



National Aeronautics and  
Space Administration

**John C. Stennis Space Center**  
Stennis Space Center, MS 39529-6000

**SPR 8715.2 Rev I**  
**November 2021**

## **COMPLIANCE IS MANDATORY**

# **John C. Stennis Space Center Operational Readiness Program Procedural Requirements**

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 2 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## Document History Log

Status/Change/ Revision	Change Date	Originator/ Phone	Description
SPG 8715.2 Basic	10/27/2000	Clifton Arnold /x81685	Initial release. Note: The original history of the prior Directive has been retained here to provide clarity and for tracking and reference purposes.
SPR 8715.2 Basic	10/29/2004	Renay Nelson /x81585	Revalidated and corrected per NASA Rules Review/Revised document number.
SPR 8715.2 B-1	2/01/2006	Clifton Arnold /x81685	Administrative correction to correct expiration date which was posted in error.
Rev C	2/28/2010	Robert Gargiulo /x83842	Rewrite per SPR directives requirements.
Rev D	8/02/2010	Robert Gargiulo /x83842	Removed assessment of construction (para 5.1 c) and added regulatory agency licenses/permits
Rev E	2/28/2011	Robert Gargiulo /x83842	Administrative changes and clarification on where data reports will be filed; added Technical Review Process Team concept; updated Appendices.
Rev F	5/20/2013	Tiffany Hawkins /x81175	Updated verbiage to reflect SMA change from Office to Directorate; updated signature requirements in section 6.2; updated Appendix B sample letter
Rev G	2/10/2015	Robert Gargiulo /x83842	Clarified ORA team and ORAB authority to release existing, new and modified systems/operations and to authorize the commencement of activation and testing; introduced Category A and B systems/operations based upon risk potential; added the use of RFIs to collect data; updated the notional ORI timeline; changed the name of the ORA chairperson to ORA "Lead" to remove confusion with the ORAB Chairperson; changed the name of the ORIC to ORI and Safety Review Team (SRT) to Operational Readiness Team (ORT) to more accurately reflect the scope of the review; defined the subset of the ORAB for ORTs and IIs as a "mini-ORAB." Created a Figure Table. Updated

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 3 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

			Figure 1.0 to reflect the changes to the document. Added Figure 2.0 to overview the authority to release systems/operations. Provided inputs related to air/ground/marine range operations. Added Appendices B-F to provide sample letters and Appendix G to provide a list of organizations who would provide personnel to support ORAs. Administrative corrections.
Rev H	5/11/2016	Robert Gargiulo /x83842	Revised Appendix B to clarify the time commitment for ORA team members. Removed Flight Readiness Review from both Appendix B and Chapter 5 Mission Readiness Review (MRR) is the more appropriate term. Updated grammar and formatting.
Rev I	8/30/2021	Kamili Shaw X83025	P.3-P.5, deleted canceled documents. P.3-P.5., 2b, 2c, 4, 4.1, 4.5, Table 3, 5, 5.3, 6.2, Appendices B, C, D, and E, deleted references to ORAs of the range. These are handled through the TA Board. P.5, 3.3, 5.8, 7.2, deleted references to the CEF. 1.1-1.5, added the Center Director and ORA Program Manager. Updated responsibilities for all to mirror the process used. Table 1.0, changed format and updated. 2b., defined FRI 1C and 1A. 2., described process for not conducting or adding a ORA. 3.1, stated authority to release systems is done through the ORA Appointment Letter. 3.2, minor reword of mini-ORAB description. Stated ORAB can also mean mini-ORAB as applicable. Deleted mini-ORAB in the rest of the document. 3.3, deleted unneeded wording on delegation. Added duty of the ORA team to attend an orientation and introduced the final report template. 3.4, deleted requests for ORAs language. Deleted language on consultants and made a general statement.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

			<p>3.5, provided clarity in the event additional technical reviews are required to support the team or II. Updated the NESC and NSC missions.</p> <p>4.2.1, changed section to give permission to proceed with preliminary activation activities unless stated otherwise in the appointment letter. Updated Table 3 to align.</p> <p>4.1.4, moved note on existing systems to this section.</p> <p>4.2, expanded on delegation of authority.</p> <p>4.2-4.3, reworded and rearranged wording to describe the process in practice and align with Table 3, (formerly Table 2).</p> <p>5.4, 5.5, 5.6, 5.7, 7.1, added more information on closing RIDs.</p> <p>5.8, added details to the final report.</p> <p>6.1.d.8, added language to consider restricted airspace in the ORA review.</p> <p>Appendix A, deleted unused acronyms.</p> <p>Appendix H, added a report template.</p> <p>Appendix I, added a template for documenting avoidance of an ORA.</p>
--	--	--	--

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 5 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## Table of Contents

<b>PREFACE</b> .....	<b>7</b>
P1. PURPOSE .....	7
P2. APPLICABILITY .....	7
P3. AUTHORITY.....	7
P4. APPLICABLE DOCUMENTS.....	7
P5. MEASUREMENT/VERIFICATION .....	8
P6. CANCELLATION .....	8
<b>CHAPTER 1. ORGANIZATION RESPONSIBILITY</b> .....	<b>9</b>
1.1 Center Director .....	9
1.2 Deputy Center Director .....	9
1.3 Director, Safety and Mission Assurance Directorate .....	9
1.4 Directors/Managers of Directorates/Offices/Programs/Projects .....	10
1.5 ORA Program Manager .....	11
1.6 SSC Organizational Elements or Employees .....	11
<b>CHAPTER 2. OPERATIONAL READINESS ASSESSMENT REVIEW CRITERIA</b> .....	<b>14</b>
<b>CHAPTER 3. OPERATIONAL READINESS ASSESSMENT MEMBERSHIP</b> .....	<b>15</b>
3.1 Operational Readiness Assessment Board .....	15
3.2 Operational Readiness Assessment Board Membership .....	15
3.3 Operational Readiness Assessment Team Responsibilities .....	16
3.4 Operational Readiness Assessment Team Composition .....	17
3.5 Technical Issue Support .....	17
<b>CHAPTER 4. AUTHORITY TO RELEASE SYSTEMS, OPERATIONS, &amp; FACILITIES</b> .....	<b>18</b>
4.1 Risk Potential Categories .....	18
4.2 Authority to Release Systems/Operations.....	19
4.3 Authorization to Commence Propulsion Test Project Activation and Test .....	21
4.4 Authorization to Commence Facility Activation .....	21
<b>CHAPTER 5. OPERATIONAL READINESS ASSESSMENT EVENT TIMELINE</b> .....	<b>23</b>
5.1 ORA Team Appointment Letter.....	23
5.2 Project Informational Review .....	23
5.3 Facility Walk-down and Formal Readiness Review .....	23
5.4 ORA Team Review Item Discrepancy.....	23
5.5 ORA Team Management Presentation and Recommendations .....	24
5.6 System Activation/Operation Release Process .....	24
5.7 Review Item Discrepancy Closure.....	25
5.8 Final Report.....	25
<b>CHAPTER 6. REVIEW AREAS</b> .....	<b>27</b>
6.1 Facilities, Systems, and Tests Operations .....	27
<b>CHAPTER 7. REPORTING REQUIREMENTS</b> .....	<b>30</b>
7.1 Discrepancies and Recommendations.....	30

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 6 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

7.2	Final Written Report.....	30
<b>APPENDIX A.</b>	<b>Acronyms .....</b>	<b>32</b>
<b>APPENDIX B.</b>	<b>ORA Team Appointment Letter (Sample).....</b>	<b>34</b>
<b>APPENDIX B.</b>	<b>ORA Team Appointment Letter (Sample) (Continued) .....</b>	<b>35</b>
<b>APPENDIX C.</b>	<b>Sample Release Letter for Systems/Operations Delegated to ORA Team. 36</b>	
<b>APPENDIX D.</b>	<b>Sample ORAB Approval/Release Letter for Systems/Operations.....</b>	<b>37</b>
<b>APPENDIX E.</b>	<b>Release of the ORA Team (Sample).....</b>	<b>39</b>
<b>APPENDIX F.</b>	<b>Review Item Discrepancy (RID) Form .....</b>	<b>40</b>
<b>APPENDIX G.</b>	<b>Operational Readiness Assessment Team Resources .....</b>	<b>41</b>
<b>APPENDIX H.</b>	<b>Letter Template for Test Projects Foregoing an ORA .....</b>	<b>42</b>
<b>APPENDIX I.</b>	<b>Template for Final Reports.....</b>	<b>44</b>

### Tables

Table 1	Organizational Responsibilities .....	12
Table 2	Organizational Responsibilities Continued .....	13
Table 3	Authority to Release Systems/Operations .....	22

### Figures

Figure 1	Notional ORA Event Timeline.....	26
----------	----------------------------------	----

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 7 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## **PREFACE**

### **P1. PURPOSE**

This Stennis Procedural Requirement (SPR) establishes procedures and guidelines for conducting an Operational Readiness Assessment (ORA) at the National Aeronautics and Space Administration (NASA) John C. Stennis Space Center (SSC). An ORA is conducted of facilities, test operations or equipment, including Special Test Equipment (STE), by one of the following teams/individuals: Operational Readiness Inspection Committee (ORIC), Operational Readiness Team (ORT), or Independent Investigation (II). Review of Range Operations will be accomplished according to SPR 8715.7. ORAs are conducted in accordance with Stennis Policy Directive (SPD) 8715.1, *John C. Stennis Space Center Operational Readiness Program*.

The primary function of an ORA is to provide, on behalf of the Center Director, an independent assessment of the readiness of the personnel, processes/procedures, facilities and/or equipment to safely execute SSC's mission in support of tests or facility activations. The ORA assures the preservation of SSC's personnel, facilities, mission, and the environment. The ORA assures due diligence is exercised in our engineering, operations, and mission assurance processes and procedures in support of SSC and NASA's mission.

### **P2. APPLICABILITY**

- a. This SPR is applicable to NASA personnel in all SSC directorates and mission support offices.
- b. This SPR is applicable to contractors to the extent specified in their respective contracts.
- c. This SPR is applicable to operational readiness activities associated with new construction or modification of existing facilities and operations and equipment in support of programs operating at SSC. It includes industrial and test operation support facilities.

### **P3. AUTHORITY**

- a. NASA Procedural Requirements (NPR) 8715.3, *NASA General Safety Program Requirements*
- b. SPD 8715.1, *SSC Operational Readiness Program*

### **P4. APPLICABLE DOCUMENTS**

- a. NPR 8000.4, *Agency Risk Management Procedural Requirements*
- b. NPR 8820.2, *Facility Project Requirements*
- c. SCWI-8080-0001, *SSC Propulsion Test Project Management*

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 8 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

- d. SCWI-8710-0001, *SSC System Safety and Health*
- e. SPD 7120.1, *SSC Institutional Risk Management*
- f. SPR 7120.1, *SSC Risk Management Procedural Requirements*
- g. SPR 8715.1, *SSC Safety and Health Program Requirements*
- h. SPR 8715.7, *SSC Range Safety Program*

**P5. MEASUREMENT/VERIFICATION**

Compliance with requirements cited in this document will be measured through successful presentation and documentation of the ORA, as well as the data and decisions presented in support of facility activation reviews, activation test readiness reviews, and test readiness reviews. The data, reports, and presentations shall be filed in the Design & Data Management System (DDMS) test and/or facility design project directory.

**P6. CANCELLATION**

SPR 8715.2 H, dated May 2016.

Richard J. Gilbrech, Ph.D.  
Director

DISTRIBUTION:

Approved for public release via TechDoc and NODIS; distribution is unlimited.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 9 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## **CHAPTER 1. ORGANIZATION RESPONSIBILITY**

---

### **1.1 Center Director**

The Center Director shall:

- a. Appoint, or delegate the authority to appoint, personnel to ORTs and ORICs.
- b. Release personnel after ORTs and ORICs complete their activities.

### **1.2 Deputy Center Director**

The Deputy Center Director shall:

- a. Chair the Operational Readiness Assessment Board (ORAB).
- b. Authorize activities to proceed based on the ORAB recommendation.

### **1.3 Director, Safety and Mission Assurance Directorate**

The Safety and Mission Assurance Directorate (SMA) Director shall:

- a. Serve on the ORAB.
- b. Serve as the mini-ORAB Chair.
- c. Serve as the approver for ad hoc ORAs.
- d. Assist ORA Program Manager and the associated directors and managers of the directorates, offices, programs and/or projects in the identification of facilities, equipment and/or operations potentially requiring an ORA.
- e. Determine the level of review to be conducted on the facilities, equipment, operations and/or processes after consulting/coordinating with the ORA Program Manager and the associated directors and managers of the directorates, offices, programs and/or projects. This includes ORA, ORT, II, or determination that an ORA review is not required based on the risk and complexity of the project. The SMA Director is the final authority on level of review.
- f. Aid in identifying facilities, equipment or operations requiring an ORA in a timely fashion, so the assessment can be conducted consistent with scheduled milestones, use or operation, and the ORA can be properly budgeted/funded.
- g. Select an ORA Lead in concert with the appropriate director(s) and the ORAB Chairperson.
- h. Establish the ORA membership and consultants in coordination with the ORA Lead and ORA Program Manager.
- i. Appoint investigator(s) for IIs.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 10 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

- j. Prepare a NASA notice for the approving authority's signature, accompanied by rationale for and recommendation of any ORA Lead or members with a vested interest in the facility or operation under review.
- k. Provide a safety and quality assurance representative for each Operational Readiness Inspection (ORI) and ORT.
- l. Participate in the development of ORA milestones.
- m. Review findings of all ORA team's subsystem activations with the appropriate operating director, authorize continuance of operations or direct appropriate action to disposition outstanding issues.
- n. Authorize activities to proceed based on the mini-ORAB recommendation after reviewing the II findings.
- o. Release IIs once their work is complete.

#### **1.4 Directors/Managers of Directorates/Offices/Programs/Projects**

Directors/managers of the directorates, offices, programs and/or projects shall:

- a. Assist the SMA Director and ORA Program Manager in the identification of new or updated facilities, equipment and/or operations potentially requiring an ORA.
- b. Aid in identifying facilities, equipment or operations requiring an ORA in a timely fashion, so the assessment can be conducted consistent with scheduled milestones, use or operation, and the ORA can be properly budgeted/funded.
- c. Recommend the level of review to be conducted on the facilities, equipment, operations and/or processes to the SMA Director and ORA Program Manager.
- d. Recommend an ORA Lead to the SMA Director and the ORAB Chairperson.
- e. Recommend the ORA membership, consultants, and recorders as applicable to the SMA Director, ORA Lead and ORA Program Manager. Recorders are to be provided by the organization responsible for the facility/equipment/operation or process under review.
- f. Identify ORA members, consultants, or recorders with a vested interest in the assessment to the SMA Director.
- g. Serve as Point of Contact (POC) for the ORA team during the inspection or designate an individual to serve in his/her place.
- h. Implement ORA team recommendations or provide a valid rationale when recommendations cannot or should not be followed.
- i. Address Review Item Discrepancies (RIDs) by the associated review or milestone, accept the RID as a test constraint or accept the content of the RID as a project action, or reject the RID with rationale.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 11 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

- j. Assure requirements for analysis and supporting documentation/information are included in facilities or operations planning, so data is available to support ORA team needs in a timely manner.
- k. Assure appropriate analyses are accomplished when facility, procedures and equipment modifications are made; report changes or modifications creating new hazards to SMA.
- l. Work with the ORA team to provide facility or operational requirements, documentation to satisfy the general requirements of this SPR, and a schedule for submittal of the documentation.
- m. Review all ORA findings with the applicable operating director to affirm continuance of operations and/or direct appropriate action to disposition outstanding issues.

### 1.5 ORA Program Manager

The ORA Program Manager shall be the QA20 Division Chief unless otherwise directed by the SMA Director. The ORA Program Manager shall:

- a. Assist the SMA Director and directors/managers in the identification of facilities, equipment and/or operations potentially requiring an ORA.
- b. Aid in identifying facilities, equipment or operations requiring an ORA in a timely fashion, so the assessment can be conducted consistent with scheduled milestones, use or operation, and the ORA can be properly budgeted/funded.
- c. Recommend the level of review to be conducted on the facilities, equipment, operations and/or processes to the SMA Director and directors/managers.
- d. Recommend an ORA Lead to the SMA Director and the ORAB Chairperson.
- e. Recommend the ORA membership and consultants as applicable to the SMA Director, ORA Lead and directors/managers.
- f. Identify ORA members, consultants, or recorders with a vested interest in the assessment to the SMA Director.
- g. Maintain this document.
- h. Conduct an introductory meeting with each ORA to review the process and responsibilities.
- i. Track the progress of ORAs and report the monthly status of all ORAs to the SMA Director.
- j. Assure filing of final documents to the appropriate location in the DDMS.

### 1.6 SSC Organizational Elements or Employees

SSC organizational elements or employees shall:

- a. Provide all necessary information or assistance requested by the ORA teams.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 12 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

b. Participate on ORA teams as requested

### Table 1 Organizational Responsibilities

A grayed box indicates the role responsible for each task. See also the notes at the bottom of the table.

	Center Director	SMA Director	Engineering and Test Directorate	Center Operations Directorate	ORA Lead	ORA Program Manager
Identify Facilities Systems for Review						
Document and File Rationale to Avoid an ORA for Test Projects						
Propose ORA Review Level						
Finalize ORA Level						
Propose ORA Lead						
Finalize ORA Lead						
Propose ORA Personnel						
Finalize ORA Team						
Prepare ORA Team Assignment Letter						
Formally Appoint the ORA Team	(b, c)	(a)				
Develop ORA Milestones						
Provide Consultants and a Recorder						
Provide the ORA Orientation						
Serve as the mini-ORAB Chair						
Serve as mini-ORAB member						
Serve as ORAB Chair	Deputy					
Serve as ORAB member						
Present ORA findings to the ORAB or mini-ORAB at Defined Milestones						
a. Independent Investigation      b. Operational Readiness Inspection      c. Operational Readiness Team						

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

**Table 2 Organizational Responsibilities Continued**

	Center Director	SMA Director	Engineering and Test Directorate	Center Operations Directorate	ORA Lead	ORAB/mini ORAB	ORA Program Manager
Review ORA Team Findings							
Assure Completion of Applicable Analysis							
Implement ORA Recommendations							
Provide ORA Non-Closure Rationale							
Ensure FRI Index is Updated If Required							
Authorize Activity "To Proceed"	(b, c) Deputy	(a)			as authorized		
Complete ORA Documentation and File							
Review ORA Materials for Completion							
Accept or Reject outstanding RIDs as project actions and track to closure							
Release ORA Team	(b, c)	(a)					
Assess, Update and Assure ORA Policies and Procedures							
a. Independent Investigation      b. Operational Readiness Inspection      c. Operational Readiness Team							

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 14 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## **CHAPTER 2. OPERATIONAL READINESS ASSESSMENT REVIEW CRITERIA**

ORAs are performed through an ORI, an ORT and/or an II. The decision to use an ORI, ORT or II is based upon the complexity, scope and inherent risks of the project, test, operation or facility. The assessment level (ORI, ORT or II) may also be influenced by the Risk Potential Category as defined in Chapter 4.

- a. ORI: An ORI is conducted for new major construction and/or reactivation of facilities or operations/tests with significant potential increase in operational risk. Example: Facility upgrade of solid propellant test facility to process liquid propellants.
- b. ORT: An ORT is conducted for new construction and/or reactivation of facilities or operations with moderate potential increase in operational risk. Example: High pressure Liquid Oxygen (LOX) and rocket propellant tests add ultra-high pressure hydrogen capability.

Both examples (a. and b.) above could result in a major change to the Facility Risk Index (FRI) which would be a consideration for the type of assessment. For example, in a. above the FRI could change from 2A to as high as 1A, depending on the fuel pressure. In b. above the FRI would change from 1C (high risk, fuel under medium pressure) changes to FRI 1A (high risk, fuel under high pressure). See SCWI-8710-0001 Table 5.3 for more information. Note that the ORA Program Manager should ensure that changes to the FRI are in coordination with the Systems Safety POC as indicated in Table 2.

- c. II: An II is conducted for modifications to facilities not resulting in an FRI changes. These would include facility changes within established facility capabilities. Example: Minor programmatic STE changes that do not exceed facility capabilities.

A decision can be made not to conduct an ORA in the event there is essentially no change from a previous project, or it is a reinverting of a previous project. For projects in the test complex, this decision requires documentation through a memorandum prepared by the SMA representative, signed by project Engineering & Test Directorate (ETD) and SMA representatives and concurred by the SMA Director. See Appendix H for a template.

A directorate or office can request an ORA from the SMA Director. Requests made by other directorates or offices to have an ORA performed shall be brought to the SMA Director, who shall sanction such reviews. The specific areas of review or focus for the ORA are defined by the SMA Director in concert with the appropriate manager, who together will develop a scope, timeline and deliverables to be included in the ORA appointment letter. Possible reviews should be of operations that can affect a major portion of the Center where there is no other process in place to conduct an independent readiness review. Some examples are communications systems, monitoring systems, emergency procedures, or new/refurbished buildings with operations beyond office space. This is not an exhaustive list and the SMA Director can sanction an operation needing and independent review.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 15 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## **CHAPTER 3. OPERATIONAL READINESS ASSESSMENT MEMBERSHIP**

---

### **3.1 Operational Readiness Assessment Board**

Via delegated authority from the Center Director, the ORAB is established and provides guidance to an ORA team and advises the Center Director on the outcome and recommendations of the ORA. The ORAB shall:

- a. Specify the degree of approval authority granted to the assessment team(s) for activation and milestone events through the ORA Appointment Letter.
- b. Perform status reviews and evaluations of the assessment team activities and provide recommendations for additional activities determined necessary.
- c. Conduct a final review to evaluate and assure adequacy of the ORA effort, including appropriate documentation.
- d. Report the readiness of the facility/operation to the Center Director; provide supporting data for imposed restrictions and limitations; and recommend authority to proceed.

### **3.2 Operational Readiness Assessment Board Membership**

The ORAB full membership shall consist of the following members:

Chairperson: Center Deputy Director

Members: Director, SMA\*  
Director, Center Operations Directorate  
Director, ETD

Adjunct/Advisory Members (as directed by the ORAB Chairperson):  
Director, Rocket Propulsion Test Program Office  
General Manager, Applicable Contract(s)  
Subject Matter Expert, based upon mission/operation/test

\*Alternate Chairperson

For ORTs and IIs, the ORAB may consist of a subset of the membership listed above depending on the complexity of the ORA or the facility/operation. This subset of the ORAB will be called a mini-ORAB. The mini-ORAB shall nominally consist of the following members:

Chairperson: Director, SMA

Members: Director, Center Operations Directorate  
Director, ETD

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 16 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

Adjunct/Advisory Members (as directed by the mini-ORAB Chairperson):

Director, Rocket Propulsion Test Program Office  
General Manager, Applicable Contract(s)  
Subject Matter Expert, based upon mission/operation/test

The SMA Director may alter the membership of the mini-ORAB depending on the complexity of the subject of the ORA. Throughout the rest of this document, ORAB means ORAB or mini-ORAB as applicable unless specified.

### 3.3 Operational Readiness Assessment Team Responsibilities

The ORA team for an ORI, ORT, or II shall:

- a. Confer with the ORAB and the applicable projects/operations office to establish the assessment areas and focus of the ORA. The letter establishing the ORA team provides specific guidance for the ORA team.
- b. Attend the orientation given by the ORA Program Manager.
- c. Review and inspect the assigned equipment, facilities or operations, associated operating procedures, and readiness of personnel.
- d. Assess the risk and hazards associated with all aspects of the activity.
- e. Inspect and recommend changes or controls (as necessary) to assure operational readiness of the equipment, operations, process/procedures and/or facility. Chapter 6 of this SPR provides guidance on the type of systems, data, analyses and procedures the ORA team shall review. The ORA team's review of systems, data, analyses and procedures is not to assess the design for optimization or to perform the design efforts, assessments and/or analyses again.
- f. Keep the ORAB and the management of the organizational element informed of progress.
- g. Document discrepancies using SSC Form 649, RID (see Appendix F). RIDs are generated to identify discrepancies or disconnects in operational readiness, data or information.
- h. Present and submit ORA findings, recommendations and conclusions to the ORAB.
- i. Under the authority formally delegated by the ORAB documented in the appointment letter and the guidelines within this SPR, release or approve systems for activation and operations.
- j. For facilities, systems and/or operations in which the authority to proceed (into activation, or into test) resides at the ORAB or the Center Director level, the ORA team shall prepare a letter of recommendation for the ORAB and/or Center Director signature/approval. The letter shall be consistent with the findings, recommendations and conclusions presented to the ORAB.
- k. Prepare and submit a final summary report using the template found in Appendix I.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 17 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

1. Upload all files, records and final summary report to the facility files within DDMS for retention. See the ORA Program Manager for the specific folder.

### 3.4 Operational Readiness Assessment Team Composition

The ORA team for ORIs, ORTs, and IIs shall consist of the following personnel.

- a. The ORI team consists of a lead, a recorder, and a minimum of three (3) other members.
- b. The ORT team consists of a lead and two (2) to three (3) additional members.
- c. A representative from the SMA Directorate shall serve as a consultant to the ORI and ORT to assure a complete and thorough review.
- d. An II is nominally accomplished by a single individual; however, more than one (1) individual may be assigned. The SMA Director may assign individuals to an II on an ad hoc basis.
- e. Consultants may be added to any ORA as necessary.

### 3.5 Technical Issue Support

If the ORA team identifies a specific technical issue that is beyond the resident expertise or capabilities of SSC and is an area of increased or unknown risk, additional technical support can potentially be obtained through a Technical Review Process Team (TRPT). A TRPT is an independent technical review that supports the ORA process. The TRPT will report recommendations and conclusions to the ORA team for inclusion in final ORA reporting. TRPTs may include contractors, representatives from other NASA Centers and/or representatives from the public sector. Once the ORA team has identified a TRPT is required for the ORA, the membership can be recommended by the directors/managers who have cognizance over the projects/facilities/processes under review. The final membership and scope will be authorized by the ORAB Chair.

Alternatively, a team from the NASA Engineering and Safety Center (NESC) or the NASA Safety Center (NSC) can be requested. NESC's mission is to perform value-added independent testing, analysis and assessments of NASA's high-risk projects to ensure safety and mission success. NESC engages proactively to help NASA and avoid future problems. NSC's mission is to provide high-quality, value-added programs, services and policies that enable mission success, promote a safe workplace and influence a culture of excellence.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 18 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## **CHAPTER 4. AUTHORITY TO RELEASE SYSTEMS, OPERATIONS, & FACILITIES**

ORAs are performed on behalf of the Center Director to assess the operational readiness of an industrial/test support facility for activation, a test stand and its associated systems for activation or test in support of a test project/program. The Center Director can delegate the authority to release systems, operations and/or facilities for activation or for testing to the ORAB or down to the ORA Lead. The level of delegation is based upon the complexity, or the risk potential and mission/political significance of the facility and/or test program/project.

For ORAs outside the test complex, the ORA Appointment Letter will define the authority to release systems as well as any other panels or boards needing the ORA's recommendation.

### **4.1 Risk Potential Categories**

#### 4.1.1 Category A High Risk Potential

Category A systems/operations include systems/commodities and operations with higher risk potential due to the inherent hazards of the materials, processes and/or operations. Category A includes the following types of systems and operations (not an all-inclusive list):

- a. Propellants/Oxidizers (LH/GH, IPA, CH<sub>4</sub>, RP-1, JP-8, LOX/GOX, H<sub>2</sub>O<sub>2</sub>, etc.).
- b. Pyrophoric/hypergolic/pyrotechnic operations/systems.
- c. Ultra-high pressures systems (greater 10,000 psi).
- d. Vacuum systems with the potential to cause bodily harm or facility damage (e.g. A-3 test cell).
- e. Complex Hydraulic Systems (e.g. A-3 door and isolation valve).
- f. Category B operations/systems/commodities which present unique hazards (asphyxiation, confined spaces, etc.).

#### 4.1.2 Category B Low Risk Potential

Category B systems/operations includes systems/commodities and operations with low risk potential due to the inert commodities and non-hazardous materials; however, the systems and operations require assessment of the design, procedures, operations, etc. A Category B system/operation can be elevated to a Category A if it presents a unique operational hazard. Category B includes the following type of systems and operations (not an all-inclusive list):

- a. Systems/operations utilizing inert commodities, such as air, LN/GN, GHe, and water.
- b. Fire Protection Systems such as sprinklers, Fire Extinguishing System (FIREX)/Deluge, etc.

#### 4.1.3 Non-Hazardous Systems and Operations

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 19 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

Non-hazardous systems/operations typically support activation and test operations with Category A and B systems/operations. Non-hazardous systems and operations include the following systems (not an all-inclusive list):

- a. Video and infrared cameras.
- b. Fire and Gas Detection Systems.
- c. Purges to electrical panels and cameras.
- d. Monitoring equipment.
- e. Signal Conditioning Buildings (SCB) and their associated equipment.
- f. Alarm and warning systems, etc.

#### 4.1.4 Existing Systems/Operations

A system/operation is existing (not modified) if the operations are consistent with nominal or heritage activities and are within the existing system design/operational parameters. Changes and repairs that do not affect the form/fit/function are not considered system/operation “modifications”. The addition or removal of measurement and monitoring equipment is not considered “modification” unless it affects the operational performance (e.g. an in-line flow meter may affect performance). Existing systems with no modifications but with a new testing campaign may be reviewed by an ORA to ensure that the operations are in the range of previous successful activities.

## 4.2 Authority to Release Systems/Operations

Systems and operations can be released for preliminary test/activation commencement once the applicable RIDs for a system and/or operation have been closed or properly addressed, the ORA team has completed the associated readiness assessment and the test team is ready. For test programs, the release of systems and operations typically aligns with cold flows/shock with inert commodities on new/modified systems in support of the Activation Test Readiness Review (ATRR) milestone. These activities are generally the precursors to test facility activation with the planned propellants and oxidizers. Release authority should be summarized in the ORA Letter of Appointment. The level of authority to release systems and operations shall follow the guidance below and in Table 3.0 unless specifically directed otherwise by the ORA Letter of Appointment. The ORAB may delegate or elevate authority to release systems for activation or test throughout the ORA process with documentation in a letter or memorandum, if not notated in the ORA Letter of Appointment. Release of systems shall be accomplished for letter or memorandum, regardless of the authority, using the templates in Appendices C-D.

### 4.2.1 Use of Systems for Preliminary Activation

In most circumstances, systems are available for use for preliminary activation when the project team is ready to proceed for activities like leak checks, initial ops checks, to time/tune valves,

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 20 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

flowrates, testing igniters, cold flow/shock with inert commodities, etc. This data is routinely collected and presented at an ATRR. However, in some circumstances the ORAB may reserve the authority to release systems for the ORAB or ORA for preliminary activation activities. Typically, this is for new and high-risk facilities or operations. In these cases, the release authority will be as specified in the appointment letter.

#### 4.2.2 Release of Systems for Activation

Release to activation with commodities is accomplished just before ATRR and in support of that review. The authority to release systems is as below unless otherwise stated in the ORA Appointment Letter.

- a. Release to activation of new/modified and existing Category A propulsion test systems require ORA review and ORAB authority/approval to proceed. Release shall be by formal letter or memorandum.
- b. Release to activation of new/modified and existing Category B propulsion test systems require ORA review. Release shall be by formal letter or memorandum. The ORA Lead may release new/modified and existing Category B propulsion test systems for activation with a formal letter or memorandum after the ORA team briefs the ORAB with their recommendations.
- c. Release to activation of new/modified and existing Category A industrial or test operations facilities system require ORA review and ORAB authority/approval to proceed. Release shall be by formal letter or memorandum.
- d. Release to activation of new/modified and existing Category B industrial or test operations facilities system require ORA review and ORAB authority/approval to proceed. Release shall be by formal letter or memorandum.

All other systems are released for activation as stated in the ORA Letter of Appointment.

#### 4.2.3 Release of Systems for Test

Release to test is accomplished just before Test Readiness Review (TRR) and in support of that review. The authority to release systems is as below unless otherwise stated in the ORA Appointment Letter.

- a. Release to conduct propulsion tests using new/modified and existing Category A systems require ORA review and ORAB authority/approval to proceed. Release shall be by formal letter or memorandum.
- b. Release to conduct propulsion tests using new/modified and existing Category B systems require ORA review and ORAB authority/approval to proceed. Release shall be by formal letter or memorandum.

All other systems are released for test as stated in the ORA Letter of Appointment.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

### 4.3 Authorization to Commence Propulsion Test Project Activation and Test

A project/program/facility team is authorized to proceed to activation or test when both the ORA and technical reviews are complete, and the approvals are signed. The technical review process is governed by SOI-8080-0041. The ORA is specifically related to the ATRR and TRR. The ORA team should attend the preceding technical reviews, if possible, to gain a deeper understanding of the project.

In relation to the ATRR and TRR, the ORA team shall brief the ORAB in preparation for test stand/facility activation and test. The ORA team makes a recommendation to the ORAB on whether to proceed into activation prior to/in support of ATRR and whether to proceed into testing prior to/in support of TRR. The recommendation to the ORAB includes any recommended controls/conditions. The ORA team also provides a briefing at the ATRR and the TRR which reflects the decisions and outcomes of the briefing to the ORAB. The formal documentation needed to proceed to activation or test are as follows:

- (1) Independent assessment: Signed ORAB letter granting authority to proceed. Signature must be by the appropriate authority as outlined in this document and the ORA Appointment Letter.
- (2) Technical Review: Signed Test Readiness Certification, SSC Form 718.

### 4.4 Authorization to Commence Facility Activation

For industrial and/or test support facilities/operations, the facility/system can be released for operational use and activation once the applicable RIDs have been closed or properly addressed; the ORA team has completed their readiness assessment; and facility project team is ready. The ORA team makes recommendations to the ORAB on whether or not to activate a facility and any necessary controls/conditions. A letter granting authority to activate the facility is signed by the Center Director or the ORAB Chairman on behalf of the Center Director. The approval to activate an industrial and/or test support facility/operation is typically granted in conjunction with an FRR.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

**Table 3 Authority to Release Systems/Operations**

	Systems Release/Preliminary Activation		Activation		Test	
	<i>Purpose</i>	<i>Approval</i>	<i>Purpose</i>	<i>Approval</i>	<i>Purpose</i>	<i>Approval</i>
Propulsion Test	Leak checks, initial ops checks to time/tune valves flow rates, test igniters, cold flow/shock w/ inerts etc.  Data collected supports ATRR decision	Team can proceed unless specified otherwise in the appointment letter.	Activation with actual commodity.  Data collected supports TRR decision documented on SSC Form 718	<b>Cat A:</b> ORA Brief to ORAB; ORAB release  <b>Cat B:</b> ORA Brief to ORAB; ORA release	Full hot fire test with propellants	<b>Cat A/Cat B:</b> ORA Brief to ORAB; ORAB release
Industrial or Operational Facility/System	Leak checks, initial ops checks to time/tune valves flow rates. Data for facility Activation decision	Team can proceed unless specified otherwise in the appointment letter.	Full Activation of an Industrial or Test Operations Support Facility	<b>Cat A/Cat B:</b> ORA Brief to ORAB; ORAB release	N/A	N/A

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 23 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## **CHAPTER 5. OPERATIONAL READINESS ASSESSMENT EVENT TIMELINE**

Figure 1 is a notional timeline reference to the integration between a test project and the ORA process. A similar process would occur when activating a new industrial or test support facility at the completion of construction. The exception would be the incremental activation of major industrial operations or major systems.

### **5.1 ORA Team Appointment Letter**

When the test project has completed the design work and construction activities are nearing completion, a letter forming the ORA team is written using the template in Appendix B. The Lead, team members, and the scope of the ORA is identified in the ORA Appointment.

### **5.2 Project Informational Review**

The ORA Lead requests the needed project information and provides it to the review team members. Depending on the complexity of the project, this starts generally two (2) weeks to one (1) month prior to the facility walk-down and the formal test/project readiness review. For very large or complex projects/programs, the ORA Lead coordinates with the appropriate operating Directorate POC to schedule the facility walk-down and formal review.

### **5.3 Facility Walk-down and Formal Readiness Review**

A facility walk-down and formal readiness review (ATTR, TRR or FRR) is conducted after construction is completed but prior to potentially higher risk facility activation tests. Facility checkouts with inert gases and liquids at low pressures for existing systems/operations are generally not considered high risk, as long as the operations are consistent with nominal or heritage activities and are within the design/operational parameters of the existing system. Completion of these activities provides needed operational readiness information to the ORA team and activation activities. The facility walk-down is generally followed by a formal readiness review in which the project office, operations, safety, and the test article representatives present the configuration, current status, hazard analysis, planned activation, and planned test article testing. The walk-down and formal readiness review generally takes one (1) to two (2) days to complete. A TRPT can be formed to investigate and resolve major technical issues uncovered in ORA or in the normal design, development and/or operational processes. Technical issues may also be addressed through a formal request to NESC or NSC.

### **5.4 ORA Team Review Item Discrepancy (RID)**

Following the project informational review and the facility walk-down and all the way up to and including the ATTR/TRR, the ORA team convenes to submit and compile all RIDs. The RIDs concisely describe the problems, the risk if left uncorrected, what is needed to correct the problem (tangible proof), and the deadline for correction (prior to the applicable milestone or event). RIDs can also be used to request data, information, reports, analyses, and procedures that

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 24 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

have not been completed or have not been made available through project/program DDMS files or from project personnel. ORA team meeting minutes and memorandums can be used to track data/information used as part of the ORA. The ORA Lead oversees the RID compilation to eliminate duplication and to present the summary of the RIDs to the appropriate operating directorate and project office POCs, and to the ORAB. RIDs must be tied to an ATRR, TRR or other defined milestone and be achievable in that timeframe. The ORA should consider any possible RID that cannot be closed by TRR as a recommendation to the project that is accepted at or prior to TRR and tracked with the projects action tracking process. It is important to ensure the responsible parties have received the RIDs and are providing timely and complete responses.

### 5.5 ORA Team Management Presentation and Recommendations

The ORA Lead coordinates with ORAB and the project/program management team to present the ORA findings, recommendations, and conclusions necessary in support of releasing systems for activation and for major milestone reviews (ATRR, TRR or other major milestone). This is a formal presentation describing what was reviewed, general observations, noted high-risk areas, and the current status of the RIDs. All RIDs shall be closed by TRR. Any RIDs that are not closed by TRR must be considered a test constraint or closed and rewritten as recommendations to the project that they will reject or accept and track as an action with the project action tracking system.

### 5.6 System Activation/Operation Release Process

The ORA Lead drafts a letter or memorandum with the ORA recommendations to release systems for activation and/or the authorization letter to proceed/commence operations (test, facility activation, etc.) for ORAB Chairperson's signature/approval on behalf of the Center Director. The authorization letter for test must list any RIDs that are a constraint to the authorized operations. This letter is presented to the ORAB for their consideration after the formal presentation. RIDs are written against a specific system and require closure or resolution prior to either a ATRR or TRR. This allows work to be completed on other systems in meeting schedules while the RIDs are addressed. The ORA Lead coordinates the presentation of findings with the ORAB and the SSC management as soon as possible after the ORA team completes their informational review of the project and before the ATRR and TRR so that the ORAB will know the status before each technical review. After the presentation of findings and the authorization to proceed into testing has been granted, the ORA Lead carries out any additional ORAB provided direction and submits a final report.

The ORA Lead works closely with the appropriate Directorate POC and project office manager to disseminate notifications of system releases in a timely manner. Any RIDs that remained open after TRR as test constraints shall be closed prior to testing. Any RIDs open after testing will be closed and rewritten as recommendation to the project. The project will decline the recommendations or accept it as an action and follow the action within project action tracking

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

system. The final report shall state the resolution of each RID. All RIDs shall be closed upon writing the final report.

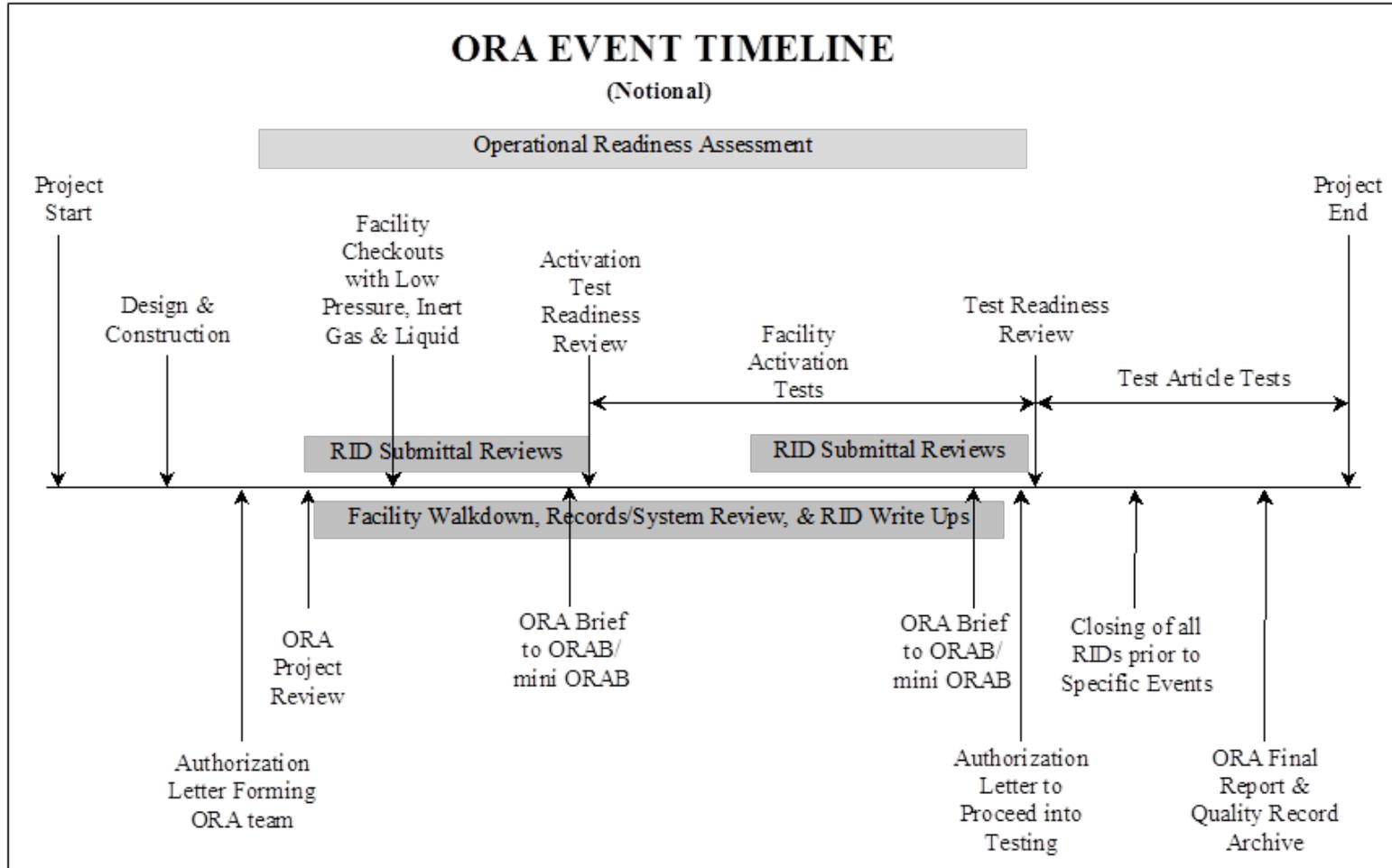
### 5.7 Review Item Discrepancy Closure

The ORA Lead oversees the review of submittals for RID closure. The RID list status shall be tracked and updated. The ORA Lead provides updates to the appropriate Directorate POC and to the project manager. The RIDs and the associated approved submittals for closure are part of the final report. Operations personnel shall provide timely submittal of RID closure information and make sure the applicable RIDs are closed prior to proceeding into the specified operation. After ORA team gives its final briefing before TRR, the remaining open items will be considered test constraints or recommendations to the project as appropriate. Recommendations will be rejected or accepted as project actions and tracked to closure by the project. After RIDs are transferred to a test constraint or project action, they are closed with the appropriate closure information and date.

### 5.8 Final Report

After an ORA is complete and the RIDs are dispositioned, the ORA Lead generates a final summary report in accordance with Section 7.2 of this SPR and the template in Appendix I. The ORA Lead ensures all ORA review information, presentations, authorization letters, RIDs, associated closure information, and a copy of the final summary report are filed in the DDMS project/program or facility files. The final report is expected to be a compilation of documents with a summary of activities per Appendix I. Two (2) months after the final ORA presentation should be sufficient time to compile the final report, gain signatures and file it with the project information in DDMS. The ORA Lead shall have a concurrence signature on the report to ensure review as outlined above. After the final report is submitted, the ORA team shall be released from their duties.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		



**Figure 1 Notional ORA Event Timeline**

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 27 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## CHAPTER 6. REVIEW AREAS

---

### 6.1 Facilities, Systems, and Tests Operations

The following lists required and recommended review areas for ORA of facilities, systems, and test operations. The ORA team should consider other areas as applicable and necessary.

- a. Project Requirements: The ORA team should review the Facility Capabilities Document (FCD), Facility Requirements Document (FRD), Interface Control Document (ICD), Project Requirements Document and/or Systems Requirements Document (SRD) to understand the project/program/test/facility requirements. The requirements documents provide pertinent information such as interfaces between the test article and the facility, operational/performance requirements, mandatory operating conditions for startup and shutdown of systems, etc. The requirements documents are used to scope the ORA.
- b. Design: The ORA team should review the following design, interface and data requirements as applicable. The purpose is to verify all the design efforts, assessments, and analyses were accomplished. It is not to assess the design for optimization or to perform the design efforts, assessments and/or analyses again. The ORA Lead shall ensure a record of reviewed data is kept.
  - (1) Material compatibility and cleanliness requirements for instrumentation, components, equipment, and piping systems.
  - (2) Equipment operating ranges and margins to include stress analysis, control functions, thermocouple ranges, pressure sensors, relief devices, and pressure vessels. This includes:
    - Verifying the equipment is properly sized/designed for the operation and the calibration is current.
    - Verifying the design addressed proper sizing of screens/filters, backflow prevention/check valves, break points for varying clean levels, etc.
    - Verifying equipment and components are properly rated for their operating environment, such as explosion proof/intrinsically safe electrical equipment in hazardous classification areas.
    - Verifying instrumentation placement and related operational impacts (laminar vs. turbulent flow, pressure drops, etc.).
    - Verifying proper relief systems (operational scenarios; sizing; supports; bleeds, by-pass & drains; high point vents/release for cryogenics, etc.).
  - (3) Data acquisition and controls configuration to highlight single-point failures and system safety interlocks.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 28 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

- (4) Approved deviation/waivers on the existing or modified systems/facilities/operations. The ORA team can request deviations/waivers from the Configuration Management Office.
- c. Regulatory Agency Requirements: The ORA team should verify the proper permits, licenses, agreements, and concurrences are filed or obtained by NASA Headquarters and the local, state, and Federal agencies, as applicable. These include such permits, licenses, and agreements as: Federal Aviation Administration (FAA) notice of construction, lighting and marking, and/or Restricted Area permit; Environmental Protection Agency (EPA) permits/licenses for emissions/releases; Nuclear Regulatory Commission (NRC)/state radioactive material permits; laser operating permits; installation compatible use zone studies, etc.
- d. Activation/Operations: The ORA team should review the following areas for activations/operations, as applicable. The ORA Lead shall ensure a record of reviewed activation/operations data is kept.
- (1) Personnel Qualifications: Verification that the team proposed to perform the work has been trained and/or has the experience to complete the project.
  - (2) Resource Staffing: Is the test crew staffing commensurate with the test operations tempo; does the test campaign allow for adequate “work-rest” cycles?
  - (3) Safety Critical Procedures: Review of the procedures used to run the operations. This can be a sampling to verify the process for the correct integration between all disciplines and the customer are complete.
  - (4) Critical System Operations: Review of the planned abort process, deluge, purges and controls systems in the event of a failure.
  - (5) Configuration Control: Process verification for configuration control of hardware and software.
  - (6) Redline/Blueline System: Review of the blueline (initiation/startup parameters) and redline (shutdown/termination parameters) integration with controls and operations to verify system reliability.
  - (7) Support Systems: If applicable, the interaction of the support systems should be reviewed. Examples of support systems are Programmable Logic Controllers (PLC); Low Speed and High-Speed Data Acquisition Systems (LSDAS/HSDAS); communications; visual/and audio warning systems; and emergency response systems (deluge, infrared cameras, fire detection, gas detection, etc.).
  - (8) Range Safety: The need for restricted airspace or other range or range safety concerns, especially with respect to hydrogen system activations or new test projects/programs. For more information see SPR 8715.7.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 29 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

- e. Safety Systems/Data/Analyses: The ORA team should review the following safety systems, data and analyses, as applicable. The ORA Lead shall ensure a record of reviewed safety data is kept.
- (1) Hazard Analyses: The ORA team should review the hazard analyses and the disposition of identified risks. The ORA team shall verify risks have been accepted or mitigated to an acceptable level. Outstanding recommendations for mitigating significant risks are conveyed to senior management.
  - (2) Hazardous Operations Procedures: For hazardous operations, the ORA team will verify hazardous operation procedures exist and are followed. Hazardous operation procedures shall identify the appropriate engineering, administrative and personal protective equipment controls. Inclusive of hazardous operations is Process Safety Management (PSM) documentation and procedures, as applicable.
  - (3) Maximum Credible Event (MCE)/Quantity Distance (QD): For systems/operations in which the potential for explosions/rapid ignition exists, the ORA team shall review the MCE/QD analyses and verify proper controls and safe distances are met.
- f. Specified System Review: The ORA team should review the following typical systems, if applicable. This does not limit the ORA Lead from considering other systems.
- (1) Propellants/Oxidizers: (LH/GH, IPA, CH<sub>4</sub>, RP-1, JP-8, LOX/GOX, H<sub>2</sub>O<sub>2</sub>, etc.):
    - (a) Special emphasis on O<sub>2</sub> and other oxidizers, material compatibility (soft goods), flow rates, clean levels, abrupt pipe turns, etc.
    - (b) Special emphasis on leak and fire detection, alarms and warning controls.
  - (2) Pneumatics: Air, GN, GH, He, etc.
  - (3) Pyrophoric/Hypergolic/Pyrotechnics systems to include Triethyl Aluminum/Triethyl Boron (TEA/TEB).
  - (4) Miscellaneous Systems: Purges, hydraulics, FIREX/Deluge, Gas/Fire Detection, Industrial Water, Electrical, Control systems, Alarms and Warning systems and Data Acquisition.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 30 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## **CHAPTER 7. REPORTING REQUIREMENTS**

---

### **7.1 Discrepancies and Recommendations**

All discrepancies and recommendations shall be recorded on an SSC Form 649, *Review Item Discrepancy*. A control number shall be assigned to each discrepancy/recommendation for disposition. Recommendations shall be deliberated with all ORA team members before forwarding to the ORAB. The ORA team should review proposed recommendations with the appropriate operational personnel to assure the recommendations are understood and the ORA team has not acted on inaccurate or incomplete information. The ORA team should convey whether the response to a recommendation or discrepancy is tied to an activation (ATRR), test (TRR) or other applicable formal milestone. The ORA team shall not issue RIDs that are not tied to one of these reviews. Other recommendations should be given to the project as actions to reject or accept and track.

### **7.2 Final Written Report**

The ORA team shall maintain records of all proceedings and prepare a final report. For ORIs, distribution includes the ORAB members and ORA team members. For ORTs and IIs, distribution includes the mini-ORAB and the applicable operating directorate. The ORA Lead shall store the final report in the project/program/facility file in DDMS.

The ORA team shall use the template in Appendix I to prepare the final report. The summary report will be prepared in two (2) parts as follows:

- a. Part I shall be an executive summary. It shall include:
  - (1) A brief summary of ORA team activities (number of meetings, presentations, etc.).
  - (2) Identification of the number of action items and status.
  - (3) A list of the significant residual risks, conclusions and recommendations.
  - (4) A signature page for the ORA team. Note: The signature of the ORI or ORT Lead signifies concurrence of the team. The ORA Lead should ensure dissenting opinions within the team are presented and resolved prior to endorsing the signature page.
- b. Part II shall include the supporting data, analyses and information. It shall include:
  - (1) A copy of the letter establishing the ORI/ORT/II.
  - (2) Minutes of meetings including at a minimum:
    - (a) attendees
    - (b) date
    - (c) agenda
    - (d) objectives/goals/intent

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 31 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

- (e) actions
- (f) decisions
- (g) dissenting opinions
- (3) Presentation charts.
- (4) Directly related correspondence.
- (5) Other information judged to be appropriate to support any future investigation or review.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 32 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## APPENDIX A. Acronyms

ATTR	Activation Test Readiness Review
CH <sub>4</sub>	Methane
DDMS	Design and Data Management System
EPA	Environmental Protection Agency
ETD	Engineering & Test Directorate
FAA	Federal Aviation Administration
FCD	Facility Capabilities Document
FIREX	Fire Extinguishing System
FRD	Facility Requirements Document
FRI	Facility Risk Indicator
FRR	Facility Readiness Review
GH	Gaseous Hydrogen
GHe	Gaseous Helium
GOX	Gaseous Oxygen
He	Helium
HSDAS	High Speed Data Acquisition System
H <sub>2</sub> O <sub>2</sub>	Hydrogen Peroxide
ICD	Interface Control Document
II	Independent Investigation
IPA	Isopropyl Alcohol
JP-8	Jet Propellant Fuel
LH	Liquid Hydrogen
LOX	Liquid Oxygen
LSDAS	Low Speed Data Acquisition System
MCE	Maximum Credible Event
NASA	National Aeronautics and Space Administration
NESC	NASA Engineering and Safety Center
NPR	NASA Procedural Requirements
NRC	Nuclear Regulatory Commission
NSC	NASA Safety Center
ORA	Operational Readiness Assessment
ORAB	Operational Readiness Assessment Board
ORI	Operational Readiness Inspection
ORIC	Operational Readiness Inspection Committee
ORT	Operational Readiness Team
O <sub>2</sub>	Oxygen
PLC	Programmable Logic Controller
POC	Point of Contact

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 33 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

PSM	Process Safety Management
QD	Quantity-Distance
RID	Review Item Discrepancy
RP-1	Rocket Propellant Fuel
SCB	Signal Conditioning Building
SCWI	SSC Common Work Instruction
SMA	Safety and Mission Assurance Directorate
SPD	SSC Policy Directive
SPR	SSC Procedural Requirements
SRD	Systems Requirement Document
SSC	(John C.) Stennis Space Center
STE	Special Test Equipment
TEA/TEB	Triethyl Aluminum/Triethyl Boron
TRPT	Technical Review Process Team
TRR	Test Readiness Review

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

**APPENDIX B. ORA Team Appointment Letter (Sample)**

DATE

TO: Distribution

FROM: Appointing Official

SUBJECT: Appointment of an (Operational Readiness Inspection (ORI)/Operational Readiness Team (ORT)/Independent Investigation (II)) for the “XYZ” (Project/Facility).

In accordance with SPR 8715.2, the following personnel are assigned to the (ORI/ORT/II) for the operational readiness assessment of the “XYZ” (Project/Facility). Supervisors shall ensure their personnel assigned to the (II, ORT, or ORI) are afforded the time and resources necessary to complete and present their assessment, findings and recommendations to the Operational Readiness Assessment Board (ORAB) in support of the (test project or facility activation) timelines and the (Activation/Test Readiness Review or facility activation).

Operational Readiness Inspection (ORI)		
<i>Lead</i>	<i>Name</i>	<i>Org</i>
<i>Member 1</i>	<i>Name</i>	<i>Org</i>
<i>Member 2</i>	<i>Name</i>	<i>Org</i>
<i>Member 3</i>	<i>Name</i>	<i>Org</i>
<i>SMA Representative</i>	<i>Name</i>	<i>Org</i>
<i>Recorder</i>	<i>Name</i>	<i>Org</i>

Operational Readiness Team (ORT)		
<i>Lead</i>	<i>Name</i>	<i>Org</i>
<i>Member 1</i>	<i>Name</i>	<i>Org</i>
<i>Member 2</i>	<i>Name</i>	<i>Org</i>
<i>SMA Representative</i>	<i>Name</i>	<i>Org</i>
<i>Recorder (optional)</i>	<i>Name</i>	<i>Org</i>

Independent Investigation (II)		
<i>Independent Investigator</i>	<i>Name</i>	<i>Org</i>
<i>Recorder (optional)</i>	<i>Name</i>	<i>Org</i>

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 35 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## APPENDIX B. ORA Team Appointment Letter (Sample) (Continued)

This assessment will cover the overall operational readiness of the “XYZ” (*Project/Facility*) facility modifications, personnel, operations and processes to perform the “XYZ” (*Project test/Facility activation*).

The (*ORI/ORT/II*) will assess the overall readiness of the facility, personnel, operations and processes to perform (i.e. *engine testing/facility activation*) for the “XYZ” (*Project/Facility*). Specific objectives are:

- a. **List the specific areas of focus for the ORI/ORT/II for example:**
- b. *Assessment of the plans, procedures and controls to safely start, control and terminate “XYZ” operations*
- c. *Assessment of training and certifications to handle and use ABC materials and propellants in support of the “XYZ” project/facility*
- d. *Ensure the material compatibility and cleanliness for the “XYZ” project commodities*
- e. *Review the hazard analysis, maximum credible event and safe operating/viewing distances for “XYZ” operations*
- f. *Review regulatory approval and permits for the “XYZ” operations and testing*

The (*ORI/ORT/II*) shall present the results of their activities to the Operational Readiness Assessment Board (ORAB), comprised of the SSC directors from the following directorates: (***list ORAB members***). The *ORI/ORT/II* is granted authority to release the (***list the specific systems, operations and/or functions where the authority to commence into activation, functional testing, operations etc., are delegated to the ORI, ORT or II***) however, the (*ORI/ORT/II*) shall provide their findings and recommendations to the ORAB for the ORAB determination on whether to commence into (***List the specific activities or operations requiring ORAB decision, such as system testing the “XYZ” engine; full activation of the “XYZ” facility***).

The (*ORI/ORT/II*) will brief and provide their recommendations to the ORAB in support of the “XYZ” (*Project/Facility*) (***list the appropriate readiness review board; i.e. Activation Test Readiness Review/Test Readiness Review (ATRR/TRR), Facility Readiness Review (FRR)***) scheduled for (*date*).

Signature

Distribution:

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

**APPENDIX C. Sample Release Letter for Systems/Operations Delegated to ORA Team**

DATE

TO: Distribution

FROM: *(Lead for the Operational Readiness Inspection, Operational Readiness Team or Independent Investigation)*

SUBJECT: Release of the (systems, operations, etc.) for the “XYZ” Test Project, Facility or Test

The *(Operational Readiness Inspection, Operational Readiness Team or Independent Investigation)* for the “XYZ” Project assessed the liquid oxygen (LOX) system (***list the data/records/information assessed, i.e. design, material compatibility and cleanliness records, operating procedures, test team training and certifications, etc.***). The following Review Item Discrepancies (RIDs) were satisfactory addressed by the “XYZ” test/project team: ***XYZ-12, XYZ-14 and XYZ-20***. No deficiencies were noted with the LOX system design, procedures, and documentation.

Based upon the above, the ORT releases the “XYZ” LOX system for (***list the functions/operations***) cold flows, functional testing and activation in support of data collection and operational performance assessments for the Test Readiness Review on the XYZ rocket engine.

Should you have any questions, please contact me at (228) 688-#### or via email at [really.m.important@nasa.gov](mailto:really.m.important@nasa.gov).

*Signature*  
Really M. Important  
XYZ (*ORI, ORT, or II*) Lead

Distribution:

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

#### APPENDIX D. Sample ORAB Approval/Release Letter for Systems/Operations

DATE

TO: Director, AA00

FROM: Chairman, Operational Readiness Assessment Board (ORAB)

SUBJECT: “XYZ” Test Project/Facility Operation and Test

The (*Operational Readiness Inspection (ORI), Operational Readiness Team (ORT), or Independent Investigation (II)*) for the “XYZ” Test Project/Facility Operation and Test has concluded its operational readiness assessment in accordance with SPR 8715.2.

The ORI/ORT/II reviewed (*briefly list the areas/data reviewed*) and assessed (*briefly list the assessments*).

Currently there are *XX* open Review Item Discrepancies (RIDs) affecting “XYZ” Test Project/Facility Operation and Test. The RIDs are as follows XYZ-RID: **001, 002, 003, 004, 005, 006, and 007**. Upon closure of all open RIDs to the satisfaction of the ORI/ORT/II and the ORAB, the “XYZ” ORI/ORT/II recommends the “XYZ” be authorized to begin (*testing, facility activation and operations, and testing*).

Respectfully,

*Signature*

Really M. Important

XYZ (*ORI, ORT, or II*) Lead

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 38 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

**APPENDIX D. Sample ORAB Approval/Release Letter for Systems/Operations – Continued**

The Operational Readiness Assessment Board (ORAB) has reviewed the findings and recommendations of the (*Operational Readiness Inspection (ORI)*, *Operational Readiness Team (ORT)*, or *Independent Investigation (II)*) for the “XYZ” Test Project/Facility/Test. The ORAB concurs with the recommendations of the ORI/ORT/II and recommends the “XYZ” be authorized to begin (*testing, or facility activation and operations*).

Approved:

*Signature*

\_\_\_\_\_  
Name  
Chairman, “XYZ” ORAB

\_\_\_\_\_  
Date

NOTE: If the authority to commence into facility activation or test is delegated to the ORA Lead, then the ORA Lead would grant authority to commence operations.

Again, the Operational Readiness Assessment is an independent assessment of the readiness of the personnel, processes/procedures, facilities and/or equipment to safely execute SSC’s mission in support of testing, operations or facility activation. The ORA approval/authority to proceed in conjunction with the technical review (activation test readiness review, test readiness review or facility readiness review) is necessary for an activity to commence.

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

**APPENDIX E. Release of the ORA Team (Sample)**

DATE

TO: Distribution

FROM: Appointing Official

SUBJECT: Release of the (Operational Readiness Inspection (ORI)/Operational Readiness Team (ORT)/Independent Investigation (II)) for the “XYZ” (Project/Facility).

The Operational Readiness Assessment Board (ORAB) has reviewed the findings and recommendations of the *(Operational Readiness Inspection (ORI), Operational Readiness Team (ORT), or Independent Investigation (II))* for the “XYZ” Test Project/Facility in support of SSC’s mission. Once the final operational readiness assessment report is completed and filed in accordance with SPR 8715.2, the members of the *(ORI/ORT/II)* are released from the assessment team and may return to their normal duties.

The ORAB sincerely appreciates the *(ORI/ORT/II)* attention to detail and diligence in assuring the readiness of our personnel, processes/procedures, facilities and/or equipment to execute SSC’s mission. Your efforts ensure the safety and preservation of SSC personnel, facilities, mission and the environment.

Signature

Distribution:

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

**APPENDIX F. Review Item Discrepancy (RID) Form**  
 (download the most recent version from [nef.nasa.gov](http://nef.nasa.gov))

 National Aeronautics and Space Administration John C. Stennis Space Center Stennis Space Center, MS 39529-6000		<b>REVIEW ITEM DISCREPANCY (RID)</b>	
RID NUMBER			
OPERATIONAL READINESS ASSESSMENT (ORA) OF:		SYSTEM:	
DISCREPANCY:			
TIME OR EVENT DEADLINE		<input type="checkbox"/> MANDATORY <input type="checkbox"/> NONMANDATORY	
JUSTIFICATION:			
RECOMMENDED BY		DATE	
ORA CHAIRPERSON			
ACTION TAKEN BY OPERATOR TO MITIGATE DISCREPANCY:			
<input type="checkbox"/> IMPLEMENTATION COMPLETE		DATE	

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

### **APPENDIX G. Operational Readiness Assessment Team Resources**

Personnel for Operational Readiness Assessment teams may be drawn from:

Engineering & Test Directorate for operations, test and projects

Center Operations Directorate

Safety and Mission Assurance Directorate

Other SSC directorates or offices

Appropriate laboratory, operating or staff elements

Independent NASA Center consultants (e.g. a Marshall Space Flight Center propulsion engineer, a hydrogen peroxide expert)

Department of the Defense agencies

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 42 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

## APPENDIX H. Letter Template for Test Projects Foregoing an ORA

*NOTE: The latest Center/NASA formatting guidelines should be used. This template should be used for content only. See the SMA Shared Drive and DDMS project folders for recent examples.*

TO: Distribution

FROM: QA20 Employee, SMA Operations Support Division, QA20

SUBJECT: Operational Readiness Assessment for Project X

Stennis Procedural Requirement (SPR) 8715.2 establishes procedures and guidelines for conducting an Operational Readiness Assessment (ORA). The primary function of an ORA is to provide an independent assessment of the readiness of the personnel, processes/procedures, facilities and/or equipment to safely execute SSC's mission in support of test or facility activations. The ORA assures due diligence is exercised in our engineering, operations, and mission assurance processes and procedures in support of SSC and NASA's mission.

For the X Project, a comparison and evaluation of the test stand/project configuration, facility/test operations and the test parameters was made with the A, B, C projects. The following similarities and comparisons where noted:

*NOTE: The list below are items to consider. They may be non-applicable to the project. There may be other concerns.*

1. Engine simulation:
2. Flow Rates:
  - Project X:
  - Project Y:
  - Project Z:
3. Detailed Operating Procedures (DOPs):
  - List here
4. Drawings:
  - List here
5. Experience/Training:
6. Change to facility design:
7. Hazard Analysis:
8. Training:
9. Oxygen Compatibility Assessment (OCA):
10. Other...

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Page 43 of 45		
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

**Recommendation:** Due to the similarities (*or other reasons that you will justify here*) a formal ORA is not needed. *Explain your viewpoint here.....*

The above assessment suffices in lieu of a formal Operational Readiness Assessment.

\_\_\_\_\_  
QA20 Employee Name, QA20

\_\_\_\_\_  
ETD Personnel, EAXX

XX Safety and Quality Engineer

XX Test Stand Director (or other appropriate person)

Safety and Mission Assurance Directorate

Engineering and Test Directorate

*NOTE: There may be additional notes from the QA20 Division Chief here:*

**Concur:**

\_\_\_\_\_  
Division Chief Name                      Date

Chief, Operations Support Division,  
QA20 Safety and Mission Assurance  
Directorate

**Approved:**

\_\_\_\_\_  
SMA Director Name, QA00              Date

Director  
Safety and Mission Assurance Directorate

Distribution: Senior leadership and other relevant parties

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

**APPENDIX I. Template for Final Reports**

ORA Final Report Cover Sheet

ORA Name:

ORA Type:

ORA Lead Signature:

I attest that the ORA was completed to the best of my ability and knowledge:

Chair/Lead Name:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

ORA Member List:

Member Name and Organization:

Member Name and Organization:

Member Name and Organization:

ORA EXECUTIVE SUMMARY

ORA Recommendation(s):

Significant Residual Risks:

Stennis Procedural Requirements	SPR 8715.2	I
	<i>Number</i>	<i>Rev.</i>
	Effective Date: November 19, 2021	
	Expiration Date: November 19, 2026	
Responsible Office: QA00/Safety and Mission Assurance Directorate		
<b>SUBJECT: Operational Readiness Program Procedural Requirements</b>		

List of RIDs Issued:

Title	Date Issued	Status

ORA Activity Summary:

Presentations:

Activity (ex: ORAB, TRR, etc)	Date

Number of Meetings:

List of Documents Reviewed:

DDMS Team Link:

ENCLOSURES:

- Appointment Letter
- Activation Letter(s)
- Minutes
- RID status emails
- Presentation Charts
- Correspondence
- Other Important Information (Specify)