,002C) are defined in CID 7150 where applicable." Further on a new category code "Patient-Attached Dose Control Object" for "Radiotherapy Bolus Device Types" was added.
The CP was approved for presentation to WG-06 in the revised form.
Side Remark: This CP uses SNOMED RT codes, but includes the new SNOMED CT equivalents (which will replace them when CP 1850 is approved). Members should familiarize with the notion of CP 1850, since SNOMED has retired all SNOMED RT codes in favor of the CT codes.
Post-meeting Note: This CP got number 1905 assigned and the ftp is updated accordingly.

cp_RT133 - Add Treatment Site Laterality

The Treatment Site is missing laterality, whereas this could be helpful during the prescription process and in present in basically all locations handling similar content. The CP adds a Treatment Site Modifier Code Sequence (Type 2, VM = zero or more) containing Code Sequence Macro with DCID 2 "Anatomic Modifier" to Site Code.
Segmentation Annotation Type Codes already have a Laterality Codes of CID 244 (Left, Right, Unilateral, Bilateral).
The CP was approved for presentation to WG-06 in the revised form.
Post-meeting Note: This CP got number 1906 assigned and the ftp is updated accordingly.

cp_RT134 - Fix Codes for Anatomical Structure

Correction of codes for Anatomical Structure. Approved by WG-07 to continue with WG-06.
Post-meeting Note: This CP got number 1904 assigned and the ftp is updated accordingly.

3.2 CPs in Work

cp1878 - Add Part 15 definitions to RT Physician's Intent and RT Segment Annotation

Sup 147 skipped the specification of Confidentiality in Part 15. The CP adds this specification. The proposal was posted in an Excel Sheet on the ftp server ready for final discussion.
First it was generally stated, that de-identification for Clinical Trials and alike depends on jurisdiction and context. There is no single answer. The DICOM Standard Part 15 provides profiles which vendors can use to declare how their applications behave. However, it is recommended that vendors providing de-identification make no claim about the legal implications. It is better to state that users have the responsibility to make the final assessment whether the de-identification is sufficiently safe in a specific context.
WG-07 reviewed Confidentiality Profiles for Sup 147 RT information object attributes.
The CP was approved for presentation to WG-06 in the revised form.
Voting members will have a last chance to comment on details of the CP during letter ballot.

4. Sup 177 – Dose Objects (for Public Comment)

The Supplement is in preparation for Reading for Public Comment. Various issues still have to be discussed and resolved.

4.1 Specific Topics

The following items have been discussed and concluded:

Representative Dose Value:

The group reviewed codes for Representative Dose Value. Representative Dose Value was moved inside a new block of information called "Additional Dose Labeling" to group together redundant dose identification information. W. Bosch will continue to streamline and harden the specification of this content.

Dose Evaluation Metrics

The codes proposed by W. Bosch are based on DVH Metrics nomenclature defined in AAPM TG-263 Report. However, they differ from the form of dose constraints in Sup 147 Prescription. Proposed Dose Evaluation Metrics code were removed from the Sup 177 draft but are preserved in Revision 31. They may be re-introduced in another context later.

CUMULATIVE and PER_BIN representation of DVHs:

The per-bin approach was introduced to represent metrics such standard deviation of DVH counts for statistical ensembles of dose realizations. It is not needed for ordinary Dose Histograms. Therefore ,the RT Dose Metric module supports cumulative data only.

Imaging Dose

The Dose constituent type IMAGE_ACQ and the corresponding block in the Contributing Image Acquisition Procedure Sequence was reviewed, revised and the approach generally accepted.

4.2 Dose Objects walk-through

Review of imaging dose issues in version 32 of the Sup 177 draft:

- Define Dose Type Categories
- Dose Scope UID has been removed
- Dose Context UID has been moved to Sequence containing Dose Representative Value etc. in the "Additional Dose Labeling" block.
- Gamma Index was kept for now for dose comparison (may drop later)
- Replace Referenced Image Sequence with a reference to Image Series (used for dose calculation and/or display).
- Reference requirements for Dose characteristics, Radiobiological interpretation, Dose Calculation Method, Accompanying Documentation and Image Reference Libraries were evaluated for 10 Use Cases for Dose.

The data model for Dose IODs was intermittently reworked to reference Libraries from the Dose Context Macro, i.e. from the top-level Sequences in the IOD rather than from constituents.
It was considered, whether this approach is suitable. It turned out to be insufficient, since dose combinations may be:

- (a) combination of heterogeneous dose types (e.g., multiple modalities, effective dose computation)
- or (b) dose difference (e.g., comparison of calculated and measured doses) and alike of the same types of doses.

Therefore, the following library information blocks references have been moved back to constituent level:

- dose characteristics
- radiobiological interpretation
- dose calculation method.

Pertinent documents were kept on top-level Sequence Items for the time being.
Summary of other considerations:

- Renamed RT Dose Image IOD to RT Dose Map Annotation IOD
- Constituents are used for dose accumulation and dose difference. Each dose item consists of one or more constituents.
- Add non-referencing constituent definition.
- Can use (a) multiple codes or (b) "Hybrid" for mixed-type doses.

CID SUP177020 was renamed to Radiotherapy Dose Values Origin Category Codes, including the following codes:

- Calculated based on device parameters
- Specified
- Direct measurement (dose at locus of dosimeter)
- Constructed from measurement (inferred from fluence measurement)

4.3 Use of Parametric Maps

K. Jyrkkala made an experimental implementation of the Parametric Maps and found the following issue for the Dose Image payload which should be discussed in a future meeting:

- Frame Laterality (Type 1) must be in {R, L, U, B}
- Color LUT for floating point map values?
- Transfer Syntax for compression of floating point maps?

4.4 Resulting Documents

The state of the Supplement at the end of the meeting included some post-meeting cleanups are captured in Revision 32 of the Supplement.
The current state of the internal IOD Structure is graphically documented in:
RTDoseObjects_ER_Diagram V2.vsdx
on the ftp in subfolder WG07\Sup\Sup177_DoseObjects\Issues\IOD Structure. This drawing should be in line with Revision 33 of the Supplement and vice versa.
A new Revision 33 is posted with all change bars removed.

5. Sup 175 – C-Arm RT Treatment Modalities (for Final Text)

The Letter Ballot was sent out at January 14, 2019 and ballot period ended by March 4, 2019. Various comments have been received, which are overwhelmingly editorial. C. Schadt has addressed most of the comments. He presented the ones to be discussed by WG-07 before starting Reading for Final Text.
The most important findings have been handled as follows:

- Block / aperture representation (including "slabs") are now using non-overlapping polygons.
  - Each block or aperture may consist of multiple polygonal contours. Therefore. a Sequence of polygons has been introduced to remove the necessity to artificially use multiple block items just for the purpose of combining several contours.
  - Contours were constrained to be non-overlapping ('non-crossing') with themselves and non-overlapping with each other.
- Terminology for radiation reference location was revised
- Cleanup of wording in several contexts
- The semantics of number of fractions (to be) delivered was revised as follows:
  - Since this number of often adapted during the delivery of the series of treatment fractions, the semantics was changed to annotate the number of fractions intended at the time of prescription
  - The Intended Number of Fractions
    - may be annotated directly, or
    - by a referenced Prescription Item in an RT Intent Instance.
- A reference to the Prescription (in Referenced RT Prescription Sequence via SOP Instance Reference Macro and Referenced RT Prescription Index) was added because of the item above, and to be able trace in general on which prescription the Radiation Set was based on.
- The Index in the Tolerance Table was removed, since the label is sufficient to identify the tolerance set and an index starting with 1 etc. is not useful in this context.

The Reading for Final Test was started at the WG-06 meeting during the following week.

5.1 Sup 213 – Enhanced RT Image

Motivation for RT Image in 2nd Generation is:

- need of a strong geometric description with respect to the device
- need to attach RT semantics (meterset, etc.) to image.

U. Busch explained his assessment, that these goals cannot be covered efficiently, if at all, by decorating some "generic" projection image as already present in the Standard. The existing

(projection) image IODs do not adequately support the coordinate system of treatment devices to allow a safe determination of the patient position for delivering therapeutic radiation.
An open question is, how to represent annotations (actual beam apertures) on the image. Can Presentation State be used for this purpose?
The main question discussed was how to represent device geometries:
(a) by using device specific macros, like the ones used in Radiation IODs
(b) using a generic set of 2 coordinates, bound to the Equipment FOR to describe the position of the source, with the sub-options of:
(b1) using 3 translational coordinates
(b2) using one parameter for distance from the Equipment FOR origin to the source and 2 rotational coordinates to describe the direction to where the source is located (spherical coordinate system).
The group decided to prefer (b2) for the time being, since it addresses all kind of devices, while providing a rotational understanding for C-Arm-like devices, which will greatly benefit from this approach to describe gantry-mounted imagers. For other imagers it does not make a substantial difference which representation is chose.

6. Future Meeting Dates, Agenda for the Next Meeting and other Administrative Topics

6.1 Supplement Ownerships

The Project List was reviewed, and assignments of primary editors made to make sure that every Supplement has an owner after the retirement of U. Busch. The following assignments were made:
Sup 160 (Patient Positioning and Workflow) - T. Schwere
Sup 175 (C-arm Linacs) - C. Schadt
Sup 176 (Additional Treatment Modalities) - C. Schadt
Sup 177 (Dose Objects) - J. Percy
Sup 199 (RT Radiation Records) - B. Pekarek
Sup 213 (Enhanced RT Image) - C. Schadt (preliminary owner)
Sup 215 (RT Ion Radiations) - B. Rakes
Sup 216 (Brachytherapy Objects) - Y. Yan
NN1 (Planning Record) - Y. Yan
NN2 (Treatment Session) - C. Pauer
NN6 (Motion Management) - B. Pekarek

6.2 Meeting Schedule

No changes to the meeting schedule were made.

7. Adjournment

The meeting was adjourned on Friday, March 8, 2019 at 13:00 local time.

Submitted by Ulrich Busch, Chair of WG-07 RT
Reviewed by Luiza Kowalczyk, DICOM Secretariat
Reviewed by Clark Silcox, legal counsel, April 4, 2019.

Appendix: General Information

Time, Place and Topics for Future Meetings

See also DICOM Calendar:
http://workspaces.nema.org/dicom/Lists/Calendar/calendar.aspx

WG-07

TCons:

- - none -

Face to Face Meetings:

- July 29 (8:30) – August 2, 2019 (12:00). Chicago, IL, USA
- September 17 (8:30) – September 21, 2019 (12:00)
  (post-ASTRO) St. Louis, MO (tentative) or MITA HQ, Arlington, VA
- November 18 (8:30) – November 22, 2019 (12:00)
  Melbourne, FL (tentative) - Washington, VA as fallback

WG-07 Ion

- June 10 (9:00) – June 12, 2019 (12:00) Manchester, UK
  (in connection with PTCOG)

WG-06

- June 3 – June 7, 2019, Dublin, Ireland
- September 9 – September 13, 2019. MITA HQ, Arlington, VA, USA
- November 4 – November 8, 2019. MITA HQ, Arlington, VA, USA
- January 6 - 10, 2020. MITA HQ, Arlington, VA, USA
- March 30-April 3, 2020. Japan
- June 15 - 19, 2020. MITA HQ, Arlington, VA, USA
- August 31 - September 4, 2020. MITA HQ, Arlington, VA, USA
- November 9 - 13, 2020. MITA HQ, Arlington, VA, USA

DICOM Standard Committee

- April 4 - 5, 2019. Rennes, France
- September 30 - October 4, 2019. Bangkok, Thailand

IHE-RO

- April 2 - April 5, 2019. Orlando, FL
- July 17 – July 20, 2019. San Antonio, TX
  (post AAPM)
- Connectathon
  October 7 – October 12, 2019. TBD
- December 9 – December 13, 2019. AAPM, Alexandria, VA

Others Meetings of Interest

- ESTRO Fri 26.04.2019 – Tue 30.04.2019, Milan, Italy
- PTCOG Mon 10.06.2019 – Sat 15.06.2019, Manchester, UK
- AAPM Sun 14.07.2019 – Thu 18.07.2019, San Antonio, TX
- ASTRO Sun 15.09.2019 – Wed 18.09.2019, Chicago, IL
- RSNA Sun 1.12.2019 – Fri 06.12.2019, Chicago, IL

- ESTRO TBD
- PTCOG Mon 04.05.2020 – Sat 09.05.2020, Linkou, Taiwan
- AAPM Sun 12.07.2020 – Thu 16.07.2020, Vancouver, BC
- ASTRO Sun 25.10.2020 – Wed 28.10.2020, Location TBD
- RSNA TBD

Project List

The list of major projects pursued by WG-07 can be found here:
ftp://medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/Wg07/WG-07_Projects.xlsx

CP Status

For information about status and history see actual version of

- WG-07_ChangeProposalStatus_YYYY-MM-DD

This document and subfolder for each CP are located here:
ftp://medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/Wg07/CP

The following CPs are in discussion / review with WG-06:
The following CPs are in Voting Package:
cp1865 - UPS Parameters Concept Codes for RT Treatments
cp1878 - Add Part 15 definitions to RT Physician's Intent and RT Segment Annotation
cp1879 - Retire Beam Dose Specification Point
The following CPs are in Letter Ballot:
cp1864 - Add Anatomic Region Sequence to RT Structure Set
The following CPs have been promoted to Final Text:
cp1835 - Add Quantity Definition for some Units

Supplement Status

The following Supplements (2nd Generation RT and others) are officially registered and in work:

Number	Supplement Name	Editor	Status
147	Second Generation Radiotherapy - RT Prescription and Segment Annotation	Ulrich Busch	Final Text November 2018
175	Second Generation Radiotherapy – C-Arm RT Treatment Modalities	Christof Schadt	In Reading for Final Text
176	Second Generation Radiotherapy – Additional RT Treatment Modalities	Christof Schadt	Waiting for WG-06 Reading for Letter Ballot
177	Second Generation Radiotherapy – RT Dose Objects	Ulrich Busch	In preparation for Public Comment
178	Second Generation Radiotherapy – RT Course	TBD	Draft on hold
179	Second Generation Radiotherapy – RT Explanatory (Part 17)	Mark Pepelea	Draft on hold
160	Patient Positioning and Workflow	Thomas Schwere	Drafting in progress
196	Segmentation Creation Template	Walter Bosch	Draft on hold
199	Second Generation Radiotherapy – RT Radiation Record	Bob Pekarek	Ready for Review by WG-07 prior to Public Comment
213	Enhanced RT Image	Christof Schadt (prelimnary)	Drafting in progress. Approved by Committee (number not yet known)
215	Second Generation Radiotherapy – Ion Radiation Objects	Bruce Rakes	Early Draft (Supplement framework only)
216	Second Generation Radiotherapy – Brachytherapy Objects	TBD	Early Draft (Supplement framework only)
NN1	RT Planning Record	Yulong Yan	Draft on hold No approved workitem by DICOM Committee yet.

NN2	RT Treatment Session Record	Chris Pauer	Draft on hold. No approved workitem by DICOM Committee yet.
NN6	Motion Management Objects	TBD	Early Draft (extracted from Sup 160)

Supplement Documents:

All Supplements are located under subfolders in:
ftp://medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/Wg07/Sup
Documents and their naming per development phase are listed in the following.

During Drafting:

- **Supplement:** **supNNN_[Revision]_<name>.doc**
  e.g. **sup147_44_2ndGen_Prescription_and_Segment_Annotation.doc**

During Reading for Public Comment with WG-06:

- **Supplement:** **supNNN_[Revision]_<name>.doc**
  e.g. **sup147_44_2ndGen_Prescription_and_Segment_Annotation.doc**

Supplements prepared for Public Comment and onwards do not contain History and Open Issues sections any more (unless there are Open Issues for Public Comment). The history of discussions and reviews are contained in a companion document called …ReadingNotes.doc.

- **Reading Notes:** **<Supplement filename>_ReadingNotes.docx**
  e.g. **sup147_44 - Reading_Notes.docx**

During Public Comment or Reading for Trial Use with WG-06:

- **Supplement:** **supNNN_pc_[Revision]_<name>.doc**
  e.g.
  sup147_pc_02_2ndGen_Prescription_and_Segment_Annotation.doc

Comments are managed using the Kavi tool.

During Trial Use:

- **Supplement:** **supNNN_fz_<name>.doc**
  e.g. **sup147_fz_2nd_Gen_Prescription_and_Segment_Annotation.doc**

Comments are managed using the Kavi tool.

During Reading for Letter Ballot with WG-06:

- **Supplement:** **supNNN_dlb_[Revision]_<name>.doc**
  e.g.
  sup147_dlb_02_2ndGen_Prescription_and_Segment_Annotation.doc

Comments are managed using the Kavi tool.

During Preparation of Final Text with WG-06:

- **Supplement:** **supNNN_dft_[Revision]_<name>.doc**
  e.g.
  sup147_dtf_02_2ndGen_Prescription_and_Segment_Annotation.doc

Presentation Material for 2nd Generation:

A folder is maintained containing material of presentations on 2nd Generation topics.
Everyone is invited to use any material out of that folder for presentations.
In turn everyone should to add his presentations to this folder, if they could be of general use. As needed, take care to remove any company- or institution-confidential parts before posting.

- ftp://medical.nema.org/MEDICAL/Private/Dicom/WORKGRPS/Wg07/2ndGeneration/Presentations

List of abbreviations:

PC Public Comment
LB Letter Ballot

TI Trial Implementation
FT Final Text