Formal Peer Inspection Information Architecture

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Collaborative Software Engineering Tools Workshop

Software Development Formal Peer Inspection

Helps mitigate risks in software development and improve software quality

Software Development Formal Peer Inspection (cont'd)

- Participants
  - Different roles (e.g. Work Product Author, Moderator, Product Area Lead, Inspector)
  - Different responsibilities for each role

- Inspection documents and tools
  - Different formats and structures
  - Located on different platforms
  - Located in different physical and logical locations

Formal Peer Inspection

Checkout & Launch Control System (CLCS)

PEER INSPECTION
KDP-P-2918

Author

START

Obtain Author's Checklist from 84K00505 (See Note 1) and verify readiness for Peer Inspection (Entry criteria).

Develop Peer Inspection Practice Packages per 84K00505 document (Identify checklists).

Work with Product Area Lead to identify Moderator, and Inspectors.

Complete work required to conduct Peer Inspection.

Approval obtained and Entry Criteria Complete? — No / Yes

Prepare invitations and provide Peer Inspection packages to Moderator for review. After approval, distribute the inspection packages at least 3 days before the Scheduled Peer Inspection.

Conduct Overview Meeting, if necessary; highlight critical items.

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Product Area Lead (See Note 2)

Start Product Area Lead Checklist (See Note 1). Work with Author to Identify Moderator (criteria in 84K00505) and Inspectors. Verify readiness for Peer Inspection.

Moderator

Start Moderator's Checklist (See Note 1) to verify materials and readiness.

Make Go/NoGo Decision.

Inspectors

Attend overview, if held.

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Attend overview, if held.

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RTS Product Assurance and CLCS Quality Assurance (PA & QA)

Periodically, attend overviews, if held.

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Objectives:
-to provide a description of the Peer Inspection process flow.

Approved: _____
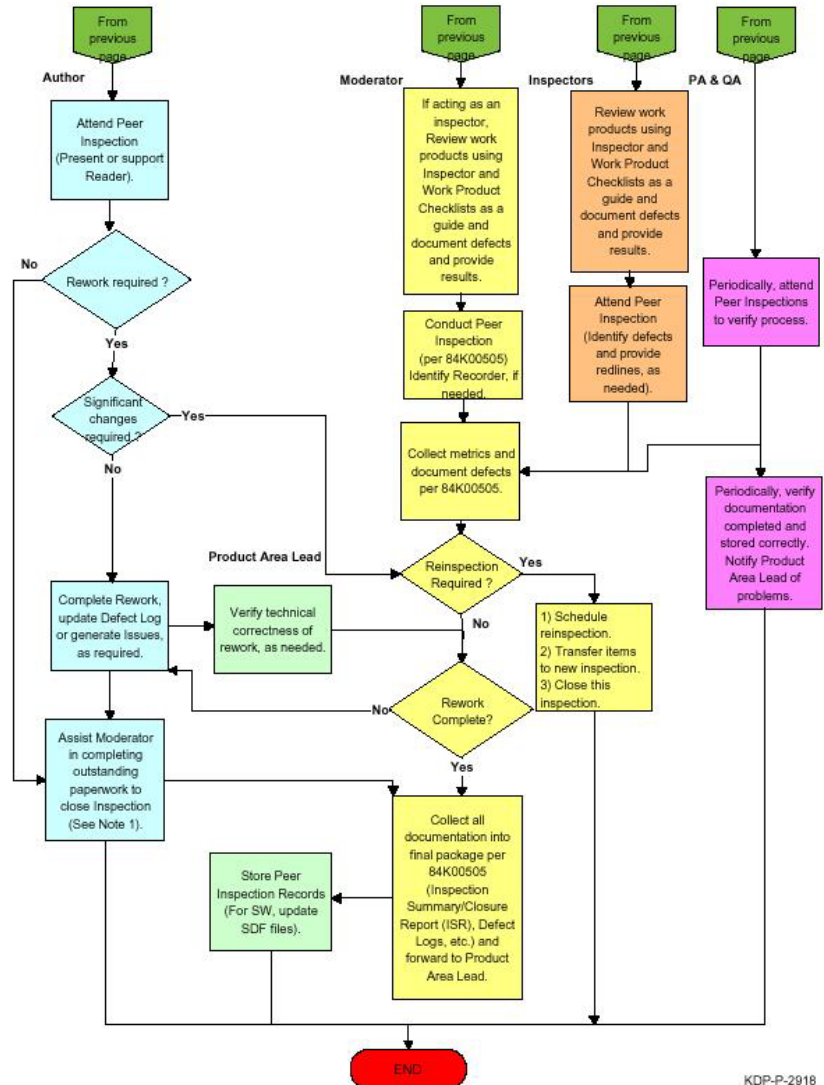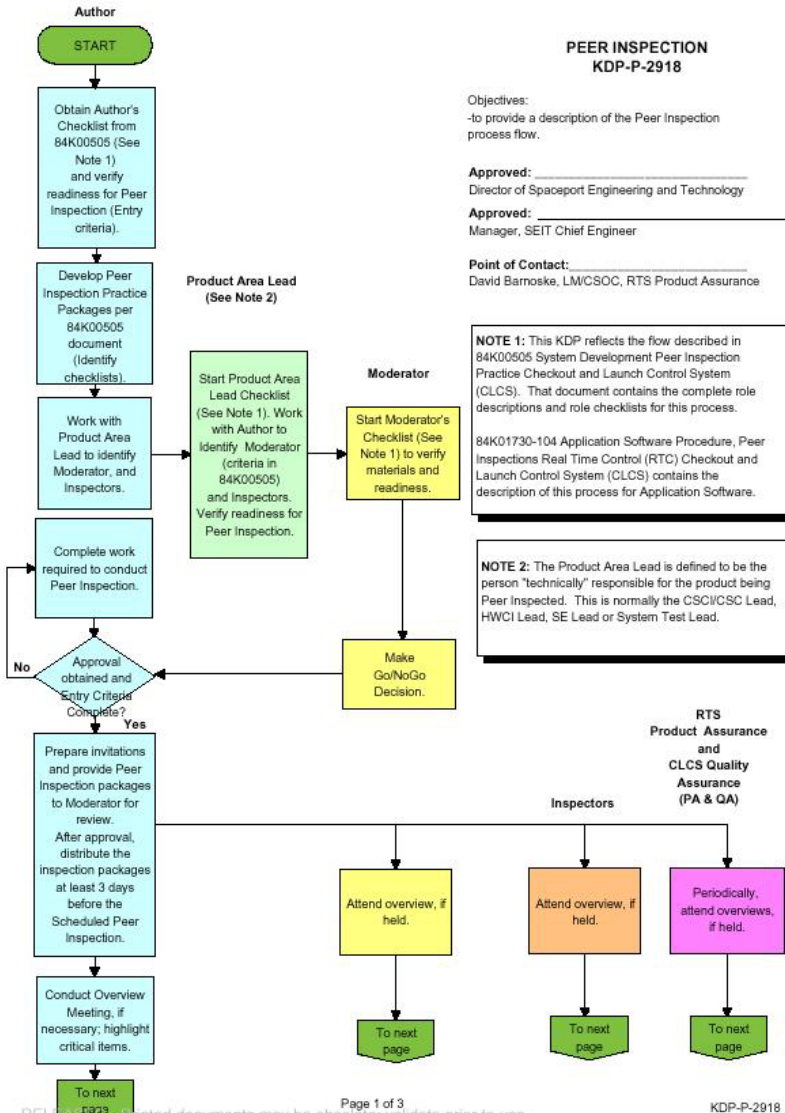Director of Spaceport Engineering and Technology

Approved: _____
Manager, SEIT Chief Engineer

Point of Contact:_____
David Barnoske, LM/CSOC, RTS Product Assurance

NOTE 1: This KDP reflects the flow described in 84K00505 System Development Peer Inspection Practice Checkout and Launch Control System (CLCS). That document contains the complete role descriptions and role checklists for this process.

84K01730-104 Application Software Procedure, Peer Inspections Real Time Control (RTC) Checkout and Launch Control System (CLCS) contains the description of this process for Application Software.

NOTE 2: The Product Area Lead is defined to be the person "technically" responsible for the product being Peer Inspected. This is normally the CSCI/CSC Lead, HWCI Lead, SE Lead or System Test Lead.

Author

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Attend Peer Inspection (Present or support Reader).

Rework required? — No / Yes

Significant changes required? — No / Yes

Complete Rework, update Defect Log or generate Issues, as required.

Assist Moderator in completing outstanding paperwork to close Inspection (See Note 1).

Product Area Lead

Verify technical correctness of rework, as needed.

Moderator

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If acting as an inspector, Review work products using Inspector and Work Product Checklists as a guide and document defects and provide results.

Conduct Peer Inspection (per 84K00505) Identify Recorder, if needed.

Collect metrics and document defects per 84K00505.

Reinspection Required? — Yes / No

Rework Complete? — No / Yes

1) Schedule reinspection. 2) Transfer items to new inspection. 3) Close this inspection.

Collect all documentation into final package per 84K00505 (Inspection Summary/Closure Report (ISR), Defect Logs, etc.) and forward to Product Area Lead.

Store Peer Inspection Records (For SW, update SDF files).

END

Inspectors

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Review work products using Inspector and Work Product Checklists as a guide and document defects and provide results.

Attend Peer Inspection (Identify defects and provide redlines, as needed).

PA & QA

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Periodically, attend Peer Inspections to verify process.

Periodically, verify documentation completed and stored correctly. Notify Product Area Lead of problems.

Objective

To develop a customizable, extensible, and flexible Web-based architecture to support software development formal peer inspection

Approach

- Component-based software engineering
- XML schema and XSL

Inspection Documents

- Role-based Inspection Checklists

    - Work Product Author's Inspection Checklist

    - Inspector's Inspection Checklist

    - Product Area Lead Inspection Checklist

    - Inspection Moderator's Inspection Checklist

Inspection Documents (cont'd)

- Work Product Inspection Checklists

  - Document-Work Product Checklist
  - Requirement's Specification-Work Product Inspection Checklist
  - High-Level Design - Work Product Inspection Checklist
  - Detailed Design - Work Product Inspection Checklist
  - Code Inspection - Work Product Inspection Checklist
  - Test Plan - Work Product Inspection Checklist
  - Test Procedure – Work Product Inspection Checklist

Inspection Documents (cont'd)

- Peer Inspection Invitation form
- Peer Inspection Planning Checklist
- Overview
- Listing of Reference Materials (e.g. Standards, User Guides)
- Summary of list of open issues that need to be reviewed and/or addressed
- Peer Inspection Defect Log form
- Inspection Summary/Closure Report
- Inspection Satisfaction Survey form

Example
Role-Based Inspection Checklist Component

- Role of the inspection participant (Variables include work product author, inspector, product area lead inspector, and moderator.)
- Inspection phase (Variables include planning, overview, inspection preparation, inspection meeting, inspection rework/follow-up, and project analysis.)
- Responsibilities of a specific role in various inspection phases
- Project identification number (ID)
- Work product being inspected (Variables include documents, concept definitions, requirements specifications, top-level design, detailed design, code, test plans, test procedures, test tools, and test scripts.)
- Name of the inspection participant
- Date of completion for each task listed under "Responsibilities"
- Inspection location

Peer Inspection

User Name: Alan
Project: P001
Role: Author

Author's Checklist

Inspection Phase	Responsibilities	Check if Completed	Date Completed
Planning	- Attend inspection training	☐	▾ ▾ ▾
	- Prepare overview materials if required	☐	▾ ▾ ▾
	- Ensure adequate preparation time is provided	☐	▾ ▾ ▾
	- Notify moderator and management if unable to meet published schedule	☐	▾ ▾ ▾
	- Ensure that the work product meets entry criteria for inspection (ref. 2.3.1 Entry Criteria)	☐	▾ ▾ ▾
	- Work with Product Area Lead to identify and confirm inspectors	☐	▾ ▾ ▾
	- Determine appropriate work product checklist(s) and role checklist(s)	☐	▾ ▾ ▾
	- Work with Product Area Lead to assign specific review areas to each inspector on the work product inspection list, if desired	☐	▾ ▾ ▾
	- Work with moderator to finalize inspection package contents (checklists and reference material)	☐	▾ ▾ ▾
	- Schedule room for inspection	☐	▾ ▾ ▾
	- Schedule room for overview session, if needed	☐	▾ ▾ ▾
	- Prepare the Inspection Invitation	☐	▾ ▾ ▾
	- Distribute the complete inspection package, allowing inspectors sufficient time (not less than 3 days) to prepare (ref. 2.3.4.2 Distribution)	☐	▾ ▾ ▾
Overview	- Present Overview Materials	☐	▾ ▾ ▾
	- Answer questions	☐	▾ ▾ ▾
Inspection Preparation	- If acting as inspector or reader, follow the Inspection Preparation Responsibilities on the Inspector's checklist	☐	▾ ▾ ▾
Inspection Meeting	- If acting as an inspector, follow the Inspection Meeting Responsibilities on the Inspector's checklist.	☐	▾ ▾ ▾
	- Listen	☐	▾ ▾ ▾
	- Answer questions as needed	☐	▾ ▾ ▾
	- Make notes for own use in fixing defects during rework phase	☐	▾ ▾ ▾
Inspection Rework/Followup	- Collect all Inspection defects	☐	▾ ▾ ▾
	- Estimate Rework Time to schedule a completion date with the moderator	☐	▾ ▾ ▾
	- Classify any unclassified errors on the Inspection Defect Log. Review with moderator.	☐	▾ ▾ ▾
	- Perform the rework identified at the inspection and complete the Inspection Defect Log	☐	▾ ▾ ▾
	- Notify moderator and management if unable to meet the published schedule	☐	▾ ▾ ▾
	- Meet with Product Area Lead to review work	☐	▾ ▾ ▾

Save Cancel

Next Phase

- Web-based enterprise architecture to support software development formal peer inspection at the enterprise level

- Location-transparent access of authorized users to inspection documents and tools at the enterprise level