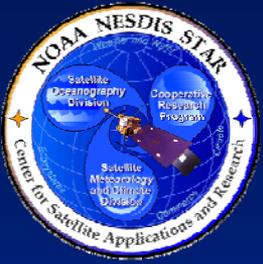**NOAA NESDIS
CENTER for SATELLITE APPLICATIONS
and RESEARCH**

**DOCUMENT GUIDELINE
DG-10.3.A**

**CODE TEST DOCUMENT
GUIDELINE - APPENDIX
Version 3.0**

1

TITLE: DG-10.3.A: CODE TEST DOCUMENT GUIDELINE APPENDIX VERSION 3.0

AUTHORS:
Ken Jensen (Raytheon Information Solutions)

DATE: October 1, 2009

<Project and/or Product Name>

Code Test Review

<Date>

Prepared By: <Preparer 1>[1], <Preparer 2>[2],…, and <Preparer N>[N]

[1] <Organization for Preparer 1>
[2] <Organization for Preparer 2> …
[N] <Organization for Preparer N>

Title Slide

3

Review Outline

1. INTRODUCTION
2. TEST READINESS REVIEW REPORT
3. UNIT TEST PLAN
4. UNIT TEST RESULTS
5. SYSTEM TEST PLAN
6. RISKS AND ACTIONS
7. SUMMARY AND CONCLUSIONS

Review Outline Slide

4

Review Agenda

Introduction	\<Start Time\> - \<End Time\>	\<Presenter(s)\>
Test Readiness Review Report	\<Start Time\> - \<End Time\>	\<Presenter(s)\>
Unit Test Plan	\<Start Time\> - \<End Time\>	\<Presenter(s)\>
Break	\<Start Time\> - \<End Time\>	
Unit Test Results	\<Start Time\> - \<End Time\>	\<Presenter(s)\>
Lunch	\<Start Time\> - \<End Time\>	
System Test Plan	\<Start Time\> - \<End Time\>	\<Presenter(s)\>
Break	\<Start Time\> - \<End Time\>	
Risks and Actions	\<Start Time\> - \<End Time\>	\<Presenter(s)\>
Summary and Conclusions	\<Start Time\> - \<End Time\>	\<Presenter(s)\>

Review Agenda Slide

1. INTRODUCTION

2. TEST READINESS REVIEW REPORT

3. UNIT TEST PLAN

4. UNIT TEST RESULTS

5. SYSTEM TEST PLAN

6. RISKS AND ACTIONS

7. SUMMARY AND CONCLUSIONS

Section 1 Setup Slide

Section 1 – Introduction

Presented by

<Presenter's Name>
<Presenter's Title/Role>
<Presenter's Organization>

<Project Name> - Development Project Plan

- The Development Project Plan (DPP) is a standard artifact of the STAR EPL process.

  - » The DPP identifies project objectives, stakeholder roles and tasks, resources, milestones and schedule

  - » CTR reviewers can access this document at <pointer to the DPP>

- Guidelines for the DPP are found in STAR EPL process asset DG-5.1

  - » CTR reviewers can access this document at <pointer to DG-5.1>

Section 1.1

Project Objectives

- **Objective 1**
  - » Sub-bullet 1
  - » …………
  - » Sub-bullet N
- **Objective 2**
  - » Sub-bullet 1
  - » …………
  - » Sub-bullet N

- **………………..**

- **Objective M**
  - » Sub-bullet 1
  - » …………
  - » Sub-bullet N

Section 1.2

Project Stakeholders

- **<Stakeholder Role 1> - <Named Stakeholder(s) or TBD>**
  - » Sub-bullet 1 (Description of stakeholder tasks)
  - » ………….
  - » Sub-bullet M (Description of stakeholder tasks)

- **<Stakeholder Role 2> - <Named Stakeholder(s) or TBD>**
  - » Sub-bullet 1 (Description of stakeholder tasks)
  - » ………….
  - » Sub-bullet M (Description of stakeholder tasks)

- **………………..**

- **<Stakeholder Role N> - <Named Stakeholder(s) or TBD>**
  - » Sub-bullet 1 (Description of stakeholder tasks)
  - » ………….
  - » Sub-bullet M (Description of stakeholder tasks)
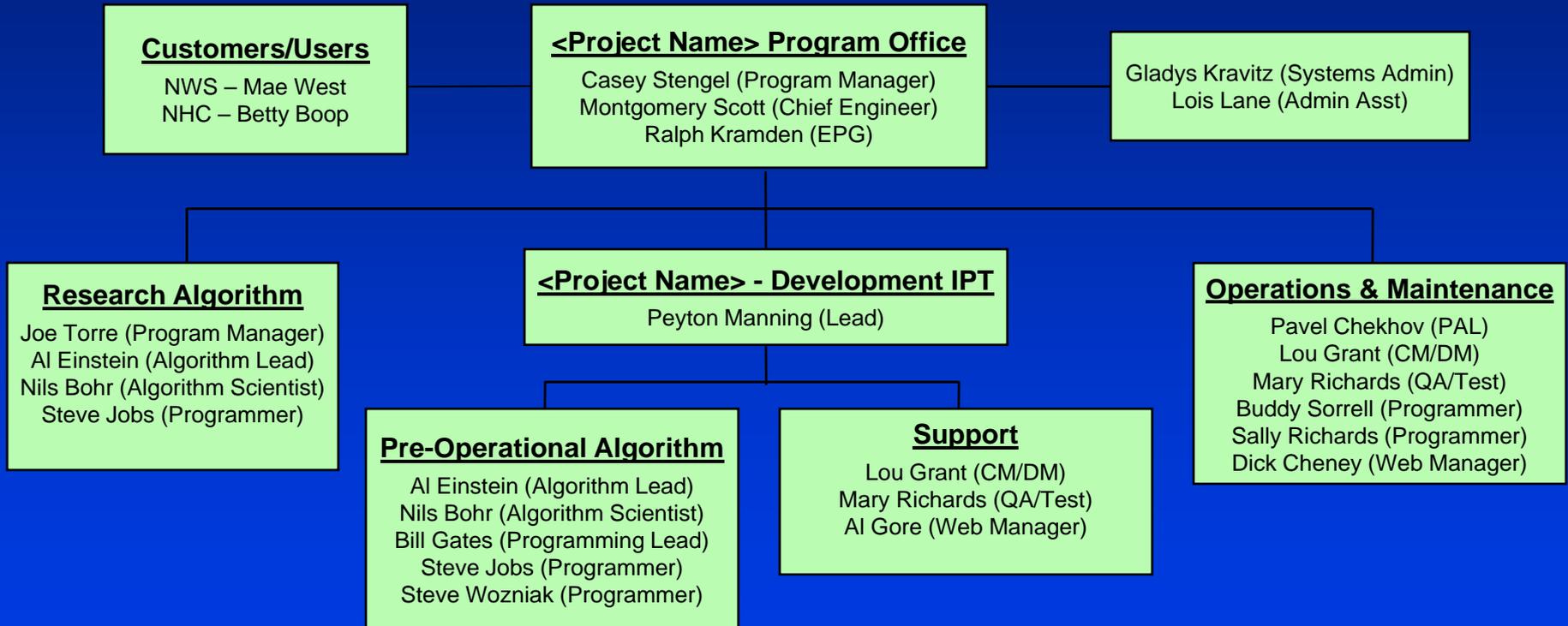
Section 1.3

Project Stakeholders

Stakeholder	Names	Description
<Role 1>	<Names or TBD>	<Description>
<Role 2>	<Names or TBD>	<Description>
…………..	<Names or TBD>	<Description>
<Role N>	<Names or TBD>	<Description>

Section 1.3 – Table Alternative

<Project Name> Organization Chart

Customers/Users

NWS – Mae West
NHC – Betty Boop

<Project Name> Program Office

Casey Stengel (Program Manager)
Montgomery Scott (Chief Engineer)
Ralph Kramden (EPG)

Gladys Kravitz (Systems Admin)
Lois Lane (Admin Asst)

Research Algorithm

Joe Torre (Program Manager)
Al Einstein (Algorithm Lead)
Nils Bohr (Algorithm Scientist)
Steve Jobs (Programmer)

<Project Name> - Development IPT

Peyton Manning (Lead)

Operations & Maintenance

Pavel Chekhov (PAL)
Lou Grant (CM/DM)
Mary Richards (QA/Test)
Buddy Sorrell (Programmer)
Sally Richards (Programmer)
Dick Cheney (Web Manager)

Pre-Operational Algorithm

Al Einstein (Algorithm Lead)
Nils Bohr (Algorithm Scientist)
Bill Gates (Programming Lead)
Steve Jobs (Programmer)
Steve Wozniak (Programmer)

Support

Lou Grant (CM/DM)
Mary Richards (QA/Test)
Al Gore (Web Manager)

Section 1.3 - Option

Project Milestones

- Gate 3 Review - <Date>
- Project Requirements Review - <Date>
- Preliminary Design Review - <Date>
- Critical Design Review - <Date>
- Gate 4 Review - <Date>
- Test Readiness Review - <Date>
- **Code Test Review - <Date>**
- System Readiness Review - <Date>
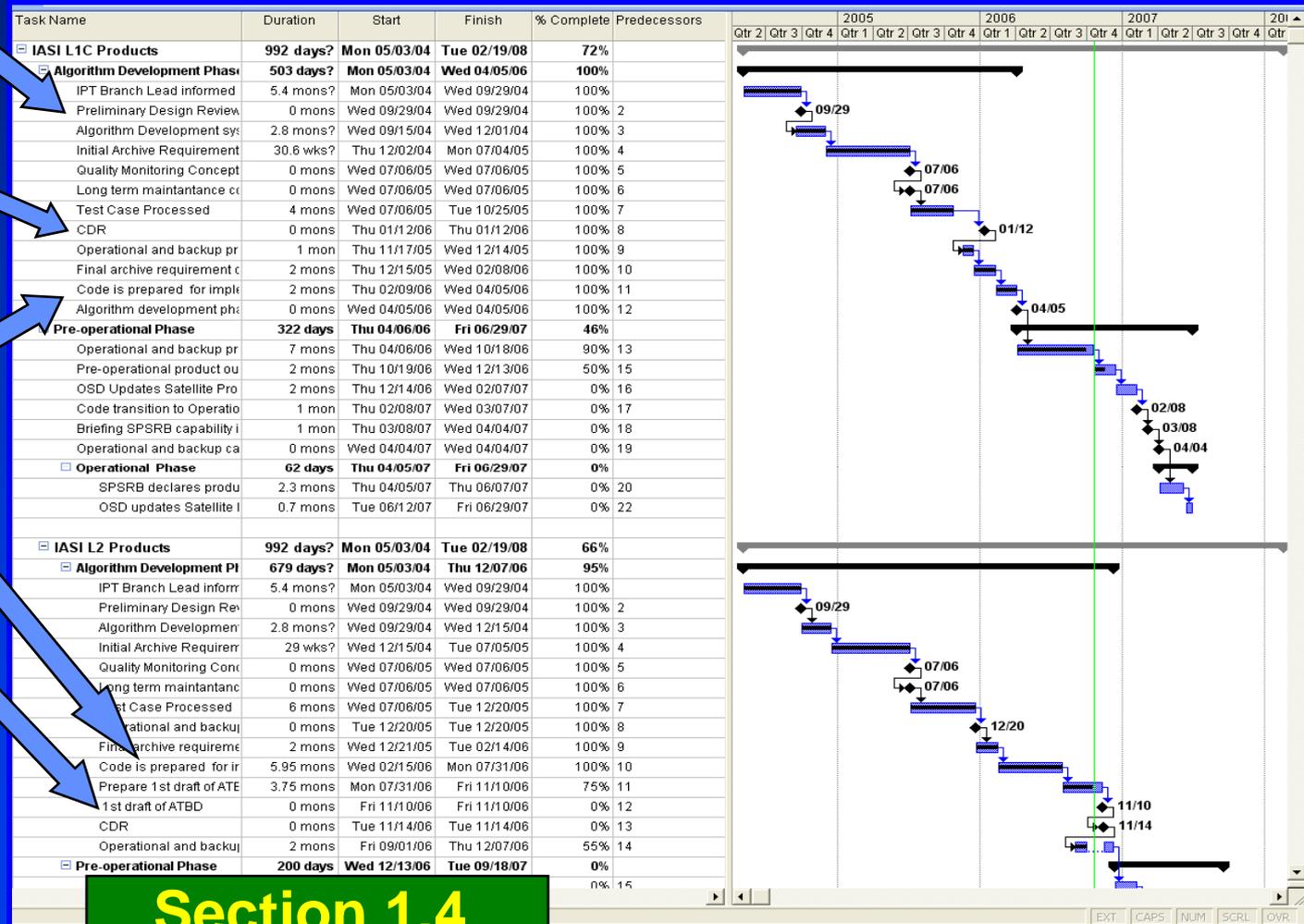- Gate 5 Review - <Date>
- Delivery to Operations - <Date>

Section 1.4

\<Project Plan\>

\<Show a start-to-finish Gantt chart from the project plan, highlighting project milestones. See next slide for an example.\>

Section 1.4 (Option 1)

14

Project Timeline

Raytheon

PDR
09/29/04

L1C
Products
CDR
01/12/06

L1C Code
04/05/06

L2 Code
07/31/06

ATBD 1st
draft
11/10/06

Task Name	Duration	Start	Finish	% Complete	Predecessors
☐ IASI L1C Products	992 days?	Mon 05/03/04	Tue 02/19/08	72%	
☐ Algorithm Development Phase	503 days?	Mon 05/03/04	Wed 04/05/06	100%	
IPT Branch Lead informed	5.4 mons?	Mon 05/03/04	Wed 09/29/04	100%	
Preliminary Design Review	0 mons	Wed 09/29/04	Wed 09/29/04	100%	2
Algorithm Development sys	2.8 mons?	Wed 09/15/04	Wed 12/01/04	100%	3
Initial Archive Requirement	30.6 wks?	Thu 12/02/04	Mon 07/04/05	100%	4
Quality Monitoring Concept	0 mons	Wed 07/06/05	Wed 07/06/05	100%	5
Long term maintantance co	0 mons	Wed 07/06/05	Wed 07/06/05	100%	6
Test Case Processed	4 mons	Wed 07/06/05	Tue 10/25/05	100%	7
CDR	0 mons	Thu 01/12/06	Thu 01/12/06	100%	8
Operational and backup pr	1 mon	Thu 11/17/05	Wed 12/14/05	100%	9
Final archive requirement c	2 mons	Thu 12/15/05	Wed 02/08/06	100%	10
Code is prepared for imple	2 mons	Thu 02/09/06	Wed 04/05/06	100%	11
Algorithm development pha	0 mons	Wed 04/05/06	Wed 04/05/06	100%	12
▼ Pre-operational Phase	322 days	Thu 04/06/06	Fri 06/29/07	46%	
Operational and backup pr	7 mons	Thu 04/06/06	Wed 10/18/06	90%	13
Pre-operational product ou	2 mons	Thu 10/19/06	Wed 12/13/06	50%	15
OSD Updates Satellite Pro	2 mons	Thu 12/14/06	Wed 02/07/07	0%	16
Code transition to Operatio	1 mon	Thu 02/08/07	Wed 03/07/07	0%	17
Briefing SPSRB capability i	1 mon	Thu 03/08/07	Wed 04/04/07	0%	18
Operational and backup ca	0 mons	Wed 04/04/07	Wed 04/04/07	0%	19
☐ Operational Phase	62 days	Thu 04/05/07	Fri 06/29/07	0%	
SPSRB declares produ	2.3 mons	Thu 04/05/07	Thu 06/07/07	0%	20
OSD updates Satellite I	0.7 mons	Tue 06/12/07	Fri 06/29/07	0%	22
☐ IASI L2 Products	992 days?	Mon 05/03/04	Tue 02/19/08	66%	
☐ Algorithm Development PI	679 days?	Mon 05/03/04	Thu 12/07/06	95%	
IPT Branch Lead inform	5.4 mons?	Mon 05/03/04	Wed 09/29/04	100%	
Preliminary Design Rev	0 mons	Wed 09/29/04	Wed 09/29/04	100%	2
Algorithm Development	2.8 mons?	Wed 09/29/04	Wed 12/15/04	100%	3
Initial Archive Requirem	29 wks?	Wed 12/15/04	Tue 07/05/05	100%	4
Quality Monitoring Con	0 mons	Wed 07/06/05	Wed 07/06/05	100%	5
Long term maintantanc	0 mons	Wed 07/06/05	Wed 07/06/05	100%	6
Test Case Processed	6 mons	Wed 07/06/05	Tue 12/20/05	100%	7
Operational and backu	0 mons	Tue 12/20/05	Tue 12/20/05	100%	8
Final archive requireme	2 mons	Wed 12/21/05	Tue 02/14/06	100%	9
Code is prepared for ir	5.95 mons	Wed 02/15/06	Mon 07/31/06	100%	10
Prepare 1st draft of ATE	3.75 mons	Mon 07/31/06	Fri 11/10/06	75%	11
1st draft of ATBD	0 mons	Fri 11/10/06	Fri 11/10/06	0%	12
CDR	0 mons	Tue 11/14/06	Tue 11/14/06	0%	13
Operational and backu	2 mons	Fri 09/01/06	Thu 12/07/06	55%	14
☐ Pre-operational Phase	200 days	Wed 12/13/06	Tue 09/18/07	0%	
				0%	15

Gantt chart timeline columns: 2005 (Qtr 2, Qtr 3, Qtr 4), 2006 (Qtr 1, Qtr 2, Qtr 3, Qtr 4), 2007 (Qtr 1, Qtr 2, Qtr 3, Qtr 4), 200... (Qtr)

Milestones shown: 09/29, 07/06, 07/06, 01/12, 04/05, 02/08, 03/08, 04/04, 09/29, 07/06, 07/06, 12/20, 11/10, 11/14

Section 1.4

15

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\<Show an extract from the Gantt chart that covers the current STAR EPL phase, highlighting project milestones. See next slide for an example.\>

Section 1.4 (Option 2)

16

Project Timeline – Build Phase

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PDR 09/29/04

L1C Products CDR 01/12/06

L1C Code 04/05/06

L2 Code 07/31/06

ATBD 1st draft 11/10/06

L2 Products CDR 11/14/06
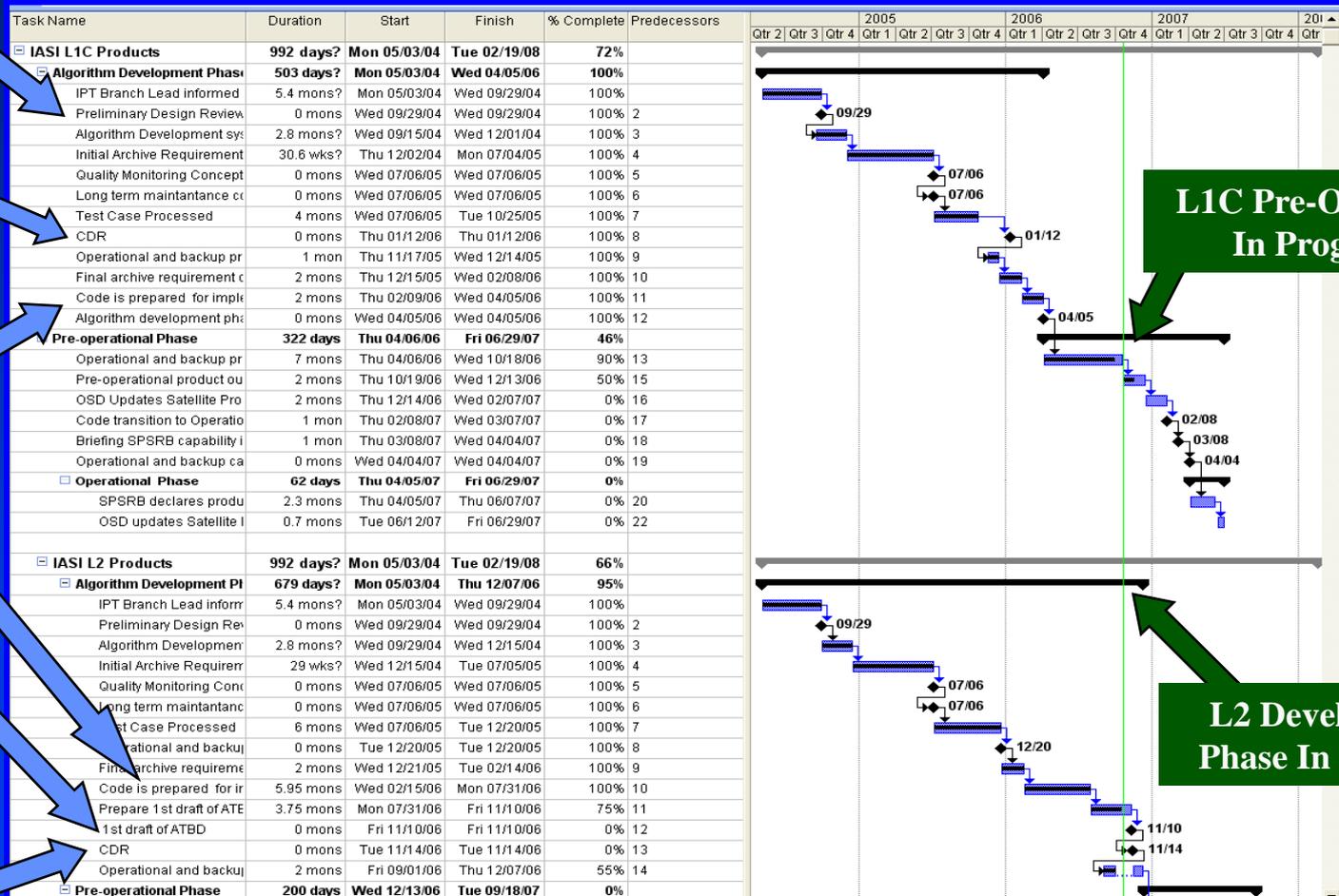
L1C Pre-Op Phase In Progress

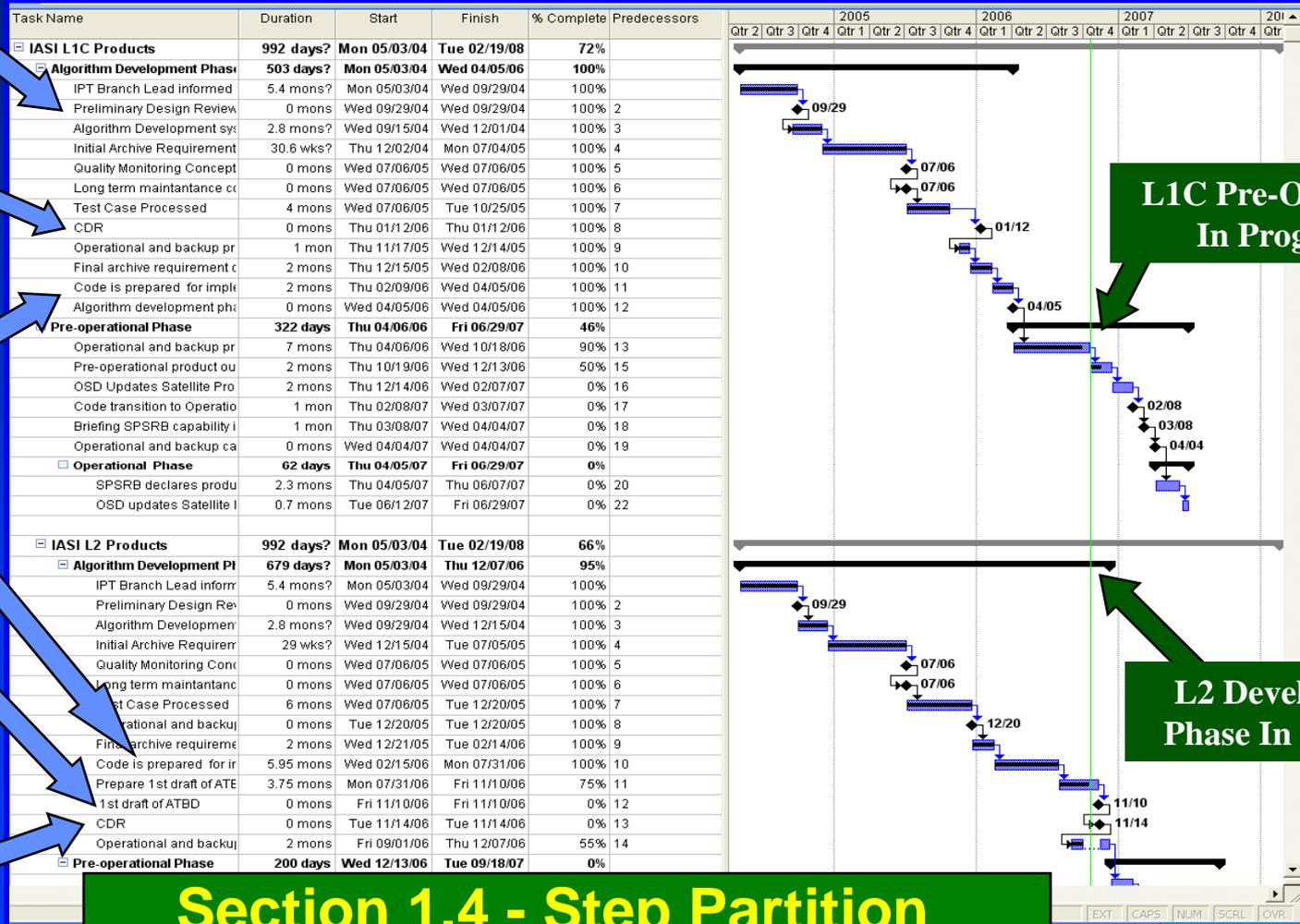L2 Development Phase In Progress

Section 1.4 - Phase Partition

17

<Project Plan – Code Testing and Refinement Step>

<Show an extract from the Gantt chart that covers the current STAR EPL step, highlighting project milestones. See next slide for an example.>

Section 1.4 (Option 3)

Project Timeline – Code Testing and Refinement Step

Section 1.4 - Step Partition

- <IF there have been no changes since TRR, state this>

- <ELSE, describe any changes to the project plan since the TRR. Changes include new/revised/deleted tasks, revised schedule, different personnel.>
  - » <Provide a rationale for the changes>
  - » <Demonstrate management concurrence with the changes>

Section 1.5

20

- **<Describe the involvement of stakeholders in the project, noting compliance or deviation from the project plan. Use multiple slides as necessary for clarity. Follow the format shown on this slide and the next slide.>**

- **Development Lead**
  - » Sub-bullet 1 (Description of involvement related to the Project Plan)
  - » …………
  - » Sub-bullet M (Description of involvement related to the Project Plan)

- **Development Scientists**
  - » Sub-bullet 1 (Description of involvement related to the Project Plan)
  - » …………
  - » Sub-bullet M (Description of involvement related to the Project Plan)

- **Development Testers**
  - » Sub-bullet 1 (Description of involvement related to the Project Plan)
  - » …………
  - » Sub-bullet M (Description of involvement related to the Project Plan)

Section 1.6

Project Plan
Stakeholder Involvement (2)

- **Development Programmers**
  - » Sub-bullet 1 (Description of involvement related to the Project Plan)
  - » …………
  - » Sub-bullet M (Description of involvement related to the Project Plan)

- **QA**
  - » Sub-bullet 1 (Description of involvement related to the Project Plan)
  - » …………
  - » Sub-bullet M (Description of involvement related to the Project Plan)

- **CM/DM**
  - » Sub-bullet 1 (Description of involvement related to the Project Plan)
  - » …………
  - » Sub-bullet M (Description of involvement related to the Project Plan)

- **Customers / Users**
  - » Sub-bullet 1 (Description of involvement related to the Project Plan)
  - » …………
  - » Sub-bullet M (Description of involvement related to the Project Plan)

Section 1.6

CTR Guidelines and Check List

- Guidelines for the CTR reviewers are in STAR EPL process asset PRG-10
  - » Reviewers can access this document at <pointer to PRG-10>

- The CTR reviewer checklist is STAR EPL process asset CL-10
  - » Reviewers can access this document at <pointer to CL-10>

Section 1.7 – Alternative 1

CTR Guidelines and Check List

- Guidelines for the CTR reviewers are in STAR EPL process asset PRG-10

  » Reviewers can access this document at <pointer(s) to PRG-10>

- The CTR Check List is in the Development Project Plan (DPP) Appendix C

  » Reviewers can access this document at <pointer(s) to DPP Appendix C>

Section 1.7 – Alternative 2
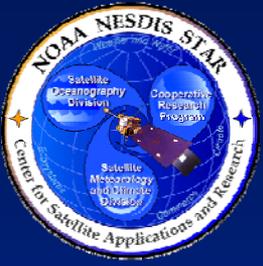
CTR Report

- The CTR Report (CTRR) is a standard artifact of the STAR EPL process.
  - » The CTR reviewers should produce this report after conducting the CTR.
  - » The report will be a critical artifact for the System Readiness Review.

- Guidelines for the CTRR are found in STAR EPL process asset DG-10.4
  - » CTR reviewers can access this document at <pointer to DG-10.4>

Review Objectives (1)

- Review the project plan
  - » Development Project Plan (DPP)

- Review the Test Readiness Review
  - » Test Readiness Review Report (TRRR)

- Review the unit tests
  - » Post-TRR changes to Unit Test Plan (UTP) and associated documents
  - » Unit Test Report (UTR)

- Review the system test plan
  - » System Test Plan (STP)

- Review current status of risks and actions

Section 1.9

- <Project-Unique Objective 1>
  - » Sub-bullets

- <Project-Unique Objective 2>
  - » Sub-bullets

- …………………………………….
  - » …………………………..

- <Project-Unique Objective N>
  - » Sub-bullets

- Review the status of actions
  - » Sub-bullets

Section 1.9

27

1. INTRODUCTION

2. TEST READINESS REVIEW REPORT

3. UNIT TEST PLAN

4. UNIT TEST RESULTS

5. SYSTEM TEST PLAN

6. RISKS AND ACTIONS

7. SUMMARY AND CONCLUSIONS

Section 2 Setup Slide

Section 2 –

Test Readiness

Review Report

Presented by

<Presenter's Name>
<Presenter's Title/Role>
<Presenter's Organization>

- The TRR Report (TRRR), a standard STAR EPL project artifact, is the approved report of the TRR reviewers

  » CTR reviewers can access this document at <pointer to the TRRR>

- The purposes of the TRRR are:

  » To provide documented evidence that the TRR was conducted and closed according to STAR EPL standards, with proper disposition of TRR entry criteria, exit criteria, and other Check List Items (CLIs)

  » To provide updated status on risks, including new risks

  » To provide updated status on actions, including new actions

  » To establish the entry criteria and exit criteria for the next technical review (this Code Test Review)

Section 2.1

TRR Check List Items

- The TRRR includes the disposition status for each of <N> TRR check list items (CLIs)

  » <N> of the CLIs received "Pass" or "N/A" dispositions with no identified risk.

  » <N> of the CLIs received a "Defer" disposition with associated risks and actions, **to be discussed in Section 6 of this CTD**

  » **<N> of the CLIs received a " Waive" disposition with no identified risk.**

Section 2.2

<For each CLI that has been waived, provide the following:>

- CLI <CLI number> – <CLI statement>
    » <Rationale for waiving the CLI>
    » <Demonstration that the risk is NONE or LOW>

Section 2.2

- <Item 1 – CLI number and statement>
  - » <Provide a risk number and statement>
  - » <Provide an impact statement and severity assessment (HIGH, MEDIUM, or LOW)>
  - » <Provide a likelihood of occurrence assessment (HIGH, MEDIUM, or LOW)>
  - » <If the risk assessment is HIGH or MEDIUM, explain why the item is being waived>
- …………………………………………………….
- <Item M – CLI number and statement>
  - » <Provide a risk number and statement>
  - » <Provide an impact statement and severity assessment (HIGH, MEDIUM, or LOW)>
  - » <Provide a likelihood of occurrence assessment (HIGH, MEDIUM, or LOW)>
  - » <If the risk assessment is HIGH or MEDIUM, explain why the item is being waived>

Section 2.2

TRR Exit Criteria

- There were <N> exit criteria for the TRR

- <N> received a "Pass" or "Not Applicable (N/A)" disposition

- <N> received a "Defer" disposition with associated risks and actions (to be discussed in Section 6 of this CTD)

Section 2.3

- Exit # 1 - <Statement of exit criteria # 1>
  - » **STATUS: <Relevant status of this item>.** <Any relevant explanation, especially for non-PASS items>

- <Repeat for each remaining item. Use multiple slides as necessary for clarity.>

Section 2.3

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- The TRRR includes an assessment of <N> risks, <N> of which remain open

- The TRRR includes the status of <N> risk-associated actions, <N> of which remain open

- The risks and actions will be addressed in Section 6 of this SRD

Section 2.4

- The TRRR has established <N> entry criteria for this CTR

  » The CTR reviewers should confirm that the entry criteria are satisfied and document the disposition of each item in the CTR Report

- <Use the next four slides if the STAR EPL standard CTR entry criteria are used. Tailor these slides if the project had adopted tailored entry criteria>

Section 2.5

- **Entry # 1 -** A Test Readiness Review Report (TRRR) has been written. The CTR reviewers have access to the current baseline version of the TRRR.

- **Entry # 2 -** A Development Project Plan (DPP) has been written. The CTR reviewers have access to the current baseline version of the DPP.

- **Entry # 3 -** A Requirements Allocation Document (RAD) has been written. The CTR reviewers have access to the current baseline version of the RAD.

Section 2.5

- Entry # 4 - A Software Architecture Document (SWA) has been written. The CTR reviewers have access to the current baseline version of the SWA.

- Entry # 5 - Detailed Design Documents (DDDs) have been written for each code unit identified in the software architecture. The CTR reviewers have access to the current baseline version of the each DDD.

- Entry # 6 - A Unit Test Plan (UTP) has been written. The CTR reviewers have access to the current baseline version of the UTP.

Section 2.5

- Entry # 7 - Pre-operational code units, external interfaces, ancillary data, unit test data and unit test results are in the development test environment. The CTR reviewers have access to this code, test data and test results.

- Entry # 8 - A Unit Test Report (UTR) has been written. The CTR reviewers have access to the current baseline version of the UTR.

- Entry # 9 - A Verification and Validation Plan (VVP) has been written. The CTR reviewers have access to the current baseline version of the VVP.

Section 2.5

- Entry # 10 - A System Test Plan (STP) has been written. The CTR reviewers have access to the current baseline version of the STP.

- Entry # 11 - A Project Baseline Report (PBR) has been written. The CTR reviewers have access to the current baseline version of the PBR.

- Entry # 12 - A Code Test Document (CTD) has been written. CTR review objectives are clearly stated in the CTD.

Section 2.5

<Project Name> – Tailored CTR Entry Criteria

- <Identify all STAR EPL standard CTR entry criteria that have been modified>
  - » Provide a rationale for the modification
  - » <Demonstrate that there is no risk, or identify the risk and note it will be discussed in Section 6>

- <Identify all non-standard CTR entry criteria that have been added>
  - » Provide a rationale for the addition
  - » <Demonstrate that there is no risk, or identify the risk and note it will be discussed in Section 6>

Section 2.5
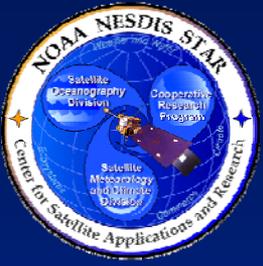
- <Identify all STAR EPL standard CTR entry criteria that have been waived>
  - » <Provide a rationale>
  - » <Demonstrate that there is no risk, or identify the risk and note it will be discussed in Section 6>

- The TRRR has established <N> exit criteria for this CTR

  - » The CTR reviewers should confirm that the exit criteria are satisfied and document the disposition of each item in the CTR Report

<Use the next slide if the STAR EPL standard CTR exit criteria are used. Tailor this slide if the project had adopted tailored exit criteria>

Section 2.6

- Exit # 1 - TRR "Conditional Pass" items have been satisfactorily disposed of.

- Exit # 2 - TRR "Defer" items have been satisfactorily disposed of.

- Exit # 3 - Changes to the project plan since TRR are approved.

- Exit # 4 - Requirements allocation changes since TRR are approved.

- Exit # 5 - Changes to external interfaces since TRR are approved.

Section 2.6

45

- **Exit # 6** - Changes to the software architecture since TRR are approved.

- **Exit # 7** - Changes to the detailed design since TRR are approved.

- **Exit # 8** - Changes to the verification and validation plan since TRR are approved.

- **Exit # 9** - Code units and unit test data are satisfactory.

- **Exit # 10** - Unit test results and UTR are satisfactory.

Section 2.6

46

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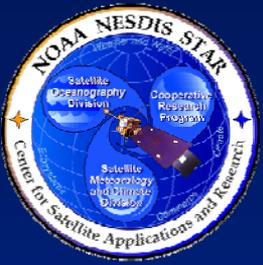
- Exit # 11 - The system test plan and STP are satisfactory.

- Exit # 12 - The project baseline and PBR are satisfactory.

- Exit # 13 - The CTRR documents updated status of project risks and actions.

- Exit # 14 - Project risks and actions are acceptable. The project is ready for system integration and system testing.

Section 2.6

<Project Name> – Tailored CTR Exit Criteria

- <Identify all STAR EPL standard CTR exit criteria that have been modified>
  - » Provide a rationale for the modification
  - » <Demonstrate that there is no risk, or identify the risk and note it will be discussed in Section 6>

- <Identify all non-standard CTR exit criteria that have been added>
  - » Provide a rationale for the addition
  - » <Demonstrate that there is no risk, or identify the risk and note it will be discussed in Section 6>

Section 2.6

<Project Name> – Waived CTR Exit Criteria

- <Identify all STAR EPL standard CTR exit criteria that have been waived>
  - » <Provide a rationale>
  - » <Demonstrate that there is no risk, or identify the risk and note it will be discussed in Section 6>

Section 2.6

49

1. INTRODUCTION
2. TEST READINESS REVIEW REPORT
3. UNIT TEST PLAN
4. UNIT TEST RESULTS
5. SYSTEM TEST PLAN
6. RISKS AND ACTIONS
7. SUMMARY AND CONCLUSIONS

Section 3 Setup Slide

50

Section 3 – Unit Test Plan

Presented by

<Presenter's Name>
<Presenter's Title/Role>
<Presenter's Organization>

Unit Test Plan Has Been Documented

- **Unit Test Plan (UTP)**
  - » Presented at the Test Readiness Review
  - » Guidelines in STAR EPL process asset DG-9.1
  - » Can be obtained at <Pointer to latest UTP version>
  - » For each software unit in the product processing system:
    - – Explains its purpose and function
    - – Lists the test items
    - – Traces the test items to system requirements that have been allocated to the unit components
    - – Describes the test sequence
    - – Provides the expected test results
    - – Provides the test success criteria

Section 3.1

<If the UTP has not been revised since the TRR, include this slide>

- The results from the approved unit test plan will be presented in the next section (Section 4) of this CTD

Section 3.1

53

Unit Test Plan Has Been Changed

<If the UTP has been revised since the TRR, include this slide and the remaining Section 3.2, Section 3.3 and Section 3.4 slides>

- Changes to the requirements, requirements allocation, and/or design since the TRR have resulted in a revision to the UTP

Section 3.1

Project Requirements Have Been Documented

- **Requirements Allocation Document (RAD)**
  - » Guidelines in STAR EPL process asset DG-6.2, <pointer to DG-6.2>
  - » Can be obtained at <Pointer to latest RAD version>
  - » Contains the basic and derived requirements for the work products
  - » Contains the allocation of the requirements to system components and product components
    - – Includes an allocation matrix that relates each component to the requirements
    - – Notes updates to the requirements allocation since the previous version

Section 3.2

- <List each new requirement. If there are none, omit this slide.>
  - » <If a derived requirement, list higher-level driving requirements>
  - » <If a basic requirement, list new derived requirements>
  - » <Note whether the new requirement has been approved at a delta Requirements Review>
  - » <If the new requirement has not been approved:>
    - – <Explain rationale for the new requirement (e.g., revealed by detailed design issue, new customer request, etc.)>
    - – <Note potential effects on the project plan>
    - – <Document the agreement of affected stakeholders>
    - – <Note new or modified risks that result from the new requirement>
    - – <Note any recommended actions that result from the new requirement>

Section 3.2

Requirements Changes Since TRR

- <List each requirement change. If there are none, omit this slide.>
  - » <If a derived requirement, list higher-level driving requirements>
  - » <If a basic requirement, list derived requirements that are affected>
  - » <Note whether the change has been approved at a delta Requirements Review>
  - » <If the change has not been approved:>
    - <Explain rationale for the change (e.g., revealed by detailed design issue, operational constraint)>
    - <Note potential effects on the project plan>
    - <Document the agreement of affected stakeholders>
    - <Note new or modified risks that result from the change>
    - <Note any recommended actions that result from the change>

Section 3.2

57

Requirements Allocation Changes Since TRR

- <List each requirements allocation change. If there are none, omit this slide.>
  - » <If a derived requirement, list higher-level driving requirements>
  - » <If a basic requirement, list derived requirements that are affected>
  - » <Note whether the change is due to a new requirement, a changed requirement, or a design change>
    - <If due to a new or changed requirement, specify the requirement>
    - <If due to a design change, specify the change>
    - <Note whether the change has been approved at a delta Requirements Review>
  - » <If the change has not been approved:>
    - <Explain rationale for the change (e.g., revealed by detailed design issue, operational constraint)>
    - <Note potential effects on the project plan>
    - <Document the agreement of affected stakeholders>
    - <Note new or modified risks that result from the change, to be summarized in Section 6 of this SRD>
    - <Note any recommended actions that result from the change, to be summarized in Section 6 of this SRD >

Section 3.2

58

Revisions to the Code Design

- The code design has been revised to accommodate changes to the requirements allocation

- Documented in the Software Architecture Document (SWA)
  - » SWA Guidelines in STAR EPL process asset DG-1.2
  - » Revised SWA <revision number> is available at <Pointer to SWA>

- Documented in Detailed Design Documents (DDD)
  - » DDD Guidelines in STAR EPL process asset DG-8.1
  - » Revised <Unit Name> DDD <revision number> is available at <pointer to each revised unit DDD>

Section 3.3

59

<Describe changes to the software architecture since TRR, as documented in the SWA revision. Use multiple slides as necessary for clarity. Include all modified flow diagrams.>

<If there are no changes to the software architecture, omit this section>

Section 3.3

Revisions to the Detailed Design

- <Describe changes to the detailed design since TRR, as documented in DDD revisions. Use multiple slides as necessary for clarity.>

Section 3.3

61

- <Describe changes to the unit test plan for each relevant unit. Use multiple slides as necessary for clarity.>
    - » <Revisions to purpose and function, if applicable>
    - » <Revisions to test items, if applicable>
    - » <Revisions to the requirements trace, if applicable>
    - » <Revisions to the test sequence, if applicable>
    - » <Revisions to the expected test results, if applicable>
    - » <Revisions to the test success criteria, if applicable>

- <Repeat on separate slides for each additional relevant unit>

Section 3.4

1. INTRODUCTION
2. TEST READINESS REVIEW REPORT
3. UNIT TEST PLAN
4. UNIT TEST RESULTS
5. SYSTEM TEST PLAN
6. RISKS AND ACTIONS
7. SUMMARY AND CONCLUSIONS

Section 4 Setup Slide

Section 4 –
Unit Test Results

Presented by

<Presenter's Name>
<Presenter's Title/Role>
<Presenter's Organization>
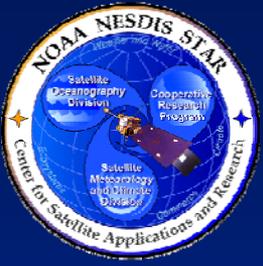
Unit Test Results Have Been Documented

- Unit Test Report (UTR)
  - » Guidelines in STAR EPL process asset DG-10.1 <pointer to DG-10.1>
  - » Can be obtained at <Pointer to UTR>
  - » Lists the test items and test sequence for each unit test
  - » Provides the results from each test sequence
  - » Demonstrates that the results verify code functionality and satisfy requirements OR identifies shortcomings

Section 4.1

<Unit 1 Name> Unit – Test Results

- <Report the results from the first unit test. Use figures, graphs, tables as warranted for clarity. Use multiple slides as necessary for clarity.>
  - » <Partition the test sequence into groups of steps, so that each group tests an identifiable requirement or set of requirements. If a step
  - » Use bullets and sub-bullets (see example below) or use a table (see next slide for an example)>

- Sequence 1 - <Statement of Sequence 1 steps>
  - » <Requirements tested>
  - » <Expected Results>
  - » <Actual Results>
  - » <Demonstration that code functionality is verified, or analysis of shortcomings>
  - » <Demonstration that requirements are satisfied, or analysis of shortcomings>

- <Repeat for each test sequence>

Section 4.2

<Unit 1 Name> Unit – Test Results

Test Sequence	Expected Result	Actual Result	Conclusions
<Sequence Step 1>	<Expected Result from step 1; Success criteria>	<Actual Result from step 1>	<Functionality verified. Requirements satisfied; Shortcomings>
<Sequence Step 2>	<Expected Result from step 2; Success criteria>	<Actual Result from step 2>	<Functionality verified. Requirements satisfied; Shortcomings>
<Sequence Step 3>	<Expected Result from step 3; Success criteria>	<Actual Result from step 3>	<Functionality verified. Requirements satisfied; Shortcomings>
<Sequence Step 4>	<Expected Result from step 4; Success criteria>	<Actual Result from step 4>	<Functionality verified. Requirements satisfied; Shortcomings>

Section 4.2 - Table Option

<Report the results from the second unit test, in the same manner as for the first unit test>

<Repeat for the third unit test (Section 4.4), etc.>

1. INTRODUCTION
2. TEST READINESS REVIEW REPORT
3. UNIT TEST PLAN
4. UNIT TEST RESULTS
5. SYSTEM TEST PLAN
6. RISKS AND ACTIONS
7. SUMMARY AND CONCLUSIONS

Section 5 Setup Slide

Section 5 –
System Test Plan

Presented by

<Presenter's Name>
<Presenter's Title/Role>
<Presenter's Organization>
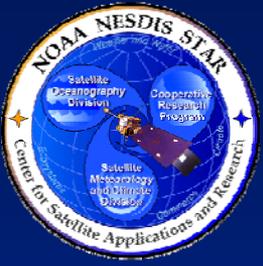
System Test Overview

- The purpose of the system test is to demonstrate, using verification and validation methods, system readiness for operations

- Verification and validation activities were outlined in a Verification and Validation Plan (VVP)
  - » The <Project Name> VVP is available at <pointer to the project VVP>.

- The system test will be conducted according to a System Test Plan (STP)

- The <Project Name> STP, an artifact for this CTR, is available at <pointer to the project STP>

- The purpose of the CTR review of the STP is to determine whether the system test plan is sufficient to test all system requirements

- The results of system testing, documented in a Verification and Validation Report (VVR), will be reviewed at the next review, System Readiness Review (SRR)

Section 5.1

71

The System Test - Verification and Validation

- The system test is designed to ensure that the requirements specified for the product processing system are satisfied by the completed system (VERIFICATION) and that the final developed system will satisfy the needs and expectations of customers, users, and operators (VALIDATION)

- In a well-designed system, needs and expectations are completely captured by the requirements allocation – in that case, there is no meaningful distinction between verification and validation

- The STP will be referred to often in the remaining slides of this section, as we report on the plan to test:
  - » System Readiness for Users
  - » System Readiness for Operations and Maintenance

Section 5.1

72

Product Users

- <List the identified product users and the product components to be delivered to each user, as documented in the RAD and the VVP. Use a bulleted list (see below) or a table (see next slide).>

- <User 1> - <Point of Contact>
  » <Product Components to be delivered to User 1>

- <User 2> - <Point of Contact>
  » <Product Components to be delivered to User 2>

- Etc.

Section 5.2

Product Users - Table

User	Contact	Product Components
<User 1>	<User 1 Contact Info>	<Bulleted list of product components for User 1>
<User 2>	<User 2 Contact Info>	<Bulleted list of product components for User 2>
…………	…………………………..	……………………………
<User N>	<User N Contact Info>	<Bulleted list of product components for User N>

Section 5.2 – Table Alternative
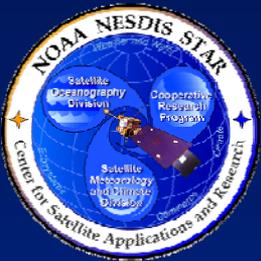
- <State the identified needs for User 1, as documented in the VVP. User needs typically include:
  - » <Product components – data formats>
  - » <Product component quality and latency>
  - » <Tools and training for the use of products>
  - » <Delivery and notification procedures>
  - » <Support services>
  - » <Documentation>

- <Be as specific as possible for this specific user (e.g., delivery procedure specific to User 1).>

- Repeat for each user; separate slides for each user (e.g., see next slide)

Section 5.2

- <State the identified needs for User 2, as documented in the VVP. User needs typically include:
  - » <Product components – data formats, quality, latency>
  - » <Tools and training for the use of products>
  - » <Delivery and notification>
  - » <Security>
  - » <Support services>
  - » <Documentation>

- <Be as specific as possible for this specific user (e.g., delivery procedure specific to User 2). If a need is identical to that for user 1, state this (e.g. "Notification needs for user 2 are identical to those for user 1")>

Section 5.2

Validation of User Needs

- <Explain how user needs will be validated, with reference to the VVP. Use multiple slides as needed for clarity.>

  » <VVP describes the plan for ensuring that the product performance, delivery and support requirements, as documented in the project's RAD, are properly derived from customer/user needs.>

  » <STP specifies how the VVP is to be implemented in the system test. Each identified user need should be validated with a specific system test sequence.>

Section 5.2

- \<Identify the organization that will operate and maintain the operational product processing system\>

- \<Identify specific personnel who will perform operations and maintenance (O&M) for this project\>
  - » \<Operations Lead. Typically this is the OSDPD Product Area Lead (PAL).\>
  - » \<Integration and Maintenance Programmers\>
  - » \<Help Desk\>
  - » \<If personnel have not been identified for a specific O&M role, state this and note whether a risk has been identified (risks will be discussed in Section 6).\>

Section 5.3

Operator Needs

- <State the identified operator needs, as documented in the OCD, VVP, and RAD. Operator needs typically include:
    - » <Procedures for normal operations>
    - » <Procedures for special operations>
    - » <Maintenance procedures>
    - » <Monitoring and diagnostic procedures>
    - » <Security procedures>
    - » <Tools and training for operations and maintenance>
    - » <Delivery and notification procedures>
    - » <Configuration management>
    - » <Documentation>

Section 5.3

Validation of Operator Needs

- <Explain how operator needs will be validated, with reference to the VVP and STP. Use multiple slides as needed for clarity.>
  - » <VVP describes the plan for ensuring that the operations and maintenance requirements, as documented in the project's RAD, are properly derived from operator needs>
  - » <STP specifies how the VVP is to be implemented in the system test. Each identified operator need should be validated with a specific system test sequence.>

- <List all system components that have been selected for the system test, as documented in the STP. Use multiple slides as necessary for clarity.>

System Test - Requirements Trace

- <List the requirements allocated to each system test item, as documented in the STP. Use multiple slides as necessary for clarity.>

System Test Data

- <List all data files that will be used as input files for the system test, as documented in Section 3.5 of the STP>
  - » <"Test data" includes sensor data (real, proxy, or simulated), ancillary data, control files, parameter files, and look up tables>
- <It is recommended that these be listed in a table. See the next slide for an example>

System Test Data Table

Test Data Item	Type	Filename	Design Description Filename
1	Real sensor data	IASI_L1_Thin_001.bin	IASI L1 thinned radiances
2	Ancillary data	AVHRR_CM_001.bin	AVHRR cloud mask
3	Parameter file	IASI_AVTP.par	AVTP parameter file
4	Look up Table	AVTP.lut	AVTP look up table

Section 5.6 – Table 1

- <Describe each input data file in sufficient detail for a reviewer to be able to confirm that its contents and format matches the description of the appropriate input file documented in the DDDs>

- <List all "truth" data sets that will be used to assess system performance, as documented in the STP>

  - » <Explain how each real or proxy truth data set has been obtained.>

  - » <Explain how each simulated truth data set has been constructed>

Section 5.6

System Test Environment

- <Describe the environment in which the system test will be performed, consistent with the STP>

- <Demonstrate that the planned test environment complies with the project's test environment requirements, as documented in the RAD>
  - » <This demonstration can be obtained from the STP>

Section 5.7

System Test Configuration

- <Identify all configuration items that will be used in the system test, including code modules, test data sets, utilities, libraries, etc.>

- Each item in the test configuration has been placed in the project baseline under configuration control
  - » Documentation can be found in the Project Baseline Report (PBR)

Project Baseline Report

- The project's baseline and change history is maintained in a Project Baseline Report (PBR).
  - » Document guidelines are in STAR EPL process asset DG-5.4.
    - – <Pointer to DG-5.4>
  - » The PBR includes the change history, approval status, and location of every Configuration Item in the project's baseline.
 - » PBR v3r2, a CTR artifact, can be accessed at <pointer to PBR v3r2>

System Test Methods

- <Describe the method or methods that will be used to test each test item, as documented in the STP>

  » <Note which test items will be verified with each method or combination of methods>

- <Demonstrate that the methods selected for verification of a given item will address the requirements to be verified for that item>

  » <Refer to the project's Verification and Validation Plan (VVP) as appropriate.>

System Test Sequence

- <Describe the planned sequence of test actions in sufficient detail that a reviewer can confirm that all test items are exercised, all test data is utilized, all planned test methods are used as planned, and the planned output will allow a reviewer to confirm that the requirements will be satisfied. Use material from the STP.>

  » <Specifically note which sequence steps exercise which test items, utilize which test data sets, and use which test methods

  » <Use as many slides as necessary for clarity>

Section 5.10
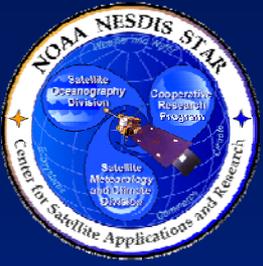
System Test Risks

- <Identify and evaluate risks to successful implementation of the system test plan, as documented in the STP>

- <Each item (risk) is reported as follows:
  - » Requirement – the basic or derived requirement that the risk pertains to
  - » Requirement Allocation – the system or product component(s) that the risk pertains to
  - » Risk – the description of the risk
  - » Evaluation (e.g. HIGH, MEDIUM, LOW)
  - » Mitigation – the plan to mitigate the risk
  - » Actions – actions to implement the mitigation plan
  - » Status – status of the action(s)>

Section 5.11

1. INTRODUCTION

2. TEST READINESS REVIEW REPORT

3. UNIT TEST PLAN

4. UNIT TEST RESULTS

5. SYSTEM TEST PLAN

6. RISKS AND ACTIONS

7. SUMMARY AND CONCLUSIONS

Section 6 Setup Slide

Section 6 –
Risks and Actions

Presented by

<Presenter's Name>
<Presenter's Title/Role>
<Presenter's Organization>

<Project Name> – Risks at CTR

- There are <fill in the correct number> risks to be reviewed at the CTR
  - » <fill in the correct number> risks were identified in the TRR Report
  - » <fill in the correct number> risks were identified after TRR

- The following slides contain, for each risk item:
  - » A risk statement
  - » Risk assessment (Severity and Likelihood)
  - » Risk mitigation recommendation
  - » Status of actions identified to mitigate the risk

Section 6.1

- RISK # 1 - <Risk statement>

- CTR Assessment: <TBS> (Severity = <TBS>, Likelihood = <TBS>). <TBS = HIGH, MEDIUM, or LOW>

- Risk Mitigation: <Describe the risk mitigation plan, as stated in the CTR report. Use sub-bullets as warranted for clarity. Note actions associated with each item (sub-bullet) of the plan.>

- Status: <Present the development team's current assessment of the risk (HIGH, MEDIUM, LOW, or NONE). Explain the rationale for the assessment (e.g. list actions that are completed).

- <Present status of actions associated with Risk # 1 in subsequent slides. Present completed actions, then open actions. Use separate slides for each action (see next 2 slides).>

Section 6.1

Completed Actions – <Action number>

- ACTION: <Number, as listed in the TRR Report (TRRR)> - <Action statement, from the TRRR>

- CLOSURE CRITERIA: <Closure criteria statement, from the TRRR>

- STATUS: Completed. <Demonstrate that the closure criteria have been met. Use multiple slides as necessary.>

- <Repeat for each completed action associated with Risk # 1>

Section 6.1

- ACTION: <Number, as listed in the TRRR - <Action statement, from the TRRR>

- CLOSURE CRITERIA: <Closure criteria statement, from the TRRR>

- CLOSURE PLAN: <Closure plan, either from the TRRR or updated by the development team after TRR>

- STATUS: Open. <Explain what parts of the closure plan have been completed and what remains to be done. Use multiple slides as necessary.>

- <Repeat for each open action associated with Risk # 1>

Section 6.1

Raytheon

- <Present Risk # 2 status, using the same format as for Risk # 1>

- <On separate slides, present status of all actions associated with Risk # 2. Present completed actions, then open actions. Use the same format as for Risk # 1 actions.>

- <Repeat for each risk from the TRR Report>

- <Then, present any new risks identified after the TRR Report (see next slide)

Section 6.1

- RISK # <N> - <Risk statement>

- Assessment: <TBS> (Severity = <TBS>, Likelihood = <TBS>). <TBS = HIGH, MEDIUM, or LOW>

- Risk Mitigation: <Describe the risk mitigation plan. Use sub-bullets as warranted for clarity. Note actions associated with each item (sub-bullet) of the plan.>

- <Present status of actions associated with Risk # N in subsequent slides. Present completed actions, then open actions. Use separate slides for each action (see next 2 slides).>

Section 6.2

- ACTION: <Number> - <Action statement>

- CLOSURE CRITERIA: <Closure criteria statement>

- STATUS: Completed. <Demonstrate that the closure criteria have been met. Use multiple slides as necessary.>

- <Repeat for each completed action associated with Risk # N>

Section 6.2

- ACTION: <Number> - <Action statement>

- CLOSURE CRITERIA: <Closure criteria statement>

- CLOSURE PLAN: <Closure plan>

- STATUS: Open. <Explain what parts of the closure plan have been completed and what remains to be done. Use multiple slides as necessary.>

- <Repeat for each open action associated with Risk # N>

Section 6.2

New Risks – Risk # <N+1>

- <Present Risk # N+1 status, using the same format as for Risk # N>

- <On separate slides, present status of all actions associated with Risk # N+1. Present completed actions, then open actions. Use the same format as for Risk # N actions.>

- <Repeat for each new risks identified after the TRR Report>

Section 6.2

Risk Summary – <N> Risks Can Be Closed

- <Present a bulleted list of risk statements for the risks that can be closed>

    » <For each risk, list the associated actions that can be closed. Each of these should have been presented in Sections 6.1 or 6.2 as a completed action.>

    » <Use multiple slides as necessary for clarity>

Section 6.3

104

- <Present a bulleted list of risk statements for the risks that are still open, in priority order (HIGH, MEDIUM, LOW).>
    - » <For each risk, list the actions that must be closed to reduce the risk to an acceptable level, with closure plans and estimated closure dates>

Section 6.3

1. INTRODUCTION

2. TEST READINESS REVIEW REPORT

3. UNIT TEST PLAN

4. UNIT TEST RESULTS

5. SYSTEM TEST PLAN

6. RISKS AND ACTIONS

7. SUMMARY AND CONCLUSIONS

Section 7 Setup Slide

Section 7 –
Summary and Conclusions

Presented by

<Presenter's Name>
<Presenter's Title/Role>
<Presenter's Organization>

Review Objectives Have Been Addressed

- Code Test Review Report has been reviewed
  - » <Notable conclusions from this section>

- Unit Test Plan changes have been reviewed
  - » <Notable conclusions from this section>

- Unit Test results have been reviewed
  - » <Notable conclusions from this section>

- System Test Plan has been reviewed
  - » <Notable conclusions from this section>

- Risks and Actions have been reviewed
  - » <Notable conclusions from this section>

Section 7.1

108

Issues, Actions And Risks

<List important issues, actions and risks that require attention. Use multiple slides as necessary for clarity.>

- <Item 1>
  - » <Conclusions about item 1>

- ………………………
  - » …………………………

- <Item N>
  - » <Conclusions about item N>

Section 7.2

Next Steps

<List recommendations for next steps after the CTR>

- Preparation for system testing
  - » <Recommendations for open actions>
  - » <Preparation of SRR artifacts>

- System test
  - » <Include planned dates for the system test and a planned date for the SRR>

Open Discussion

- The review is now open for free discussion