

Overview of the Current Activities of the AAPM Radiography and Fluoroscopy Subcommittee (SCRF)

July 14, 2022

Katie Hulme, MS, DABR



Disclosures

- I am a relatively new member of the SCRF!
 - Joined in 2021 when I became chair of TG-368

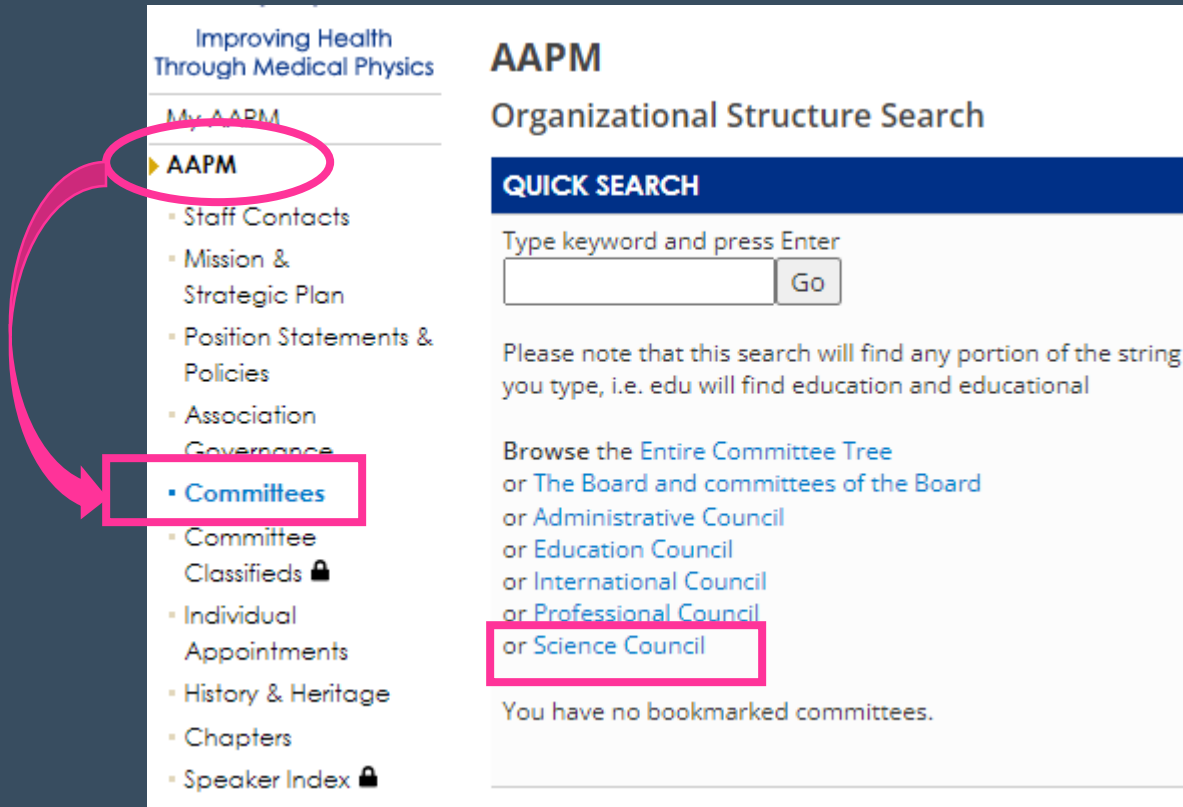


Outline

- SCRF Overview
 - Who, what, where, why?
- Active Task Groups
- Recently Published Task Groups
- The Path of a Task Group
 - Status of active Task Groups
- Getting involved!!
 - Task Group creation
 - Attending a Task Group
 - Joining a Task Group



SCRF in AAPM Structure



Improving Health Through Medical Physics

My AAPM

- AAPM
- Staff Contacts
- Mission & Strategic Plan
- Position Statements & Policies
- Association Governance
- Committees**
- Committee Classifieds
- Individual Appointments
- History & Heritage
- Chapters
- Speaker Index

AAPM

Organizational Structure Search

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Type keyword and press Enter

Please note that this search will find any portion of the string you type, i.e. edu will find education and educational

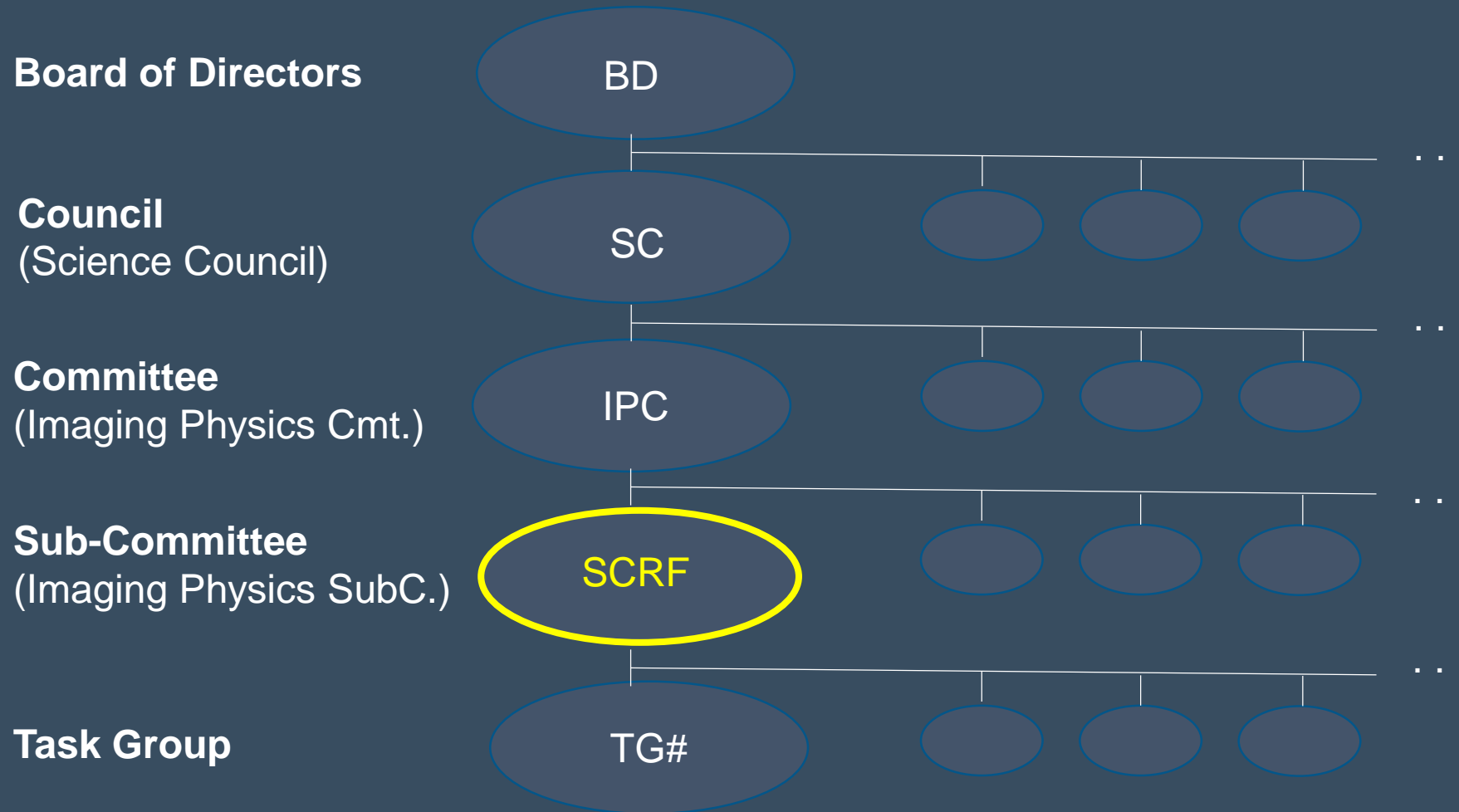
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- + Board of Directors
- + Science Council
 - + Imaging Physics Cmte [Status]
 - + Breast X-Ray Imaging SC [Status]
 - + Computed Tomography SC [Status]
 - + Computer Aided Image Analysis SC [Status]
 - + Imaging Informatics SC [Status]
 - + Magnetic Resonance SC [Status]
 - + Nuclear Medicine SC [Status]
 - + Pediatric Imaging SC [Status]
 - + Radiography and Fluoroscopy SC [Status]
 - + Radiological Protection SC [Status]
 - + Ultrasound SC [Status]

<https://www.aapm.org/org/structure/search.asp>

SCRF in AAPM Structure



Charge(s) of SCRF

“The Radiography and Fluoroscopy Subcommittee has as its core mission **the promotion, dissemination, and advancement of physical and computational principles as applied to the fields of radiography and fluoroscopy**, including items relevant to technical and scientific advancements, clinical use, safety, and quality assurance. **The Subcommittee achieves this mission, in consultation with the Imaging Physics Committee, through its own actions, the formation and oversight of Working and Task Groups**, and the establishment and maintenance of relationships with other bodies of the AAPM and other stakeholders.”

https://www.aapm.org/org/structure/default.asp?committee_code=SCRF

Chair



Kevin Wunderle
Subcommittee Chair

Active Task Groups

- TG-150 (2007)
- TG-261 (2014)
- TG-305 (2017)
- TG-321 (2018)
- TG-355 (2020)
- TG-367 (2021)
- TG-368 (2021)

Task Group No. 150 - Acceptance Testing and Quality Control of Digital Radiographic Imaging Systems (TG150)

Task Group No. 261 - Quality control methodology for low-dose dental and maxillofacial CBCT systems (TG261)

- [bookmark this page](#) (bookmarks show under "Mv AAPM" in the menu to left)

Task Group No. 305 - Development of Standards for Vendor-Neutral Reject Analysis in Radiography (TG305)

- [bookmark this page](#) (bookmarks show under "My AAPM" in the menu to left)

Task Group No. 321 - Dosimetry in Radiographic Tomosynthesis Imaging (TG321)

- [bookmark this page](#) (bookmark this page)

[Committee Website](#) | [Directory](#)

Email You may send email to this group now using [gmail](#) or [outlook](#).
- or -
You may save the address 2022.TG368@aapm.org to your local address book. This alias updates hourly from the AAPM Directory.

Task Group No. 355 - Characterization of Contrast-to-Noise Ratio (CNR) Optimized for CNROF Curve on analysis).
Control standards for CNROF systems.
Comparisons of each.
Clinical Physicists
Results analysis, and
5. e to image receptors with
y for measuring during

- [bookmark this page](#)

No Website on file.

Charge

1. Summarize current vendor implementations of the IEC exposure index and vendor-recommended/default target exposure indices
2. To establish a methodology for determining and implementing exam-specific EIT values

(5) Clinical application and optimization of CNROF systems.

Board of Directors

Science Council

Imaging Physics Cmte [Status]

Radiography and Fluoroscopy SC [Status]

TG355 - Characterization of Contrast-to-Noise Ratio (CNR) Optimized [Status]

TG367 - Quality Control of Dual-energy X-ray Absorptiometry (DXA) S [Status]

TG368 - Methodology for Establishing Exam-Specific Target Exposure [Status]

TG150 - Acceptance Testing and Quality Control of Digital Radiographic

Imagin... [Status]

TG261 - Quality control methodology for low-dose dental and maxillofacial

CBC... [Status]

TG305 - Development of Standards for Vendor-Neutral Reject A... [Status]

TG-321 - Dosimetry in Radiographic Tomosynthesis Imaging [Status]

Recently Published Task Groups

- TG-272 – Comprehensive Acceptance Testing and Evaluation of Fluoroscopy Imaging Systems
- TG-357* – Estimation of Patient Skin Dose in Fluoroscopy: Summary of a Joint Report by AAPM TG357 and EFOMP

BOTH WILL BE PRESENTING IN THIS SESSION!

**related SCRF, but SCRF was not the parent subcommittee*

The Path of a Task Group...

It's a JOURNEY

How a Task Group Report gets
the AAPM Stamp of Approval

Jean M. Moran, PhD

July 14, 2020



RADIATION ONCOLOGY



 Jefferson Health.

Guidelines for Writing and
Reviewing AAPM Task Group Reports
*Reviewing: A Critical Part of TG
Report Development*

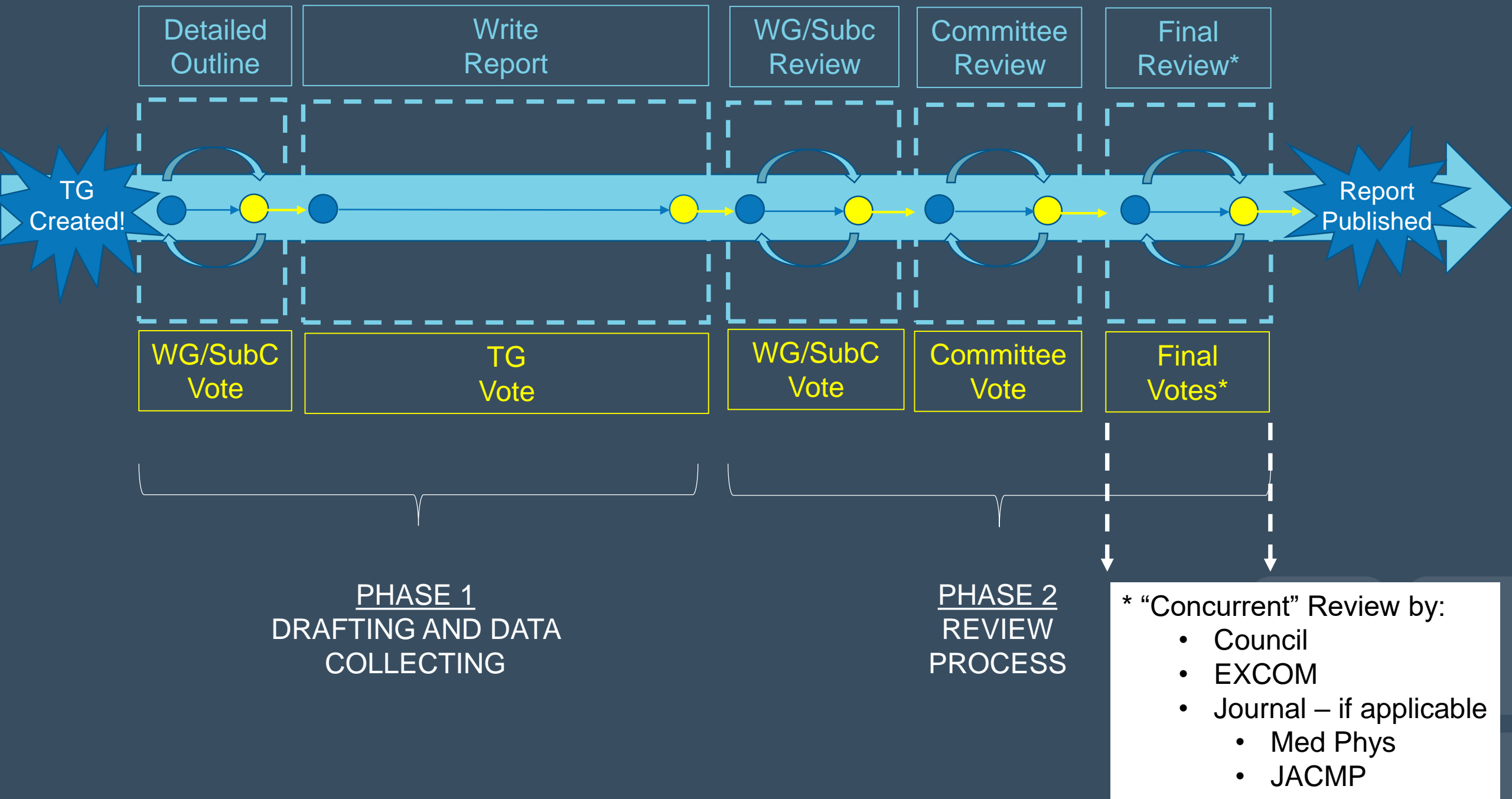
Eric Gingold, PhD

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE



2020 Joint AAPM | COMP Virtual Meeting - Session: Guidelines for Writing and Reviewing AAPM Task Group Reports

- Moran, J. - *Overview of TG Report Writing and Reviewing*
- Dieterich S. - *Productive TG Writing in the Face of Competing Demands On TG Volunteers*
- Gingold E. - *Reviewing: A Critical Part of TG Report Development*



WGTGC

Working Group on Task Group Creation (WGTGC)

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No Website on file. | Directory: [Committee](#) | [Membership](#)

Email You may send email to this group now using [gmail](#) or [outlook](#).
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You may save the address 2022.WGTGC@aapm.org
to your local address book. This alias updates hourly from the AAPM Directory.

- Charge**
- Operationalize the TG creation process
 - Set up the mechanism
 - Publish description of the new TG Creation Process
 - Create a form for completion and how to post on aapm.org for reviewing/editing
 - What software platform will we use for group editing and comments
 - Review proposals
 - Expand group to manage the reviews

By-Laws: Not Referenced. **Rules:** [Not Referenced.](#)

Approved 8/1/2020
Date(s):

Committee No Keywords Entered
Keywords:

- ⊕ [Board of Directors](#)
- ⊕ [Science Council](#)
 - ↳ [Working Group on Task Group Creation](#) [Status]

WGTGRS

Working Group on Task Group Review Streamlining (WGTGRS)

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[Committee Website](#) | Directory: [Committee](#) | [Membership](#)

Email You may send email to this group now using [gmail](#) or [outlook](#).
- or -
You may save the address 2022.WGTGRS@aapm.org
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- Charge** Define a simple, straightforward and more efficient final review process for task group reports, creating appropriate documentation and a summary of the review so that groups approving the report (e.g. the committee, council, EXCOM, other organizations) have enough information to understand the scope and context of the review, and to knowledgeably vote to approve or reject the report.

By-Laws: Not Referenced. **Rules:** [Not Referenced.](#)

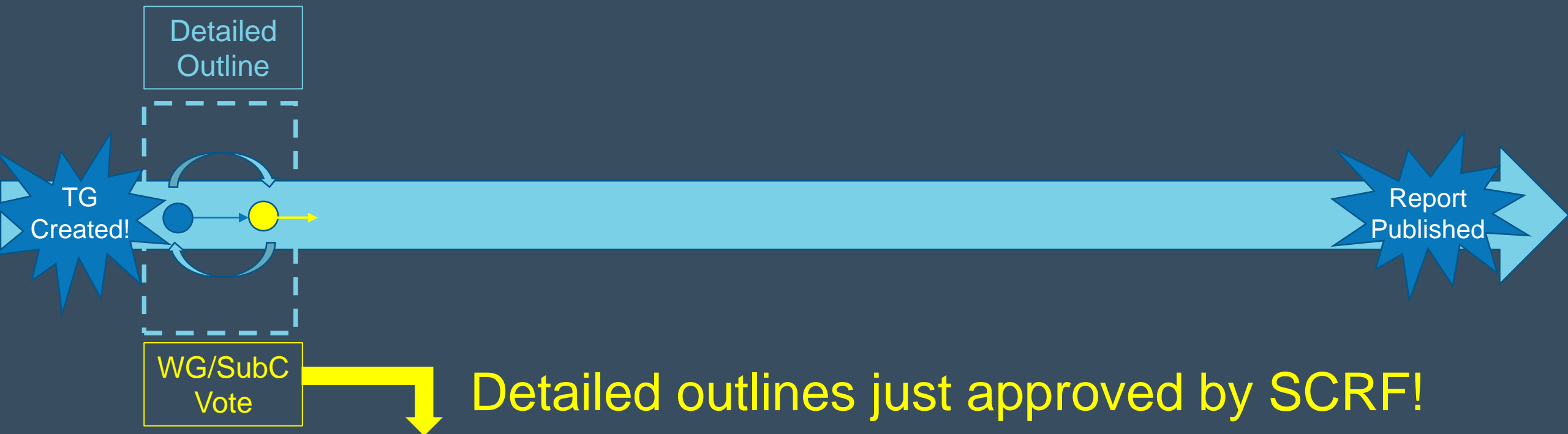
Approved n/a
Date(s):

Committee WGTGRS
Keywords:

- ⊕ [Board of Directors](#)
- ⊕ [Science Council](#)
 - ↳ [Working Group on Task Group Review Streamlining](#) [Status]

- » [Conflict of Interest report for WGTGRS](#)
- » [Status Reports for Task Groups - AC | EC | IC | PC | SC | Board Committees | All](#)





TG-367

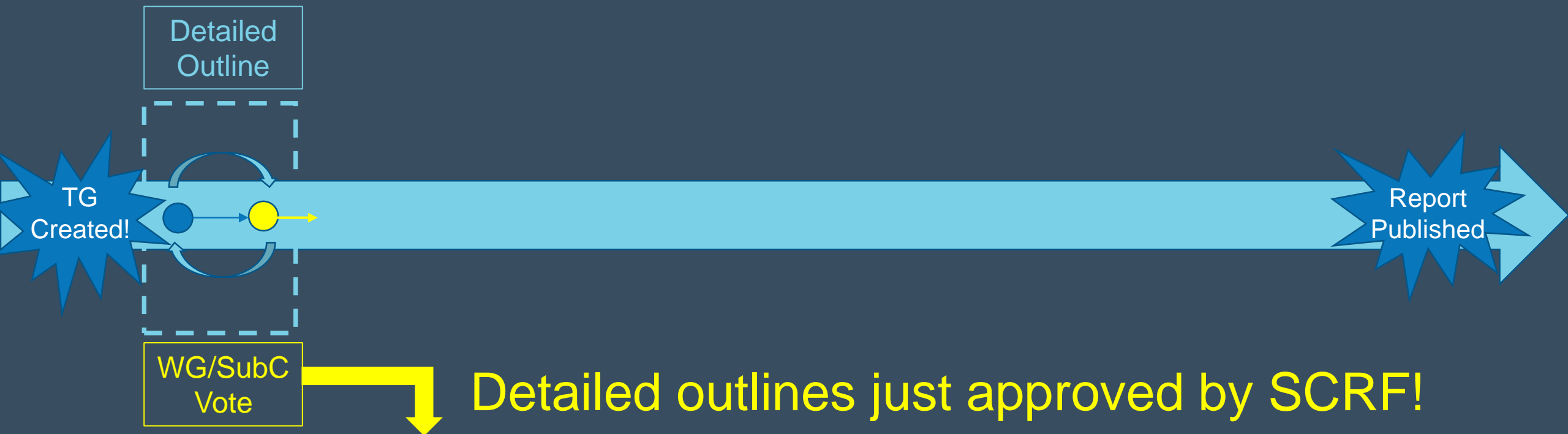
(formed in 2021)

Quality Control of Dual-energy
X-ray Absorptiometry (DXA)
Systems

TG-368

(formed in 2021)

Methodology for Establishing
Exam-Specific Target Exposure
Indicators in General
Radiography

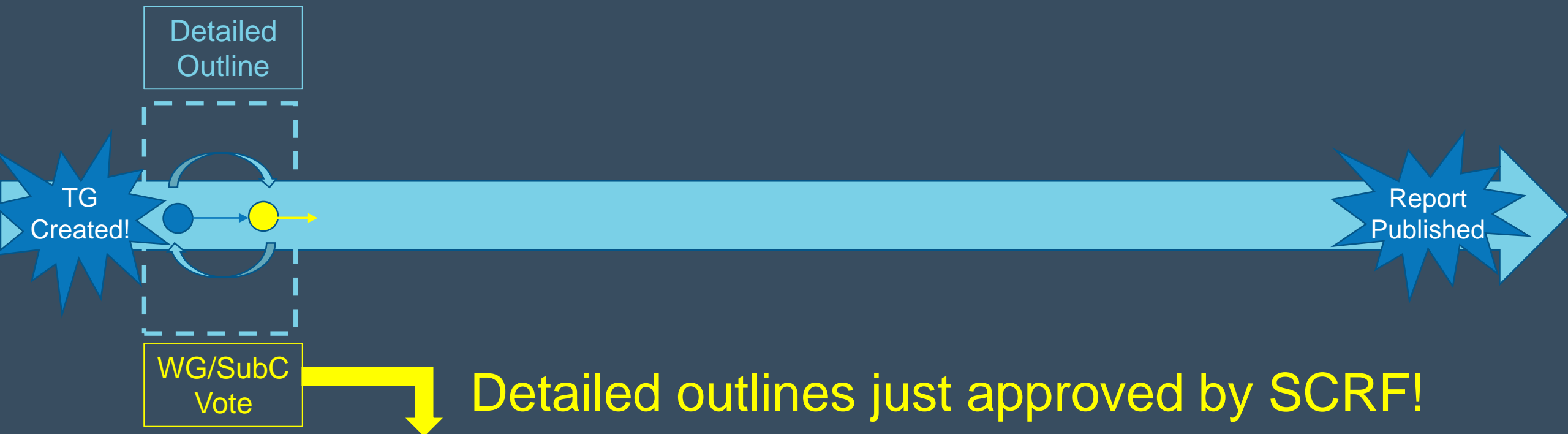


TG-367 (formed in 2021)

Quality Control of Dual-energy
X-ray Absorptiometry (DXA)
Systems

Charge(s):

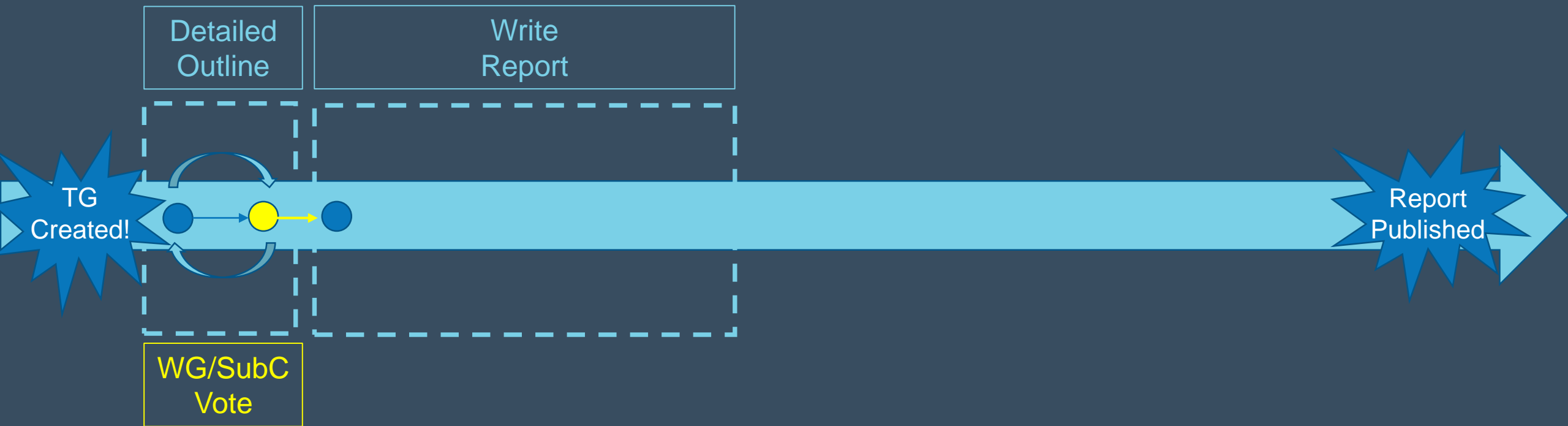
1. Describe the current technologies and clinical applications of DXA systems (i.e. BMD determination, body-composition analysis).
2. Obtain a survey of other existing DXA quality control standards and/or accreditation programs and provide comparisons of each.
3. Recommend clear standards for Qualified Medical Physicists (QMPs) to undertake regarding methodology, results analysis, and documentation of quality control for DXA systems.



Charge(s):

1. Summarize current vendor implementations of the IEC exposure index and vendor-recommended/default target exposure indices
2. To establish a methodology for determining and implementing exam-specific EIT values

TG-368
(formed in 2021)
Methodology for Establishing
Exam-Specific Target Exposure
Indicators in General
Radiography





TG-321

(formed in 2018)

Dosimetry in Radiographic
Tomosynthesis Imaging

TG-355

(formed in 2020)

Characterization of Contrast-to-
Noise (CNR) Optimized
Interventional Angiographic
Fluoroscopy Equipment





Charge(s):

- (1) Investigate and describe the Contrast-to-Noise Ratio (CNR) optimized fluoroscopy curves / trajectory. Hereafter: CNROF Curves.
- (2) Design considerations for phantoms employed for CNROF Curve evaluation.
- (3) Evaluate existing phantoms for performance testing of CNROF systems.

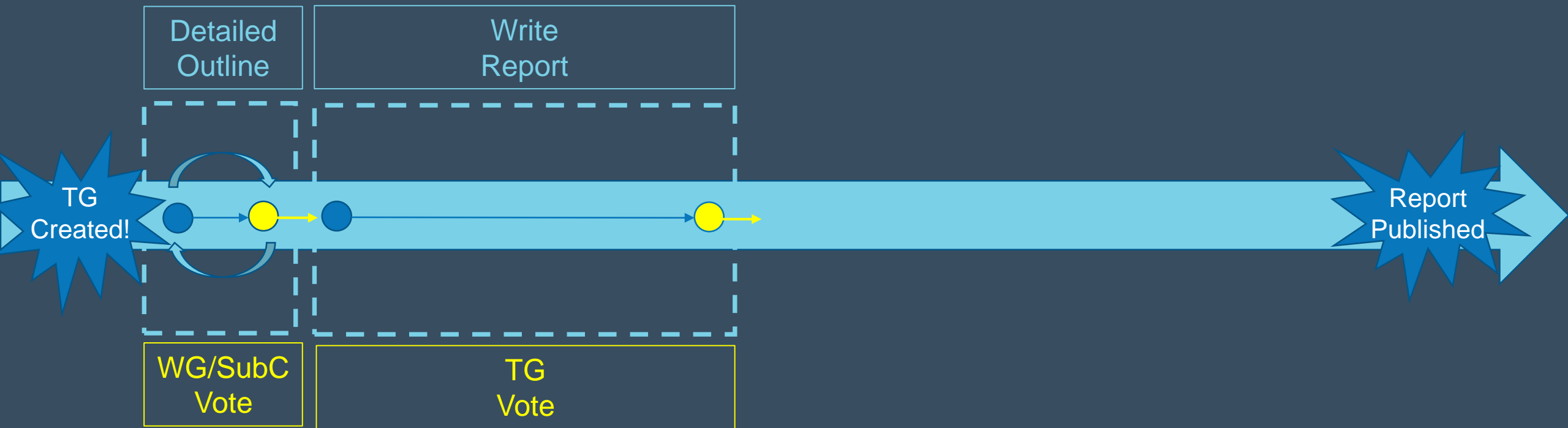
Additional charges pending the time allocations.

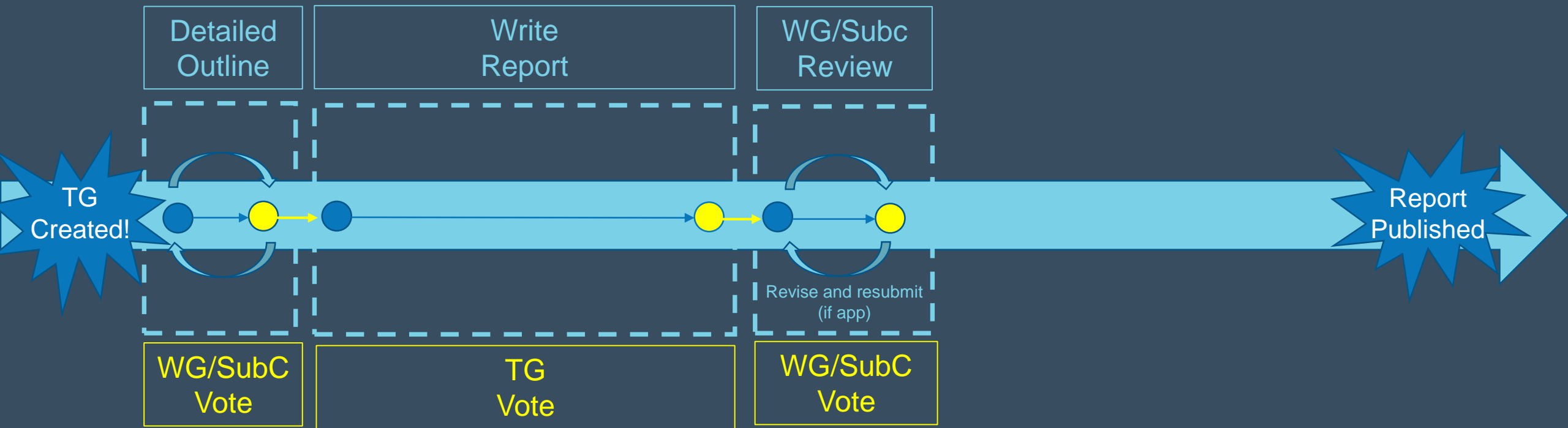
- (4) Investigate the influence of input dose/dose rate to image receptors with respect to CNROF systems and determine necessity for measuring during performance evaluations.
- (5) Clinical application and optimization of CNROF systems.

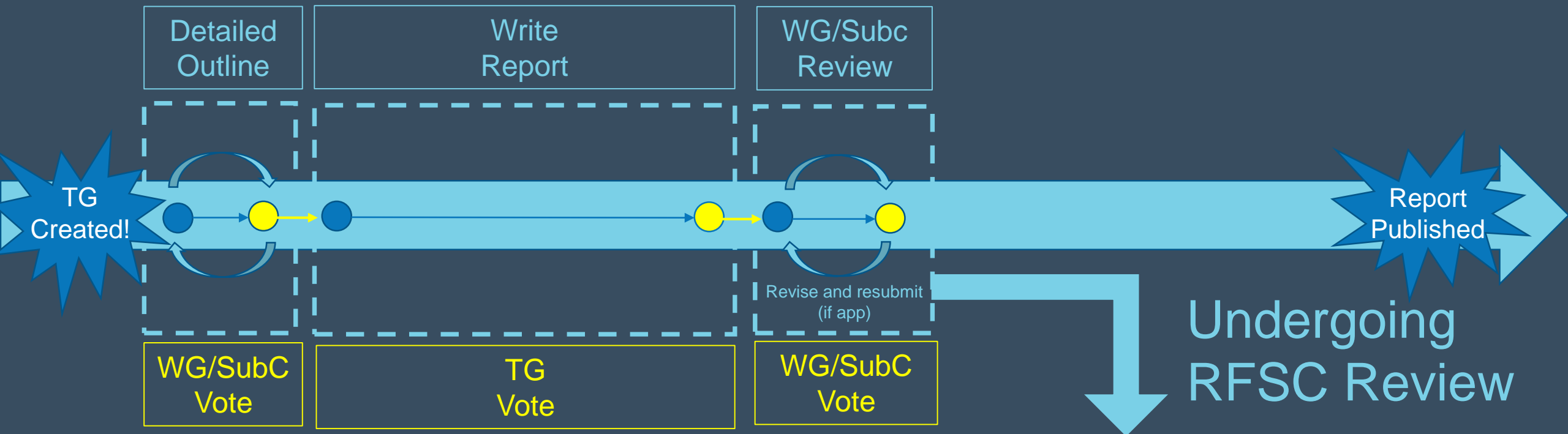
TG-355

(formed in 2020)

Characterization of Contrast-to-Noise (CNR) Optimized Interventional Angiographic Fluoroscopy Equipment







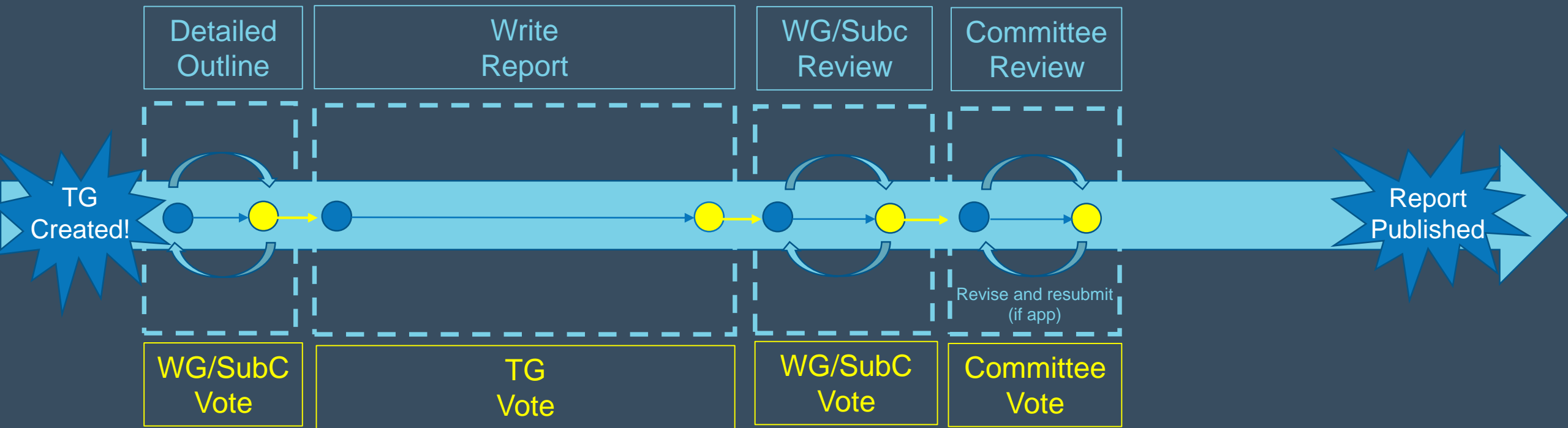
TG-150

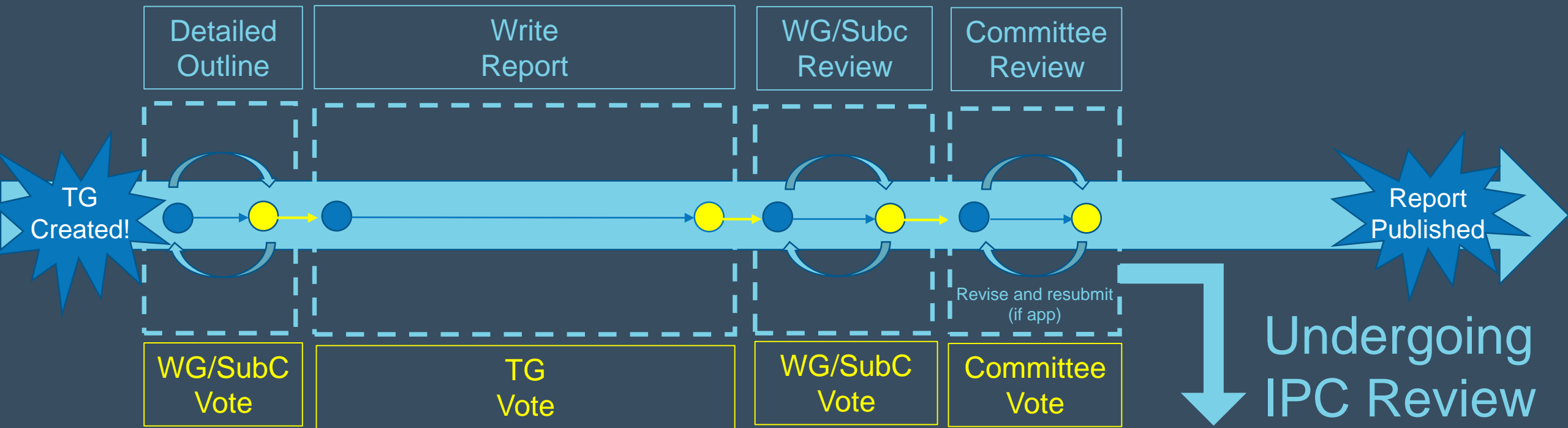
(formed in 2007)

Acceptance Testing and Quality Control of Digital Radiographic Imaging Systems

Charge(s):

This group will outline a set of tests to be used in the Acceptance Testing and Quality Control of Digital Radiographic Imaging Systems.





TG-261

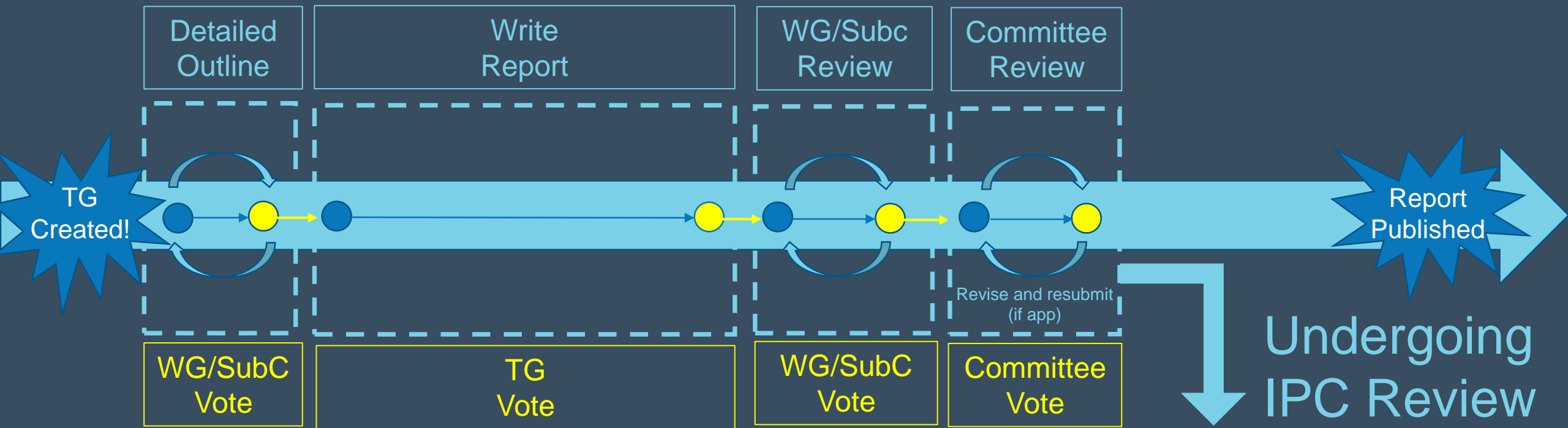
(formed in 2014)

Quality Control Methodology for
Low-Dose Dental and
Maxillofacial CBCT Systems

TG-355

(formed in 2017)

Development of Standards for
Vendor-Neutral Reject Analysis
in Radiography

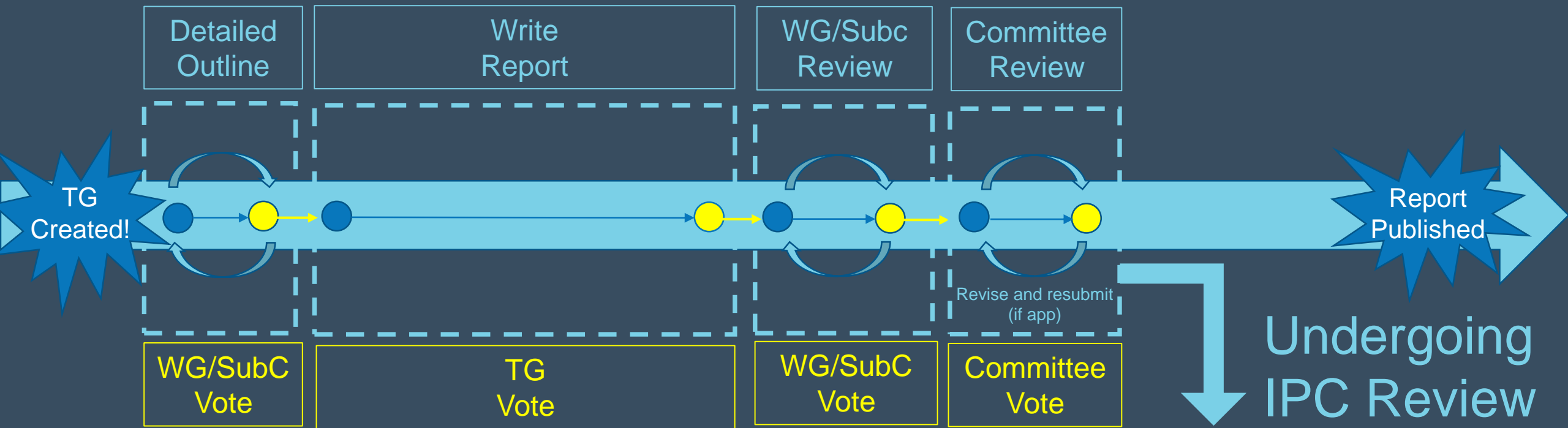


TG-261 (formed in 2014)

Quality Control Methodology for
Low-Dose Dental and
Maxillofacial CBCT Systems

Charge(s):

- To establish a methodology for assessment, evaluation and quality control of dental and maxillofacial CBCT imaging systems. The methodology will include detail procedures and techniques for:
 - facility shielding design requirements,
 - image quality testing,
 - dose estimate measurements like ("CTDI-like" or other dose index) and,
 - radiation safety of these systems.
- This TG will work on homogenizing the variety of individualized tests that are available for each different system in the market.
- This TG will establish a set of consistent image quality and dose estimate tolerances and guidelines for these systems.
- Development of routine QC program for these systems.

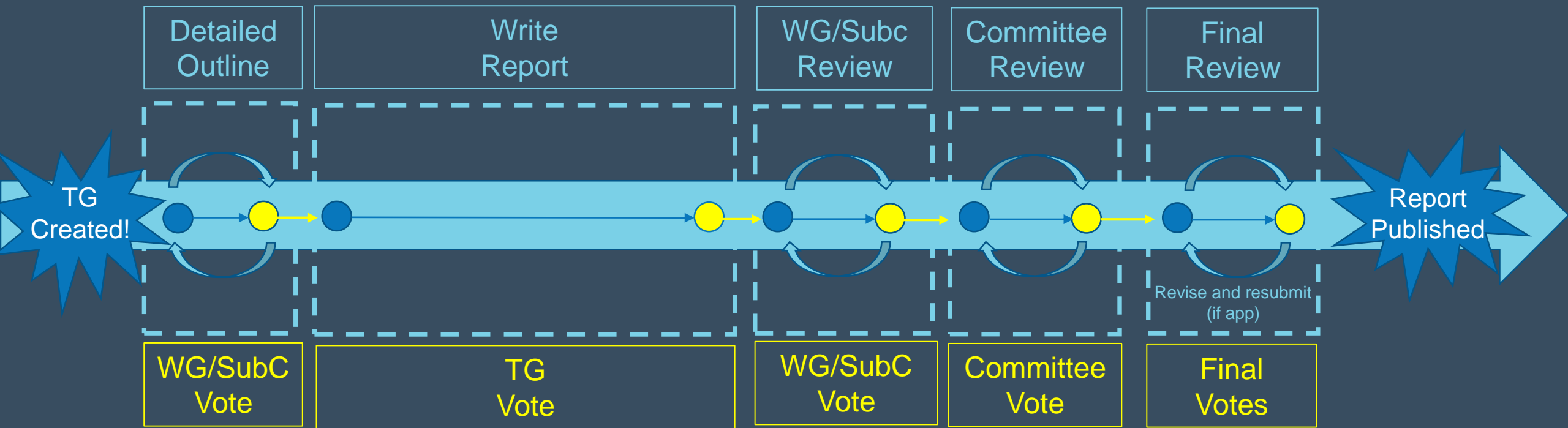


Charge(s):

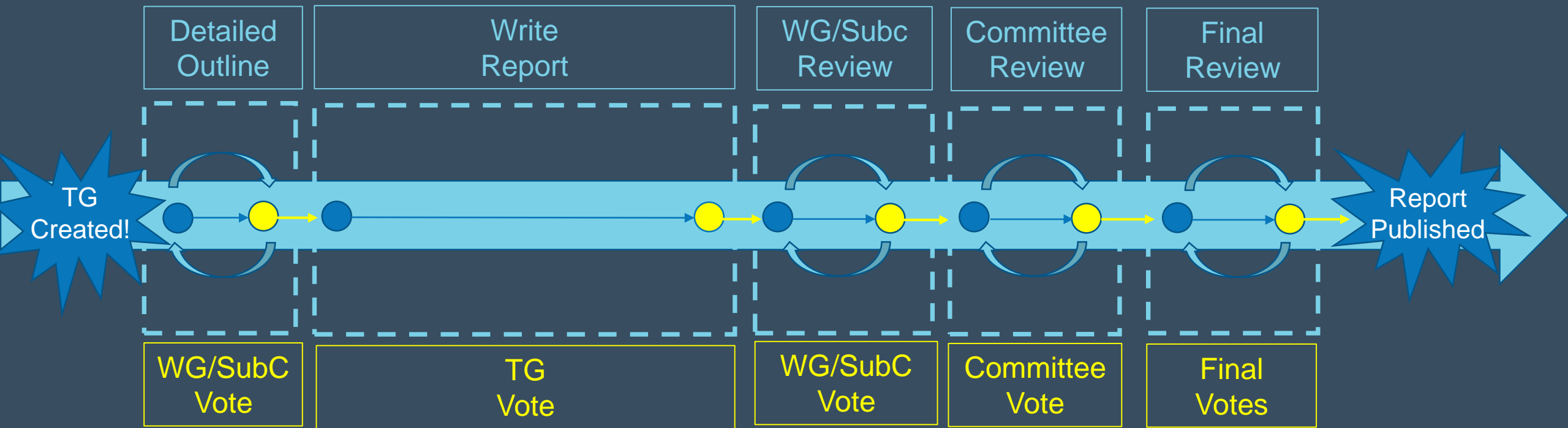
To develop a guidance document that recommends standard information and an effective dataflow to enable a vendor-neutral reject analysis program in radiography. These recommendations would expand on the suggestions in the report of TG-151 with a framework for implementing a robust reject analysis program that includes data standardization and a dataflow 'profile.'

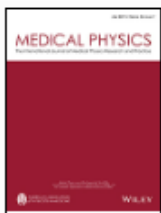
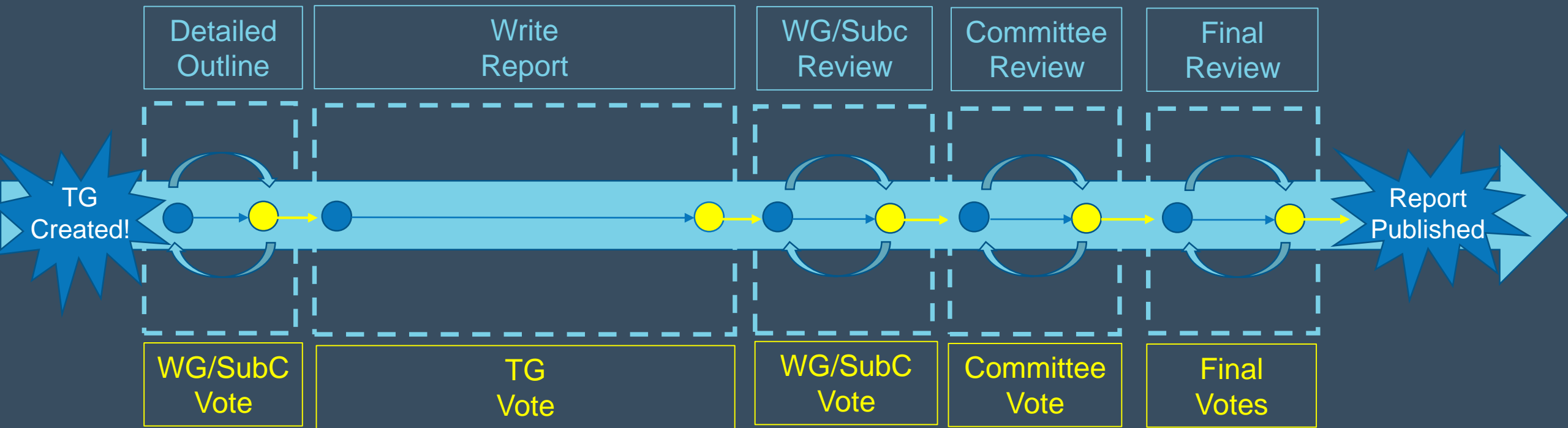
TG-355
(formed in 2017)

Development of Standards for
Vendor-Neutral Reject Analysis
in Radiography



- * "Concurrent" Review by:
- Council
 - EXCOM
 - Journal – if applicable
 - Med Phys
 - JACMP

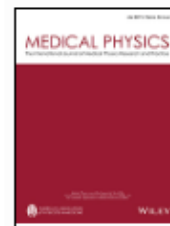




Report No. 272 - AAPM Task Group Report 272: Comprehensive Acceptance Testing and Evaluation of Fluoroscopy Imaging Systems (2022)

Category: Reports

Modern fluoroscopes used for image guidance have become quite complex. Adding to this complexity are the many regulatory and accreditation requirements that must be fulfilled during acceptance testing of a new unit. Further, some of these acceptance tests have pass/fail criteria, while others do not, making acceptance testing a subjective and time consuming task. The AAPM Task Group 272 Report spells out the details of tests that are required and gives visibility to some of the tests that while not yet required, are recommended as good practice. The organization of the report begins with the most complicated fluoroscopes used in interventional radiology or cardiology, continues with general fluoroscopy and mobile C-arms. Finally, the Appendices of the report provide useful information, an example report form and topics that needed their own section due to the level of detail.



Report No. 357 - Estimation of patient skin dose in fluoroscopy: summary of a joint report by AAPM TG357 and EFOMP (2021)

Category: Reports

The endeavor of skin dose estimation is greatly aided by the continuing efforts of the scientific medical physics community, the numerous technology enhancements, the dose-controlling features provided by the FGI device manufacturers, and the emergence and greater availability of the DICOM RDSR. Refined and new dosimetry systems continue to evolve and form the infrastructure for further improvements in accuracy. Dose-related content and information systems capable of handling big data are emerging for patient dose monitoring and quality assurance tools for large-scale multihospital enterprises.

Getting Involved

- Task Group Creation
 - Submit a Letter of Intent (LOI)
 - AAPM solicits new LOIs 3X per year via email, however LOIs can be submitted at any time during the year
 - LOIs are then reviewed by the WGTGC
 - Submit a Task Group proposal directly to the appropriate subcommittee *(Applicable only if proposal falls completely under IPC)*



► **AAPM**

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AAPM COMMITTEE TREE

Imaging Physics Committee (IPC)

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Charge The IPC is a committee of the Science Council and has responsibility over all AAPM scientific activities pertaining to medical imaging. The IPC is designed to implement a plan of imaging physics through its own actions and in cooperation with the extensive structure of subcommittees. The IPC has a responsibility for promotion, dissemination and advancement of physics principles as applied to the broad field of medical imaging, computer aided detection and diagnosis, disease screening, technical advancements, and quality assurance.

By-Laws: Not Referenced. **Rules:** [3.10.2](#)

Approved Date(s): n/a

Committee Keywords: Diagnostic Imaging, IP, IPC

⊕ [Board of Directors](#)

⊕ [Science Council](#)

⊕ [Imaging Physics Cmte](#) [\[Status\]](#)



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2021_7_23 IPC Meeting Minutes

IPC TG Creation Process Guide

Guidelines for Completion of Proposal for New IPC Task Group

SC Task Group Proposal Process

This document was created by the Working Group on Task Group Creation outlining steps from concept/letter of intent (LOI) submission to Science Council approval.

IPC TG Proposal Form Template

- Improving Health Through Medical Physics
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- Medical Physicist
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AAPM COMMITTEE TREE

Imaging Physics Committee (IPC)

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- + [Board of Directors](#)
- + [Science Council](#)
- + [Imaging Physics Cmte](#) [Status]


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[IPC TG Proposal Form Template](#)

AAPM Alert

Sorry, only members of the following committee(s) may view the page you have requested: 'IPC'

If you have questions, please contact:

For now...for copies, contact either:

- **Kevin Wunderle** (chair of IPC, member of WGTGC and WGTGRS)
- **Ioannis Sechopoulos** (chair of IPC, member of WGTGC and WGTGRS)

https://www.aapm.org/org/structure/committee/default.asp?lclCommittee_code=IPC

Getting Involved

- Task Group Creation
 - Submit a Letter of Intent (LOI)
 - Submit a Task Group proposal directly to IPC
- Sit in on a Task Group meeting
 - Committee meetings are open to anyone!
 - If interested, ask if possible to become a “Guest Member”
- Join a Task Group
 - Committee Classifieds



Resources

- 2020 Joint AAPM | COMP Virtual Meeting - Session: Guidelines for Writing and Reviewing AAPM Task Group Reports
 - Moran, J. - *Overview of TG Report Writing and Reviewing*
 - Dieterich S. - *Productive TG Writing in the Face of Competing Demands On TG Volunteers*
 - Gingold E. - *Reviewing: A Critical Part of TG Report Development*
- 2020 SCM Session - Task Group Creation and Effective Report Development
 - Mayo, C. – *“Making the Sausage”: Lessons Learned On Task Group Processes From TG-263*
 - Fraass, B. - *How Are Task Groups Created?*
 - Miften, M. - *How to Generate An Effective TG Report*



Every life deserves world class care.