NOAA NESDIS
CENTER for SATELLITE APPLICATIONS and RESEARCH

DOCUMENT GUIDELINE
DG-6.4.A

PROJECT REQUIREMENTS DOCUMENT APPENDIX GUIDELINE
Version 3.0

TITLE: DG-6.4.A: PROJECT REQUIREMENTS DOCUMENT GUIDELINE APPENDIX VERSION 3.0

AUTHORS:
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DATE: October 1, 2009

<Project and/or Product Name>

Project Requirements 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

Review Agenda

Introduction	<Start Time> - <End Time>	<Presenter(s)>
Project Plan	<Start Time> - <End Time>	<Presenter(s)>
Operations Concept	<Start Time> - <End Time>	<Presenter(s)>
Break	<Start Time> - <End Time>	
Requirements Identification	<Start Time> - <End Time>	<Presenter(s)>
Requirements Analysis	<Start Time> - <End Time>	<Presenter(s)>
Lunch	<Start Time> - <End Time>	
Requirements Analysis (continued)	<Start Time> - <End Time>	<Presenter(s)>
Requirements Quality Assurance	<Start Time> - <End Time>	<Presenter(s)>
Requirements Allocation	<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)>
Open Discussion	<Start Time> - <End Time>	

Review Agenda Slide

Review Agenda – Day 1

Introduction	<Start Time> - <End Time>	<Presenter(s)>
Project Plan	<Start Time> - <End Time>	<Presenter(s)>
Operations Concept	<Start Time> - <End Time>	<Presenter(s)>
Break	<Start Time> - <End Time>	
Operations Concept (continued)	<Start Time> - <End Time>	<Presenter(s)>
Lunch	<Start Time> - <End Time>	
Requirements Identification	<Start Time> - <End Time>	<Presenter(s)>
Break	<Start Time> - <End Time>	
Requirements Analysis	<Start Time> - <End Time>	<Presenter(s)>

Review Agenda Slide Alternative – Day 1

Review Agenda – Day 2

Requirements Quality Assurance	<Start Time> - <End Time>	<Presenter(s)>
Break	<Start Time> - <End Time>	
Requirements Allocation	<Start Time> - <End Time>	<Presenter(s)>
Lunch	<Start Time> - <End Time>	
Risks and Actions	<Start Time> - <End Time>	<Presenter(s)>
Break	<Start Time> - <End Time>	
Summary and Conclusions	<Start Time> - <End Time>	<Presenter(s)>
Open Discussion	<Start Time> - <End Time>	

Review Agenda Slide Alternative – Day 2

Raytheon

- **INTRODUCTION**
- DEVELOPMENT PROJECT PLAN
- OPERATIONS CONCEPT
- REQUIREMENTS IDENTIFICATION
- REQUIREMENTS ANALYSIS
- REQUIREMENTSQUALITY ASSURANCE
- REQUIREMENTS ALLOCATION
- RISKS AND ACTIONS
- SUMMARY AND CONCLUSIONS

Section 1 Setup Slide

Section 1 – Introduction

Presented by

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

Slide 1.0

PRR Guidelines and Check List

- Guidelines for the PRR reviewers are in STAR EPL process asset PRG-6
  - » Reviewers can access this document at <pointer(s) to PRG-6>
- The PRR Check List is STAR EPL process asset CL-6
  - » Reviewers can access this document at <pointer(s) to CL-6>

Section 1.1 – Alternative 1

PRR Guidelines and Check List

- Guidelines for the PRR reviewers are in STAR EPL process asset PRG-6
  - » Reviewers can access this document at <pointer(s) to PRG-6>
- The PRR Check List is in the Development Project Plan (DPP) Appendix C
  - » Reviewers can access this document at <pointer(s) to DPP Appendix C>

Section 1.1 – Alternative 2

PRR Report

- The PRR Report (PRRR) is a standard artifact of the STAR EPL process.
  - The PRR reviewers should produce this report after conducting the PRR.
  - The report will be an artifact for the Preliminary Design Review.
- Guidelines for the PRRR are found in STAR EPL process asset DG-6.5
  - PRR reviewers can access this document at <pointer(s) to DG-6.5>

Section 1.2

PRR Entry Criteria

- <List the entry criteria for this PRR. Present as bullets. Use multiple slides as necessary for clarity. The following two slides should be used if the standard PRR entry criteria, documented in STAR EPL Check List CL-6, are used.>
- <If the entry criteria for a particular project have been tailored, revise these slides as necessary to capture the set of entry criteria documented in the Development Project Plan (DPP).>

Section 1.3

<Project Name> PRR – Entry Criteria # 1 - 3

- Entry # 1 - A Development Project Plan (DPP) has been written. The PRR reviewers have access to the current baseline version of the DPP.
- Entry # 2 - A Project Status Report (PSR) Appendix has been written. The PRR reviewers have access to the current baseline version of the PSR Appendix.
- Entry # 3 - An Operations Concept Document (OCD) has been written. The PRR reviewers have access to the current baseline version of the OCD
- Entry # 4 - A Requirements Allocation Document revision (RAD) has been written. The PRR reviewers have access to the current baseline version of the RAD.

Section 1.3

<Project Name> PRR – Entry Criteria # 4 - 7

- Entry # 5 - A Verification and Validation Plan (VVP) has been written. The PRR reviewers have access to the current baseline version of the VVP.
- Entry # 6 - A Project Requirements Document (PRD) has been written. The PRR reviewers have access to the current baseline version of the PRD.
- Entry # 7 - A Project Baseline Report (PBR) has been written. The PRR reviewers have access to the current baseline version of the PBR.

Section 1.3

<Project Name> - Tailored PRR Entry Criteria

- <List PRR entry criteria that are non-standard (added or revised from the standard set of entry criteria in STAR EPL Check List CL-6), explain the deviation, provide a rationale, and assess the risk, usually by reference to a risk # to be discussed in Section 8>
- <If there are no tailored entry criteria, omit this slide>

Section 1.3

<Project Name> - Waived PRR Entry Criteria

- <List any standard entry criteria that have been waived for this PRR. Provide a rationale, based on the DPP, and assess the risk, usually by reference to a risk # to be discussed in Section 8. Use multiple slides as necessary for clarity.>
- <If there are no waived entry criteria, omit this slide>

Section 1.3

PRR Exit Criteria

- <List the exit criteria for this PRR. Present as bullets. Use multiple slides as necessary for clarity. The following slides should be used if the standard PRR exit criteria, documented in STAR EPL Check List CL-6, are used.>
- <If the exit criteria for a particular project have been tailored, revise these slides as necessary to capture the set of exit criteria documented in the DPP.>

Section 1.4

<Project Name> PRR – Exit Criteria # 1 - 4

- Exit # 1 – Project plan and DPP are satisfactory
- Exit # 2 - Operations concept and OCD are satisfactory
- Exit # 3 - Requirements identification is satisfactory
- Exit # 4 - Requirements analysis is satisfactory

<Project Name> PRR – Exit Criteria # 5 - 8

- Exit # 5 – Requirements traceability plan is satisfactory
- Exit # 6 – Requirements tracking plan is satisfactory
- Exit # 7 - Requirements validation plan and VVP are satisfactory
- Exit # 8 - Requirements allocation and RAD are satisfactory

Section 1.4

<Project Name> PRR – Exit Criteria # 9 - 11

- Exit # 9 - Project baseline and PBR are satisfactory
- Exit # 10 – The PRR reviewers' assessment of outstanding risks and actions is documented in the PRR Report.
- Exit # 11 – Project risks and actions are acceptable

Section 1.4

<Project Name> - Tailored PRR Exit Criteria

- <List PRR exit criteria that are non-standard (added or revised from the standard set of exit criteria in STAR EPL Check List CL-6), explain the deviation, provide a rationale, and assess the risk, usually by reference to a risk # to be discussed in Section 8>
- <If there are no tailored exit criteria, omit this slide>

Section 1.4

<Project Name> - Waived PRR Exit Criteria

- <List any standard exit criteria that have been waived for this PRR. Provide a rationale and assess the risk, usually by reference to a risk # to be discussed in Section 8. Use multiple slides as necessary for clarity.>
- <If there are no waived exit criteria, omit this slide>

Review Objectives

- Review the project plan
- Review the operations concept
- Review the requirements (basic and derived)
  - » Requirements Identification
  - » Requirements Analysis
  - » Requirements Quality Assurance
  - » Requirements Allocation
- Identify and review status of risks and actions

Review Outline

- INTRODUCTION
- PROJECT PLAN
- OPERATIONS CONCEPT
- REQUIREMENTS IDENTIFICATION
- REQUIREMENTS ANALYSIS
- REQUIREMENTS QUALITY ASSURANCE
- REQUIREMENTS ALLOCATION
- RISKS AND ACTIONS
- SUMMARY AND CONCLUSIONS

Section 1.6

Raytheon

- INTRODUCTION
- **DEVELOPMENT PROJECT PLAN**
- OPERATIONS CONCEPT
- REQUIREMENTS IDENTIFICATION
- REQUIREMENTS ANALYSIS
- REQUIREMENTSQUALITY ASSURANCE
- REQUIREMENTS ALLOCATION
- RISKS AND ACTIONS
- SUMMARY AND CONCLUSIONS

Section 2 Setup Slide

Raytheon

Section 2 – Project Plan

Presented by

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

Slide 2.0

<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
  - » PRR reviewers can access this document at <pointer to the DPP>
- Guidelines for the DPP are found in STAR EPL process asset DG-5.1
  - » PRR reviewers can access this document at <pointer to DG-5.1>

Section 2.1

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 2.2

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)

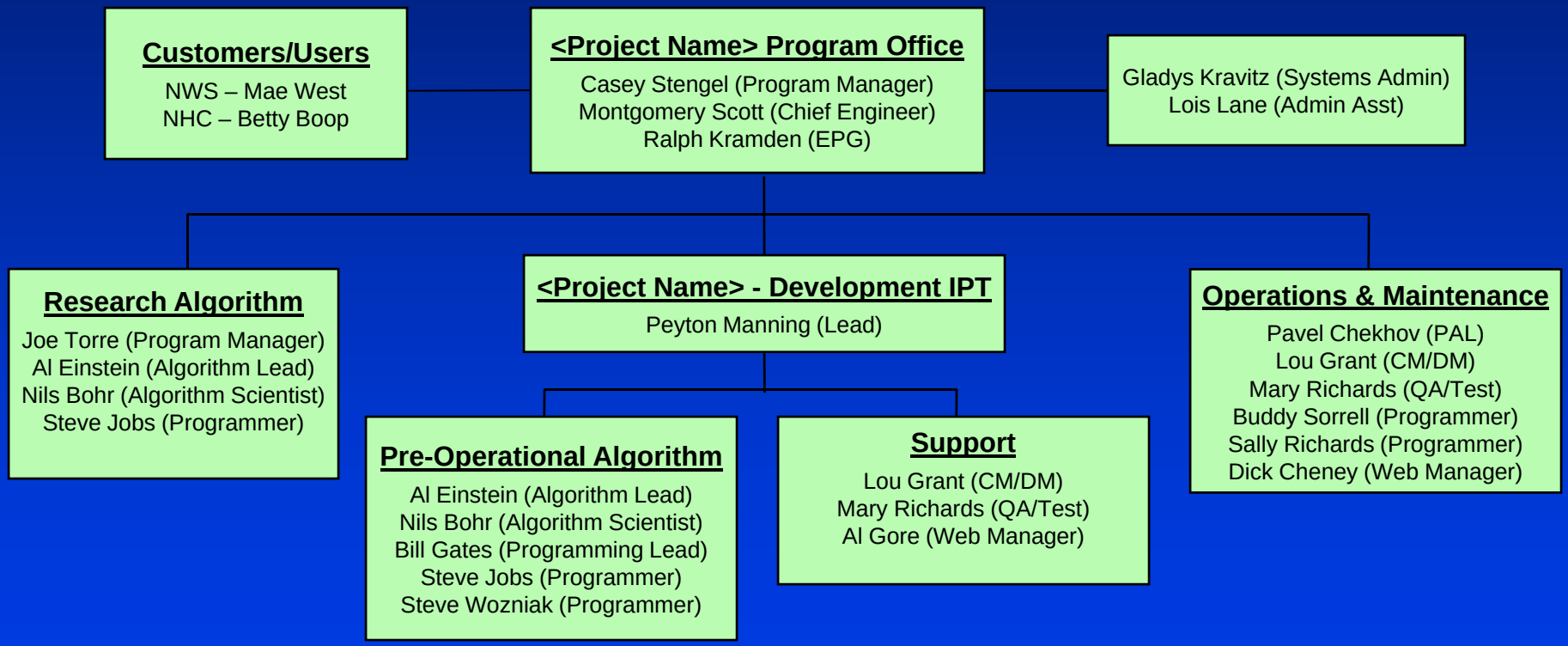
Section 2.3

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 2.3 – Table Alternative

<Project Name> Organization Chart



Section 2.3 - 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 2.4

Project Timeline

PDR 09/29/04

L1C Products CDR 01/12/06

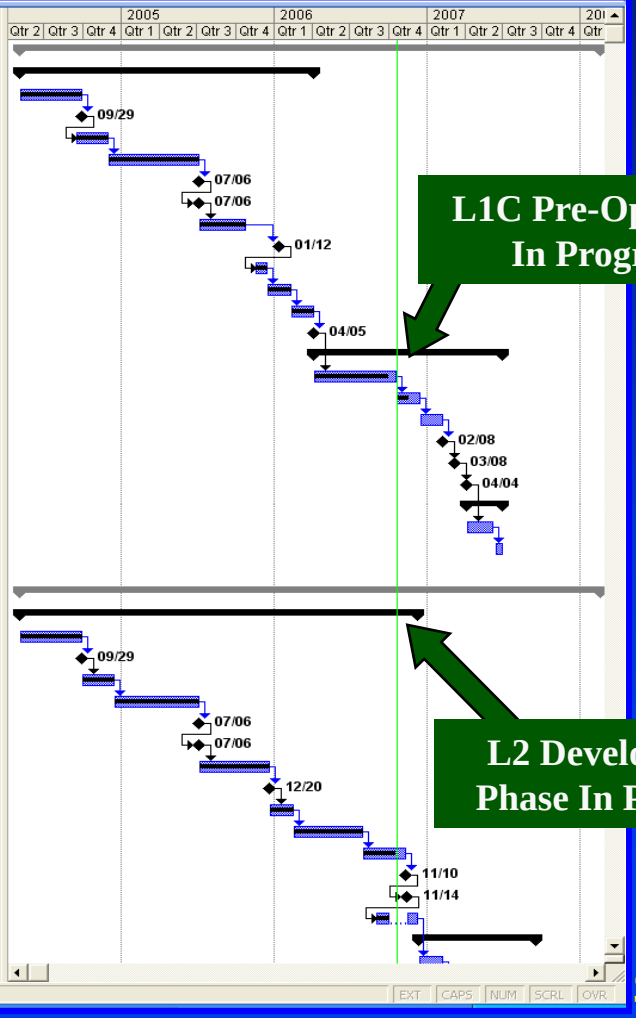
L1C Code 04/05/06

L2 Code 07/31/06

ATBD 1st draft 11/10/06

L2 Products CDR 11/14/06

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 c	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 Pl	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 Re	0 mons	Wed 09/29/04	Wed 09/29/04	100%	2
Algorithm Developmen	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
st Case Processed	6 mons	Wed 07/06/05	Tue 12/20/05	100%	7
rational and backu	0 mons	Tue 12/20/05	Tue 12/20/05	100%	8
Fir 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



L1C Pre-Op Phase In Progress

L2 Development Phase In Progress

Section 2.4

Project Timeline – Design Phase

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

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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
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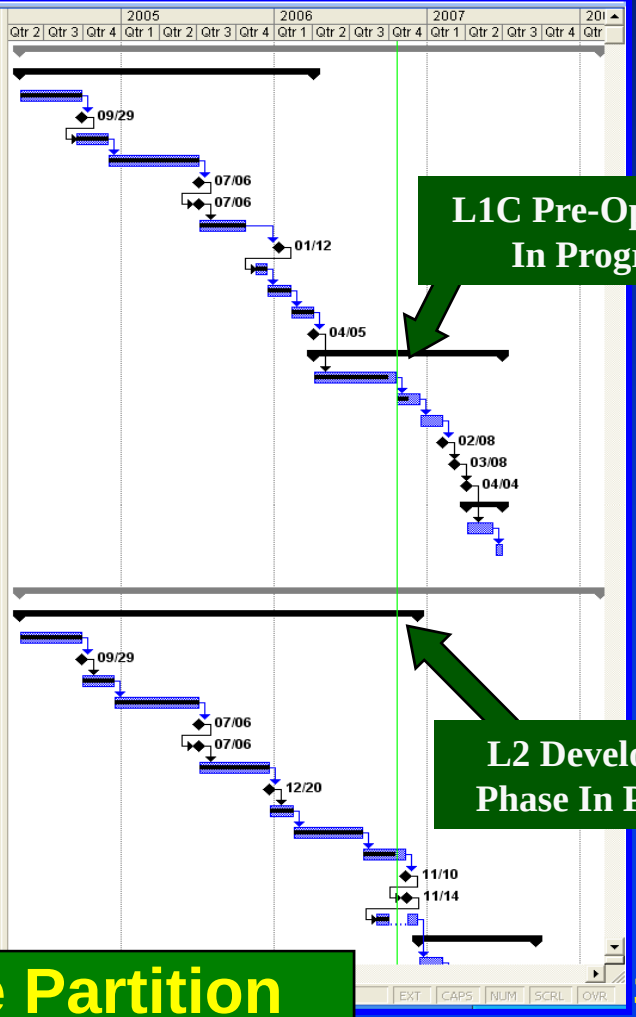
1st draft of ATBD	0 mons	Fri 11/10/06	Fri 11/10/06	0%	12
CDR	0 mons	Tue 11/14/06	Tue 11/14/06	0%	13
Operational and backu	2 mons	Fri 09/01/06	Thu 12/07/06	55%	14
Pre-operational Phase	200 days	Wed 12/13/06	Tue 09/18/07	0%	



L1C Pre-Op Phase In Progress

L2 Development Phase In Progress

Section 2.4 - Timeline Partition

Project Plan - Changes Since Gate 3 Review

<Describe any changes to the project plan – objectives, stakeholders, tasks, schedule and milestones – that have occurred since the Gate 3 Review. Use multiple slides as necessary for clarity.>

<OR, if there have been no changes, state the following:>

- There have been no changes to the project plan since the Gate 3 Review

Section 2.5

Project Plan
Stakeholder Involvement (1)

- **<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 2.6

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 2.6

Raytheon

- INTRODUCTION
- DEVELOPMENT PROJECT PLAN
- **OPERATIONS CONCEPT**
- REQUIREMENTS IDENTIFICATION
- REQUIREMENTS ANALYSIS
- REQUIREMENTSQUALITY ASSURANCE
- REQUIREMENTS ALLOCATION
- RISKS AND ACTIONS
- SUMMARY AND CONCLUSIONS

Section 3 Setup Slide

Section 3 –
Operations Concept

Presented by

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

Slide 3.0

Operations Concept - Overview

- Before requirements can be developed for a product and product system, the developers must know the intentions of the customers and/or users of the product. They must have the answers to the following questions:
  - » Why is this product being produced?
  - » How will this product be used?
  - » How should this product be produced?
- The answers to the preceding questions should be derived from customer/user needs and expectations
- Given the required input from customers/users, the development team should develop and document timeline scenarios for product operation and user interaction, at a level of detail and maturity appropriate for each step in the product lifecycle
- The operations concept is typically refined by the development team, in consultation with customers/users, as the product solutions and design are matured through the Design phase of the lifecycle.

Section 3.1

Operations Concept Document

- Operations Concept Document (OCD)
  - » Describes how the users' vision can be realized in an operational environment. Guidelines in STAR EPL process asset DG-6.1 <Pointer to DG-6.1>
- **OCD v1r0 (PRR artifact), the initial version, is available at <pointer to OCD v1r0>**
  - » **Should capture customer needs and expectations**
- OCD v1r1 (PDR artifact), the first planned revision, adds to v1r0 by providing operational scenarios for product operation and user interaction for each alternative solution under consideration at PDR.
- OCD v1r2, a CDR artifact, adds to v1r1 by providing a refinement of the operations concept that may occur as a result of detailed design development

Section 3.1

Customer/User Concept of Operations

- A concept of operations has been generated by <User> to provide an overview of how they envision a potential product system to operate.
- <Description (text, figures, tables) of the user's concept of operations, from the ConOps>
- <Description (text, figures, tables) of any refinement in the concept of operations from interaction between the users and the development team>
- <Use multiple slides as necessary for clarity>

Section 3.2 – Alternative 1

Customer/User Concept of Operations

- <Description (text, figures, tables) of the concept of operations developed from interaction between the users and the development team>
- Use multiple slides as necessary for clarity

Why Are The Products Being Produced?

- <Itemize customer/user needs>
  - » <Refer to a customer ConOps, if one exists>
  - » <Explain how this question was answered, if a ConOPs does not exist>
  - » <This should be documented in the OCD, consistently with the DPP. Use text, figures, tables from the OCD>
  - » <Use multiple slides as necessary for clarity>

Section 3.3

How Will The Products Be Used?

- <Itemize customer/user expectations>
  - » <Refer to a customer ConOps, if one exists>
  - » <Explain how this question was answered, if a ConOPs does not exist>
    - – <This should be documented in the OCD, consistently with the DPP.>
    - – <Use text, figures, tables from the OCD>
- <Use multiple slides as necessary for clarity>

Section 3.4

How Should The Products Be Produced?

- Available production environments
  - » <Describe the production environments that are available for the product lifecycle, including development, transition, operations and delivery>
    - – <Itemize the hardware, software and personnel resources that can be available for each environment>
    - – <Describe how the environments can be integrated. Include boundaries and constraints>
- Production and Delivery scenarios
  - » < Describe production and delivery scenarios, consistent with the level of detail in the customer's concept of operations, the production environment constraints, and operator needs and expectations.>
    - – <A scenario is a sequence of events that might occur in the production and use of the product, which is used to make explicit the needs of the stakeholders>
- <Purpose is to validate customer driven basic requirements and derive the derived requirements>
- < This should be documented in the OCD. Use text, figures, tables from the OCD. Use multiple slides as necessary for clarity>

Section 3.5

Raytheon

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Section 4 Setup Slide

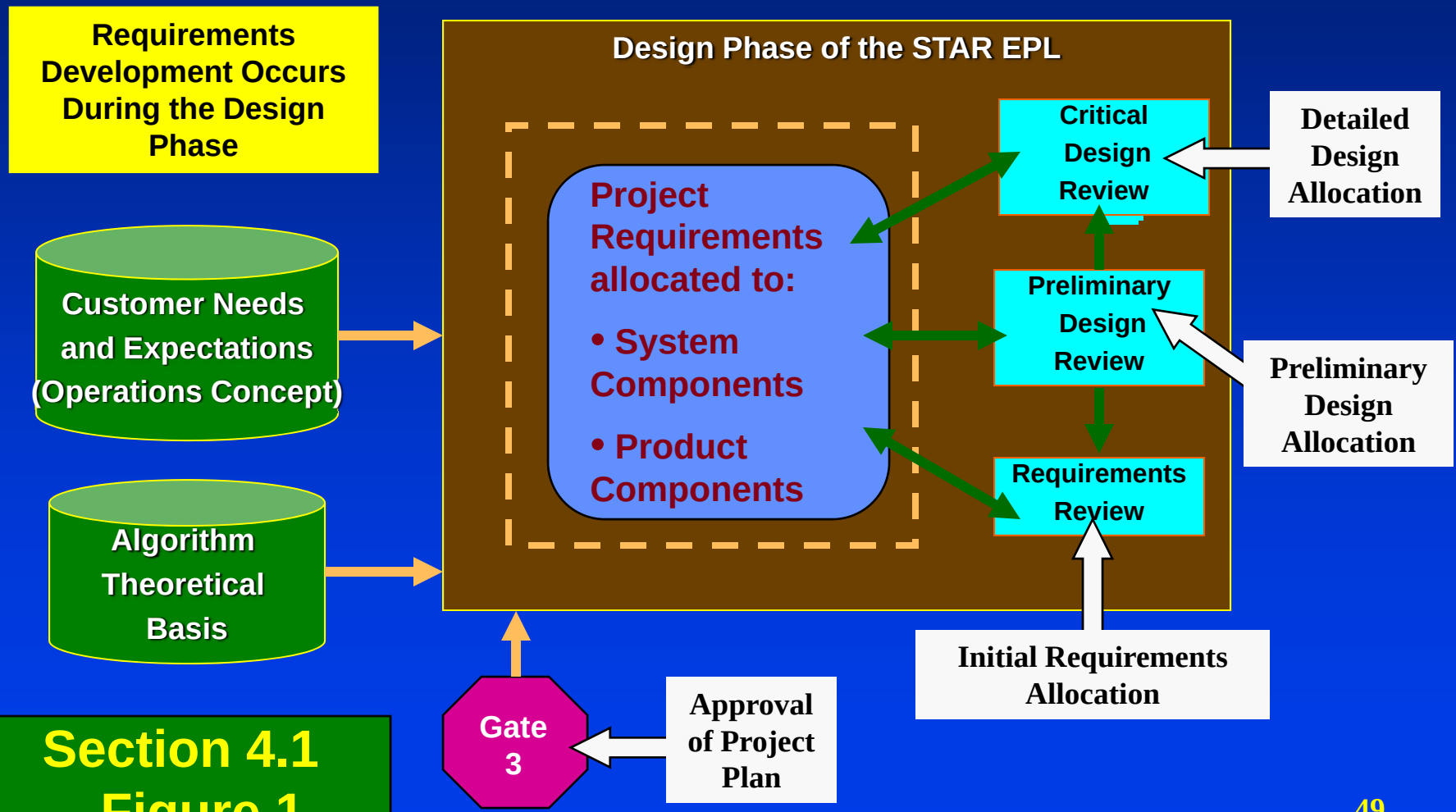
Section 4 –
Requirements Identification

Presented by

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

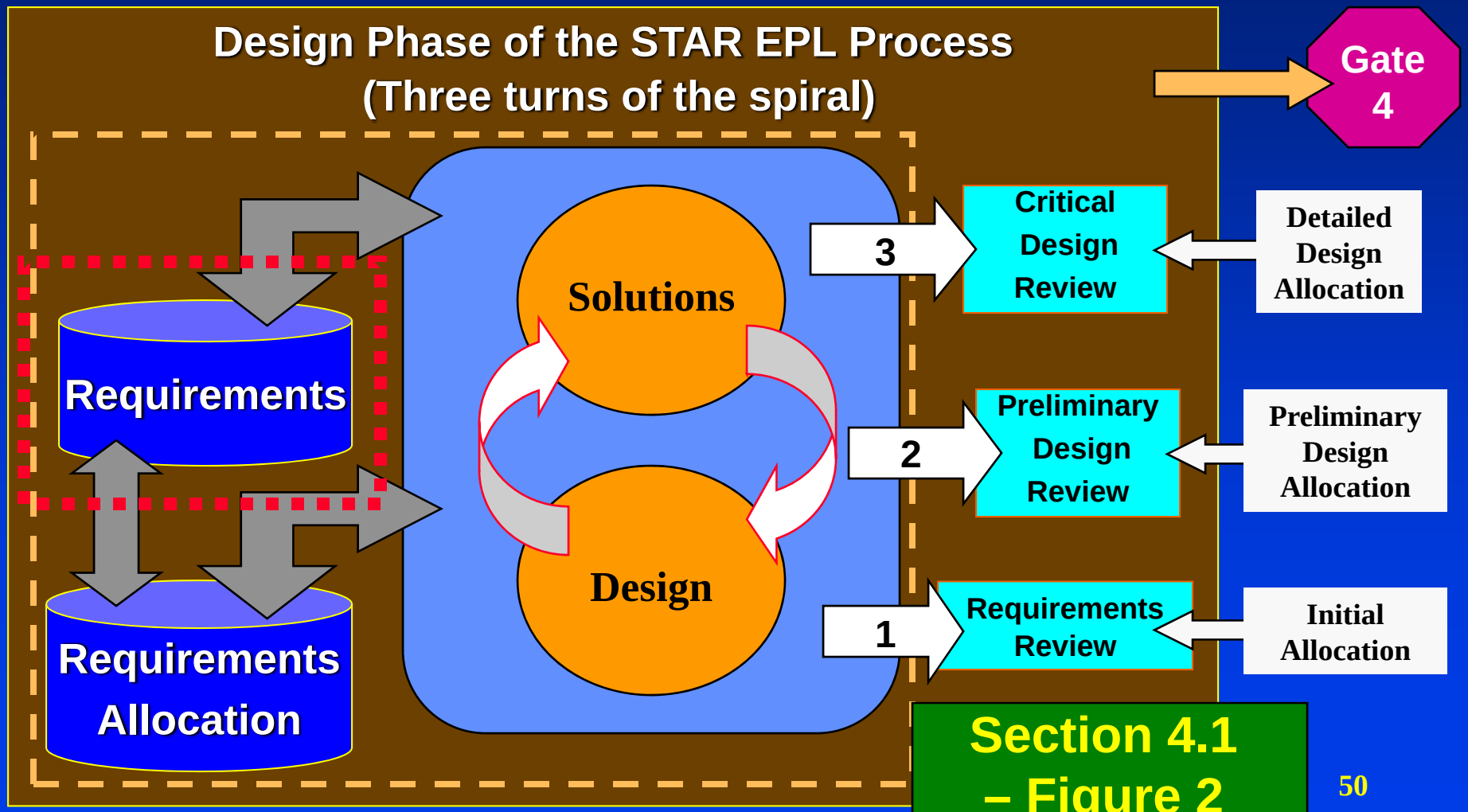
Slide 4.0

Requirements Development Process



Section 4.1 – Figure 1

Iterative (Spiral) Development of Requirements



Section 4.1 – Figure 2

Requirements Allocation Document

- **Requirements Allocation Document (RAD) v1r0**
  - » RAD v1r0 is a PRR artifact. Can be obtained at <Pointer to RAD v1r0>
  - » Contains the basic and derived requirements for the work products
  - » Includes a Requirements/Needs matrix
  - » Includes a Requirements Traceability matrix
  - » Contains the allocation of the requirements to system components and product components
    - – Includes an allocation matrix that relates each identified component to the requirements
    - – The allocation matrix will be substantially upgraded as components are identified and refined during preliminary and detailed design.

Section 4.1

Requirements Identification

- Requirements Identification is a process of turning the operations concept into a specific set of requirements on the product processing system
- Requirements are characterized as basic or derived
  - » Basic requirements flow directly from a customer/user need or expectation, as expressed in a customer ConOps or other customer communication.
  - » Derived requirements flow from basic requirements. They are the requirements that are deemed necessary or useful to satisfy the basic requirement. They are typically identified by the development team.
- Requirements are characterized as product or system
  - » Product requirements include requirements on product content, performance, operational production (e.g. timeliness), and end use.
  - » System requirements include system component characteristics (e.g. security, portability), interfaces and dependencies (e.g. code, test data, production environments and platforms).
- Requirements are characterized as operational or functional
  - » Operational requirements address how the product will serve the users. Operational requirements characterize the basic user needs for the product.
  - » Functional requirements address what the product or service must do to satisfy the required operational requirements and define the necessary tasks, actions, or activities that must be accomplished.

Section 4.2

Requirements Identification

- <Provide an overview of the process used by the development team for Requirements Identification. Follow the guidelines in STAR EPL Training Document TD-9>

Section 4.2

Requirements Identification – Basic Requirement # 1

- <Describe basic requirement 1.0 and its derived requirements. Use multiple slides as necessary for clarity.>
  - <State basic requirement 1.0>
  - <Note whether it is a product requirement or a system requirement>
  - <Note whether it is an operational requirement or a functional requirement>
  - <Explain the requirement driver, typically a customer/user need or expectation, as documented in OCD v1r0>
  - <List each derived requirement (1.1, 1.2, etc.), noting whether it is a product requirement or a system requirement>
  - <Document the agreement of stakeholders, particularly the customers and users>

Section 4.2

Requirements Identification – Basic Requirement # 2

- <Describe basic requirement 2.0 and its derived requirements. Use multiple slides as necessary for clarity.>
  - <State basic requirement 2.0>
  - <Note whether it is a product requirement or a system requirement>
  - <Note whether it is an operational requirement or a functional requirement>
  - <Explain the requirement driver, typically a customer/user need or expectation, as documented in OCD v1r0>
  - <List each derived requirement (2.1, 2.2, etc.), noting whether it is a product requirement or a system requirement>
  - <Document the agreement of stakeholders, particularly the customers and users>

Section 4.2

Requirements Identification – Basic Requirement # 3, etc.

- <Describe basic requirement 3.0 etc. in additional slides, following the same format as basic requirement 1.0 and 2.0>

Section 4.2

Requirements/Needs Matrix

- The Requirements/Needs matrix is the end result of the Requirements Identification process
- It links each basic requirement to a specific customer/user need or expectation
- The matrix is included in RAD v1r0
- Adjustments to basic requirements should only be made following an analysis of the impact on customer/user needs and expectations.
- As requirements are further developed and refined, the impact on customer/user needs and expectations can be analyzed through the use of this matrix.

Section 4.2

Requirements/Needs Matrix

<Conclude with an illustration of the Requirements/Needs matrix as it appears in RAD v1r0>

<OR, if the matrix is too large to be effectively illustrated, provide a reference to the figure of figures in RAD v1r0 where the matrix is illustrated>

Section 4.2

Raytheon

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Section 5 Setup Slide

Section 5 – Requirements Analysis

Presented by

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

Slide 5.0

Requirements Analysis – Basic Requirement # 1

- <Describe analysis of basic requirement 1.0 and its derived requirements. Use multiple slides as necessary for clarity.>
  - » <Note any relevant analysis that was performed during the Plan phase, primarily with respect to NESDIS mission and strategic plan. This should be reflected in the Development Project Plan (DPP) and Gate 3 Review report.>
  - » <Provide a technical analysis. The customer requirements may be expressed in the customer's terms and may be non-technical descriptions. The product requirements are the expression of these requirements in technical terms that can be used for design decisions.>
  - » <Provide a functional analysis. Functional analysis is the description of what the product is intended to do. The definition of functionality can include actions, sequence, inputs, outputs, or other information that communicates the manner in which the product will be used.>

Requirements Analysis – Basic Requirement # 1

- <Continue analysis of basic requirement 1.0 and its derived requirements. Use multiple slides as necessary for clarity.>
  - <Provide a quantitative analysis, if it is a performance requirement. Performance requirements must be specific and quantitative. Analysis should strike a balance between customer needs and expectations, whether quantitative or qualitative, and anticipated constraints. Consider cost, schedule and technical constraints.>
  - <Note potential effects of the requirements on the project plan>
  - <Identify and evaluate project risks generated by the requirements>

Requirements Analysis – Basic Requirement # 2

- <Describe analysis of basic requirement 2.0 and its derived requirements. Use multiple slides as necessary for clarity.>
  - » <Note any relevant analysis that was performed during the Plan phase, primarily with respect to NESDIS mission and strategic plan. This should be reflected in the DPP and Gate 3 Review report.>
  - » <Provide a technical analysis. The customer requirements may be expressed in the customer's terms and may be non-technical descriptions. The product requirements are the expression of these requirements in technical terms that can be used for design decisions.>
  - » <Provide a functional analysis. Functional analysis is the description of what the product is intended to do. The definition of functionality can include actions, sequence, inputs, outputs, or other information that communicates the manner in which the product will be used.

Requirements Analysis – Basic Requirement # 2

- <Continue analysis of basic requirement 2.0 and its derived requirements. Use multiple slides as necessary for clarity.>
  - <Provide a quantitative analysis, if it is a performance requirement. Performance requirements must be specific and quantitative. Analysis should strike a balance between customer needs and expectations, whether quantitative or qualitative, and anticipated constraints. Consider cost, schedule and technical constraints.>
  - <Note potential effects on the project plan that were not identified and/or documented previously>
  - <Identify risks that were not identified and/or documented previously >

Requirements Analysis – Basic Requirement # 3, etc.

- <Describe analysis of basic requirement 3.0 etc. in additional slides, following the same format as basic requirement 1.0 and 2.0>

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Section 6 Setup Slide

Raytheon

Section 6 – Requirements Quality Assurance

Presented by

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

Slide 6.0

Requirements Traceability

<Provide an overview of Requirements Traceability. Guidelines for requirements tracing are in STAR EPL Training Document TD-9.> >

- Requirements Traceability includes vertical traceability from the basic requirement to its lower level derived requirements and from the lower level requirements back to their source.
  - » Documented in RAD v1r0
- Requirements Traceability includes traceability from a requirement to its allocation of functions, objects, people, processes, and work products.
  - » To be documented in RAD v1r1 (for Preliminary Design Review)
- Requirements Traceability includes horizontal traceability from function to function and across interfaces
  - » To be documented in RAD v1r2 (for Critical Design Review)

Requirements Traceability Matrix

<Illustrate the Requirements Traceability matrix, obtained from RAD v1r0. This should include two-way vertical traceability from each basic requirements to its derived requirements.>

<OR, if the matrix is too large to be effectively illustrated, provide a reference to the figure of figures in RAD v1r0 where the matrix is illustrated>

Section 6.1

Requirements Tracking

- Requirements and their allocation must be tracked during the product development lifecycle to:
  - » Ensure that risks to requirements quality are managed properly
  - » Adjust to changes (e.g., design changes, emergence of project or system constraints, changes in customer/user needs)
  - » Identify actions needed to maintain requirements quality
- Effective requirements tracking is achieved by consistent referral to the matrices in the RAD whenever an issue arises that may cause a change to requirements, solutions or design.
  - » RAD updates and refinement are expected to respond to issues uncovered by requirements tracking.

Section 6.2

Requirements Tracking Plan

- <Describe the plan for tracking requirements>
- <Demonstrate that STAR standards for requirements tracking will be followed. These standards can be found in STAR EPL Training Document TD-9.>
- <Explain any project-unique tailoring of standard requirements tracking practices.>
- <Identify project stakeholders who will play a role in requirements tracking and how they will do this.>

Section 6.2

Requirements Validation

- Requirements Validation is concerned with ensuring that the requirements and requirements allocation provide a satisfactory balance between customer/user needs and expectations, NESDIS mission goals, technical feasibility, the available resources and external constraints.
  - » Basic requirements are validated by a demonstration that a balance has been established between customer/user needs and expectations, and constraints on the production, distribution and performance of products
  - » Derived requirements are validated by a demonstration that they are the best set of requirements to satisfy the basic requirements
  - » Requirements allocations are validated by a demonstration that the solution and design provides a feasible, satisfactory implementation for meeting the requirements
- At the current step of the STAR EPL (PRR), requirements have been identified and analyzed, but have not typically been fully allocated or validated.
  - » A plan for requirements validation should be in place by PRR

Section 6.3

Verification and Validation Plan

- **Verification and Validation Plan (VVP) v1r0**
  - VVP v1r0 is a PRR artifact. Can be obtained at <Pointer to VVP v1r0>
  - Describes the work products to be verified and validated
  - States the requirements for each selected work product
  - Describes the verification and validation methods for each selected work product.
  - Includes the plans for validation of requirements

Section 6.3

Requirements Validation Plan

- <Describe the plan for continuing and completing requirements validation as the requirements allocation is updated during preliminary design and detailed design, as documented in the project's VVP>
- <Demonstrate that STAR standards for requirements validation will be followed. These standards can be found in STAR EPL Training Document TD-9.>
- <Explain any project-unique tailoring of standard requirements validation practices.>
- <Identify project stakeholders who will play a role in requirements validation and how they will do this.>

Section 6.3

Configuration Management

- A special derived requirement is for Configuration Management (CM) of the requirements and their allocated functions and work products.

<Explain the concepts of CM as they apply to Requirements Quality Assurance.>

Section 6.4

CM Tools

- <Describe the CM tools that are in use for the project. Use multiple slides as necessary for clarity.>

CM Stakeholders

- <Identify the CM stakeholders for the project and verify their commitment to the plan for CM of requirements and requirements documentation>

Section 6.4

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 v2r0, a PRR artifact, can be accessed at <pointer to PBR v2r0>

Section 6.4

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Section 7 Setup Slide

Raytheon

Section 7 – Requirements Allocation

Presented by

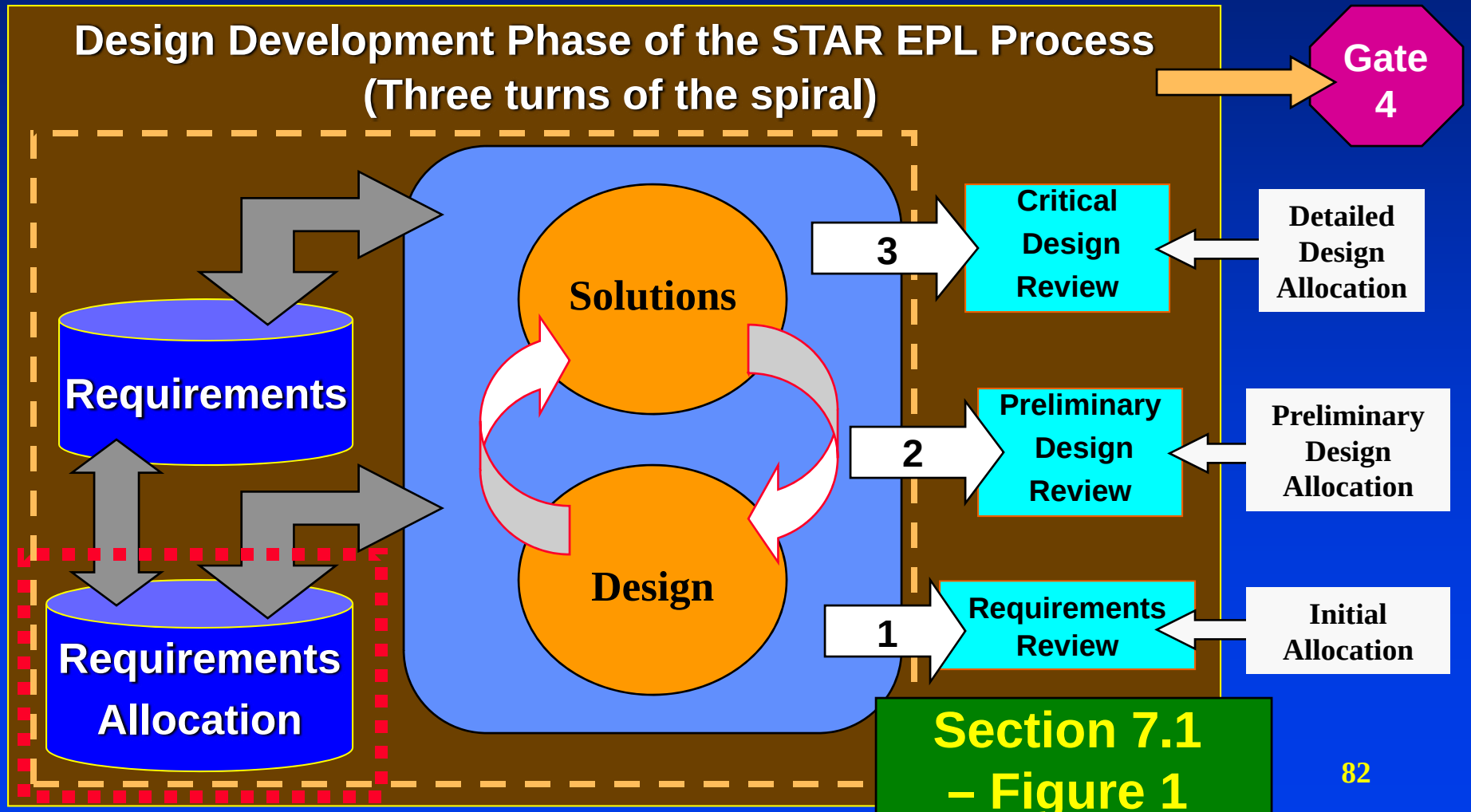
<Presenter's Name>
<Presenter's Title/Role>
<Presenter's Organization>

Slide 7.0

Requirements Allocation – Overview

- <Overview of the requirements allocation process. Guidelines for requirements allocation are in STAR EPL Training Document TD-9. Provide a pointer to TD-9. Include the diagram on the following slide.>

Iterative (Spiral) Development of Requirements Allocation



Requirements Allocation – Basic Requirement # 1

<List each requirements allocation for basic requirement 1.0 and its derived requirements. The allocations are expected to be primitive at this step of the STAR EPL. Use the following format:>

- Requirement 1.0 <Requirement statement>
  - » Allocation 1…..
  - » Allocation 2…..
  - » etc.
- Requirement 1.1 <Requirement statement>
  - » Allocation 1…..
  - » Allocation 2…..
  - » etc.
- Requirement 1.2 <Requirement statement>
  - » Allocation 1…..
  - » Allocation 2…..
  - » etc.
- etc.

Section 7.2

Requirements Allocation – Basic Requirement # 2

- <List each requirements allocation for basic requirement 2.0 and its derived requirements, using the same format used for basic requirement 1.0>
- <Repeat for basic requirement 3.0 etc. in additional slides>

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Section 8 Setup Slide

Section 8 –
Risks and Actions

Presented by

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

Slide 8.0

<Project Name> – Risks at PRR

- There are <fill in the correct number> risks to be reviewed at the PRR
  - <fill in the correct number> risks were identified at the Gate 3 Review and documented in the Project Status Report (PSR) Appendix - <pointer to the PSR Appendix>
  - <fill in the correct number> risks were identified after the Gate 3 Review
- 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 8.1

Risks from the Gate 3 Review – Risk # 1

- RISK # 1 - <Risk statement>
- Risk Assessment: <TBS> (Severity = <TBS>, Likelihood = <TBS>). <TBS = HIGH, MEDIUM, or LOW>
- Risk Mitigation: <Describe the risk mitigation plan, as stated in the CUTR 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).>

Completed Actions – <Action number>

- 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 # 1>

Section 8.1

Open Actions – <Action number>

- 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 # 1>

Risks from the Gate 3 Review – Risk # 2

- <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>
- <Then, present any new risks identified after the Gate 3 Review (see next slide)

New Risks – Risk # <N>

- RISK # <N> - <Risk statement>
- Risk 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 8.2

Completed Actions – <Action number>

- 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 8.2

Open Actions – <Action number>

- 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>

New Risks – Risk # <N + 1>

- RISK # <N + 1> - <Risk statement>
- Risk 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 + 1 in subsequent slides, following the same format used for the Risk # N actions. Present completed actions, then open actions. Use separate slides for each action.>

Section 8.2

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 8.1 or 8.2 as a completed action.>
  - » <Use multiple slides as necessary for clarity>

Section 8.3

Risk Summary – <N> Risks Remain Open

- <Present a bulleted list of risk statements for the risks that are still open>
  - » <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 8.3

Raytheon

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Section 9 Setup Slide

Section 9 –
Summary and Conclusions

Presented by

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

Slide 9.0

Review Objectives Have Been Addressed

<Explain how each review objective has been addressed>

- Project Plan has been reviewed
  - » <Notable conclusions from this section>
- Operations concept has been reviewed
  - » <Notable conclusions from this section>
- Requirements Identification has been reviewed
  - » <Notable conclusions from this section>
- Requirements Analysis has been reviewed
  - » <Notable conclusions from this section>

Review Objectives Have Been Addressed

<Explain how each review objective has been addressed>

- Requirements Quality Assurance has been reviewed
  - » <Notable conclusions from this section>
- Requirements Allocation has been reviewed
  - » <Notable conclusions from this section>
- Risks have been reviewed
  - » <Notable conclusions from this section>
- Actions have been reviewed
  - » <Notable conclusions from this section>

Section 9.1

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>

Next Step – Preliminary Design

<List recommendations for next steps after the PRR>

- Preliminary Design Development
  - » <Recommendations for Preliminary Design step>
  - » <Recommendations for open actions>
  - » <Preparation of Preliminary Design Review artifacts>

Open Discussion

- The review is now open for free discussion