

Startup Readiness

HNF-PRO-055

Revision 19

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Topic: Operations

Startup Readiness

1.0 PURPOSE

This procedure specifies the processes for attaining and verifying readiness for a new or changed [facility](#) and/or operations performing [program work](#) within the scope of the Project Hanford Management Contract (PHMC). Additionally, it establishes criteria and guidance for startup reviews, including [Operational Readiness Reviews](#) (ORR) and [Readiness Assessments](#) (RA). This procedure describes specific responsibilities for conducting readiness review activities within the PHMC. It also identifies that the responsibility for making preparations for startup and declaration of readiness resides with the facility managers for the activities being started or restarted. In addition it assigns responsibility and specifies the process for preparing the *Quarterly Startup Notification Report* (SNR) and assigns the responsibility to Fluor Hanford (FH) Director, Quality Assurance.

2.0 SCOPE

This procedure applies to all hazard category 1, 2 and 3 non-reactor nuclear facilities, as defined in [10 CFR 830.3](#), managed by the Project Hanford Management Contract (PHMC) Team.

This procedure covers the three levels of readiness reviews conducted by the PHMC Team:

- Operational Readiness Reviews (ORR), which require a Contractor-conducted ORR followed by a U.S. Department Of Energy (DOE)-conducted ORR.
- [DOE RAs](#).
- [FH RAs](#).

This procedure outlines the readiness preparation process, planning requirements, establishing the depth and breadth of the reviews, approval requirements, basic requirements for conduct of the reviews, responding to readiness review [findings](#), and overall documentation requirements.

3.0 IMPLEMENTATION

This procedure is effective upon publication, with the exception of Activities having a Plan of Action (POA) approved under Revision 18 or earlier, which will continue to follow the revision the POA was approved under.

4.0 REQUIREMENTS

This procedure implements the requirements of DOE O 425.1C, *Startup and Restart of Nuclear Facilities*, Supplemented Contractor Requirements Document (SCRD), Revision 1.

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This section identifies the requirements. Navigation links are provided.

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NOTE: For the tables in this section under the requirement “type” column, “V” means verbatim, and “I” means interpreted.

4.1 Review Level and Authorization Authority Determination

NOTE 1: [Appendix A](#), ORR and RA Requirements Table identifies specific situations requiring specific reviews.

NOTE 2: Where DOE O 425.1C CRD is referenced, the source document is DOE O 425.1C SCRD (Rev.1).

#	Requirement	Type V or I-	SOURCE
1.	Contractor management must determine if Operational Readiness Reviews are required for startup or restart of nuclear facilities...	V	DOE O 425.1C, CRD, Section 2.a(1), Sentence 1
2.	For restarts of nuclear facilities not requiring an Operational Readiness Review, contractor management must evaluate the need for performing a Readiness Assessment prior to restart.	V	DOE O 425.1C, CRD, Section 2.a(2), Sentence 1

NOTE: Before each use, check PHMS Docs Online to ensure this copy is current.

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3.	Operational Readiness Reviews are not required for startup or restart of category 2 or 3 nuclear facilities when placing them in a surveillance and maintenance mode (DOE G 430.1-2)	I	DOE O 425.1C SCRD (Rev.1) Section B, Item 2)
4.	Contractors must conduct an Operational Readiness Review when the conditions for an Operational Readiness Review occur as described in the <i>ORR and RA Requirements Table</i> , Appendix A .	I	DOE O 425.1C, CRD, Section 2.a(1), Sentence 2
5.	To determine the level of review, each facility disposition activity [such as transition (DOE G 430.1-5), deactivation (DOE G 430.1-3), and decommissioning (DOE G 430.1-4)] must be evaluated in accordance with CRD O 425.1C, Section 2.1.(1)(d).	I	DOE O 425.1C, SCRD (Rev.1) Section B, Item 1)
6.	When a Readiness Assessment is required, the contractor must use procedures developed by the operations offices to gain operations office approval of the startup or restart of nuclear facilities.	V	DOE O 425.1C, CRD, Section 2.a(2), Sentence 3
7.	If a Readiness Assessment is not to be performed, the contractor's standard operating procedures for startup or restart will be used.	V	DOE O 425.1C, CRD, Section 2.a(2), Sentence 4
8.	For nuclear facility startup or restart actions, the contractor must determine the authorization authority for startup or restart approval per the <i>ORR and RA Requirements Table</i> , Appendix A .	I	DOE O 425.1C, CRD, Section 2.a(3)
9.	An IVR may be used to reduce the necessary depth of a readiness review individual core requirement, but it is not to be used to reduce the level of review required by SCR D 425.1C, Rev.1.	I	DOE-RL letter 05-SED-0117 dated June 10, 2005, 4 th sentence.

4.2 Startup Notification Reports

1.	Submit the SNR using Site Form, <i>Quarterly Startup Notification Form</i> , A-6002-852 .	I	DOE O 425.1C, SCRD (Rev.1), Section C, Item 4)
2.	Minimum information to be included in the SNR for each startup or restart shall include: (1) the facility Hazard Category; (2) the projected dates for the contractor and DOE reviews; (3) a brief description of the facility or program work; (4) the reason for non-operation (e.g., maintenance or modification outage, no program work, new facility, shutdown for safety concerns, etc.); (5) the approximate date operations were last conducted (for restarts) and the projected date for startup; (6) the proposed type of readiness review and the basis or	I	DOE O 425.1C, CRD Section 2.a(4)(a) and DOE O 425.1C SCRD, (Rev.1) Section C, Item 3)

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	justification for the type; and (7) the proposed authorization authority. Use Site Forms <i>Startup Notification Technical Description</i> , A-6002-574 and <i>Level of Review Score Sheet</i> , A-6002-573 .		
3.	Submit the Startup Notification Report Quarterly to RL for review and approval.	V	DOE O 425.1C, SCRD, (Rev.1) Section C, Item 2)
4.	Every startup or restart of a nuclear operation other than routine resumption of operations after a short, planned interruption should be included in the SNR.	V	DOE O 425.1C, CRD, Section 2.a(4)(c), Sentence 1
5.	The SNR must project ahead at least 1 year and shall include projected dates for all activities within the 1 year window. When scheduled SNR activities are moved beyond the 1 year window they shall be retained in the SNR with an explanatory note in the Contractor Review Start Date field.	V	DOE O 425.1C, SCRD, (Rev.1) Section C, Item 5)

4.3 Requirements Applicable to Facility/Activity Readiness

1. Readiness

1.	The Manager of Operations Assurance, with the concurrence of the responsible Project Vice President/Senior Director, shall assign a Startup Mentor to assist facility management to prepare for startup for activities requiring an Operational Readiness Review or DOE RA.	I	FH Letter FH-0303195A R1
2.	Contractor readiness review action to start or restart operations should not commence until the DOE authorization authority has approved the proposed readiness review process.	V	DOE O 425.1C, CRD, Section 2.a(4) (c), Sentence 1

2. Certification and Verification

1.	Prior to starting the independent Readiness Review (Operational Readiness Review or Readiness Assessment), line management must certify all prerequisites specified in the Plan of Action have been met. A manageable list of open items may exist at the time the readiness review starts. (Declaration of Readiness)	I	DOE O 425.1C, CRD, Section 2.b(7)
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4.4 Requirements Applicable to Startups or Restarts of Nuclear Facilities Involving ORR

1. ORR Documentation

a.	For Operational Readiness Reviews, contractors must prepare the following documents: startup/restart notification reports , plans of action , Operational Readiness Review Implementation Plans , and final reports .	V	DOE O 425.1C, CRD, Section 2.b(1), Sentence 1
b.	The contractor's line management must prepare the plan of action.	V	DOE O 425.1C, CRD, Section 2.b(1), Sentence 2
c.	The contractor must develop the breadth of the Operational Readiness Review and document it in the plan of action.	V	DOE O 425.1C, CRD, Section 2.b(2), Sentence 1
d.	The Plan of Action shall address the minimum set of core requirements as defined in DOE O 425.1C CRD, Section 2.d or reference a timely, independent review that addressed the requirement in a technically satisfactory manner to justify not performing further evaluation of a core requirement, or portion thereof, during the Operational Readiness Review. NOTE: <i>Core Requirements are located in Appendix E.</i>	I	DOE O 425.1C, CRD, Section 2.b(2) and 2.d
e.	The contractor's Operational Readiness Review plan of action must be approved by the appropriate authorization authority.	V	DOE O 425.1C, CRD, Section 2.b(3), Sentence 1
f.	The contractor's Plan of Action must specify the prerequisites for starting the responsible contractor's Operational Readiness Review; the prerequisites must address each core requirement determined to be applicable when the scope of the Operational Readiness Review was developed.	I	DOE O 425.1C, CRD, Section 2.b(3)
g.	...and the Operational Readiness Review team leader must prepare the implementation plan and final report .	V	DOE O 425.1C, CRD, Section 2.b(1), Sentence 2

2. ORR Teams

a.	Contractor management must appoint Operational Readiness Review teams in accordance with the following qualifications and training requirements: <ol style="list-style-type: none"> 1. Technical knowledge of the area assigned for evaluation, including experience working in the technical area; 2. Knowledge of performance-based assessment processes and methods; and 3. Knowledge of facility-specific information. 	V	DOE O 425.1C, CRD, Section 2.b(4)(a)
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b.	The Operational Readiness Review team must not include as senior members (including team leader) individuals from offices assigned direct line management responsibility for the work being reviewed; any exceptions require approval of the Authorization Authority.	V	DOE O 425.1C, CRD, Section 2.b(4)(b), Sentence 1
c.	Additionally, no Operational Readiness Review team member should review work for which he or she is directly responsible.	V	DOE O 425.1C, CRD, Section 2.b(4)(b), Sentence 2
d.	The Operational Readiness Review team leader must determine and document qualifications of Operational Readiness Review team members.	V	DOE O 425.1C, CRD, Section 2.b(4)(c)
e.	The contractor's Operational Readiness Review team must determine the criteria and review approaches to be used for the review based on the approved breadth given in the plan of action and document the criteria and review approaches in the Operational Readiness Review Implementation Plan.	V	DOE O 425.1C, CRD, Section 2.b(5), Sentence 1
f.	The contractor's Operational Readiness Review team leader must approve the implementation plan and use it to conduct the Operational Readiness Review.	V	DOE O 425.1C, CRD, Section 2.b(6), Sentence 1

3. Final Report

a.	The final report must document the results of the Operational Readiness Review and make a conclusion as to whether startup or restart of the nuclear facility can proceed safely. Each Operational Readiness Review final report must state whether the facility has established the following:	V	DOE O 425.1C, CRD, Section 2.b(9)(a), Sentence 2 and 3
	<ul style="list-style-type: none"> An agreed-upon set of requirements to govern safe operations of the facility; 	V	DOE O 425.1C, CRD, Section 2.b(9)(a), Sentence 3, Item 1
	<ul style="list-style-type: none"> That this set of requirements has been formalized with DOE through the contract or other enforceable mechanism; 	V	DOE O 425.1C, CRD, Section 2.b(9)(a), Sentence 3, Item 2
	<ul style="list-style-type: none"> That these requirements have been appropriately implemented in the facility, or appropriate compensatory measures, formally approved, are in place during the period prior to full implementation; and 	V	DOE O 425.1C, CRD, Section 2.b(9)(a), Sentence 3, Item 3
	<ul style="list-style-type: none"> That, in the opinion of the Operational Readiness Review team, adequate protection of the public health and safety, worker safety, and the environment has been maintained. This conclusion must be based on: 	V	DOE O 425.1C, CRD, Section 2.b(9)(a), Sentence 3, Item 4

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	<ol style="list-style-type: none"> 1. review of the program to document conformance with the agreed-upon set of requirements, including a process to address new requirements, and 2. extensive use of references to the established requirements in the Operational Readiness Review documentation. 		
b.	Additionally, there must be a “lessons learned” section of the final report that may relate to design, construction, operation, and decommissioning of similar facilities and to future Operational Readiness Review efforts.	V	DOE O 425.1C, CRD, Section 2.b(9)(b)
c.	The final report should include a statement regarding the team leader’s assessment of the adequacy of the implementation of those functions and principles, already addressed by the Operational Readiness Review, at the facility undergoing the review. (ISMS)	V	DOE O 425.1C, CRD, Section 2.b(9)(c), Sentence 2
d.	The final report must be submitted to the authorization authority to be used as a basis to grant approval of the startup or restart of the nuclear facility.	V	DOE O 425.1C, CRD, Section 2.b(10), Sentence 1

4. Readiness to Proceed Memorandum

a.	The responsible contractor must certify by correspondence to DOE line management that the facility is ready to start or restart and that this has been verified by the contractor Operational Readiness Review. (Readiness to Proceed Memorandum)	V	DOE O 425.1C, CRD, Section 2.b(8), Sentence 1
b.	The contractor must satisfactorily resolve all prestart findings of the DOE Operational Readiness Review prior to startup or restart of the facility.	V	DOE O 425.1C, CRD, Section 2.b(12), Sentence 1

4.5 Requirements Applicable to Startups or Restarts of Nuclear Facilities Involving RA

1.	The contractor must establish procedures that specify when a Readiness Assessment is required and that provide requirements for conduct of readiness assessments including procedures by which contractor will gain operations office approval of the startup or restart of nuclear facilities.	V	DOE O 425.1C, CRD, Section 2.c(1), Sentence 1
2.	For startups or restarts involving a RA, contractors must prepare the following documents: <ul style="list-style-type: none"> • Startup Notification Reports, and • Plan of Action. 	I	DOE O 425.1C, CRD, Section 2.c(1) Sentence 2.a

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3.	The Plan of Action shall include, as a minimum: <ul style="list-style-type: none"> • The breadth of the assessment, • Team leader designation, and • Prerequisites for the assessment. 	I	DOE O 425.1C, CRD, Section 2.c(1) Sentence 2.b
4.	The startup notification report and plan of action must be approved by the authorization authority.	V	DOE O 425.1C, CRD, Section 2.c(1), Sentence 2.c
5.	Contractor Readiness Assessment procedures must specify a graded approach to the tenets of operational readiness requirements specified in the CRD.	V	DOE O 425.1C, CRD, Section 2.c(2), Sentence 1
6.	The procedures should indicate that the readiness assessment may be as short and simple as a restart check procedure, or that it may approach the breadth and depth of an operational readiness review, depending on the causes and duration of the shutdown and the modifications accomplished during the shutdown.	V	DOE O 425.1C, CRD, Section 2.c(2), Sentence 2
7.	Readiness assessment team members require technical and assessment qualifications.	I	DOE-STD-3006-2000, Section 5.10.1(7)
8.	No readiness assessment team member shall review work for which he or she is directly responsible.	I	DOE-STD-3006-2000, Section 5.10.1(7)
9.	The contractor shall request approval for startup or restart from the Authorization Authority after pre-start findings are corrected.	I	DOE O 425.1C, CRD, Section 2.c(3)

4.6 Facility Response to ORR/RA Findings

1.	The mechanism for closure of DOE Operational Readiness Review findings must include the following: <p>(a) Development of action plans approved by DOE, to correct the findings. Action plans must provide evaluation of any overall programmatic deficiencies and root causes.</p>	V	DOE O 425.1C, CRD, Section 2.b(11), Sentence 1 and Section 2.b(11)(a)
2.	(b) Documentation of completion of response actions responding to the findings in a closure package. Closure packages must include a brief description of actual corrective actions taken and reasons for concluding that closure has been achieved.	V	DOE O 425.1C, CRD, Section 2.b(11)(b)
3.	The resolution of all findings from the Operational Readiness Review must be documented and maintained with the plan of action, implementation plan, and final report.	V	DOE O 425.1C, CRD, Section 2.b(1), Sentence 3

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4.7 Failure to Demonstrate Readiness during a Review

1.	Develop a process and procedure for action to be taken when either the contractor ORR team or the DOE ORR team determine that readiness was not achieved and terminates their respective reviews.	V	DOE O 425.1C, SCRD, Section C, Item 6), Sentence 1
2.	If the DOE ORR team terminates the review another contractor ORR shall be required as part of the recovery path forward actions prior to resumption of the DOE ORR.	V	DOE O 425.1C, SCRD, Section C, Item 6), Sentence 2

4.8 Exemptions and Records Retention

1.	Requirements for exemptions are provided in DOE O 251.1A , <i>Directives System</i> .	V	DOE O 425.1C, CRD, Section 2.e
2.	Requirements for maintenance and disposition of Federal records, such as those pertaining to Operational Readiness Reviews or Readiness Assessments, are provided under the general guidance of DOE O 200.1, <i>Information Management Program</i> , dated 9-30-96. The disposition, including destruction, of records pertaining to Operational Readiness Reviews or RAs must be in accordance with (1) the General Records Schedules, as published by the National Archives and Records Administration (NARA), or (2) DOE records disposition schedules (Standard Form 115) as approved by NARA. ORR/RA records are managed in accordance with HNF-RD-210 and HNF-PRO-10588. Fluor Hanford letters are managed in accordance with HNF-RD-7753 and HNF-GD-8515.	I	DOE O 425.1C, CRD, Section 2.f

5.0 PROCESS

This section addresses the following processes. Navigation links are provided.

[Section 5.1](#).....Startup Review Determination

[Section 5.2](#).....Readiness Preparation

[Section 5.3](#).....Declaration of Readiness to Start Review

[Section 5.4](#).....Startup Reviews

[Section 5.5](#).....Responding to Readiness Review Findings and Observations

[Section 5.6](#).....Review Termination

[Section 5.7](#).....Readiness to Proceed

[Section 5.8](#).....Lessons Learned

[Section 5.9](#).....Exemptions

[Section 5.10](#).....Record Retention

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5.1 Startup Review Determination

In evaluating the need and scope for readiness reviews, the facility should consider the benefits of applying a [continuous readiness model](#) in selecting the number and timing of readiness reviews. The continuous readiness approach breaks the work scope into smaller, more manageable segments very early in the project's planning process. This approach results in a series of readiness reviews that evaluate progress in an incremental fashion that reduces overall risk and provides earlier feedback from insights and operational expertise gained during the early reviews. This should greatly reduce the uncertainties associated with the later, higher risk, and more complex activities. This concept is further discussed in [HNF-GD-11615](#), *Startup Readiness Guidance*.

NOTE 1: *Terms specific to this document are defined in [Appendix D](#).*

NOTE 2: *Records generated as a part of the startup review determination process will be retained as described in [Section 5.10](#).*

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Facility Management	1.	Determine the Hazard Category of the activity being started or restarted using HNF-PRO-8366 , <i>Facility Hazard Categorization</i> . <ol style="list-style-type: none"> a. For those activities evaluated as Hazard Category 3 or greater, go to Step 5.1.2. <p style="text-align: center;">Or</p> <ol style="list-style-type: none"> b. For those activities evaluated as less than Hazard Category 3, proceed to Step 5.1.4.
	2.	Screen each activity (including Deactivation, Decommissioning, or Transition activities, see Note 1) to evaluate the need to perform a readiness review and the recommended level of review for the startup or restart of facilities when the activity meets any of the below criteria: <ul style="list-style-type: none"> • Activity requires a new or revised documented safety analysis (DSA) that resulted in a major or moderate DSA change, as defined by HNF-PRO-8317 (Note 2). • Activity requires a new or revised Health and Safety Plan (HASP) (Note 2). • Activity requires a new or revised Criticality Safety Evaluation Report (CSER) (Note 2). • Activity requires any mitigating actions or controls to resolve an

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
		<p>Unreviewed Safety Question (USQ) unless a Justification for Continued Operation (JCO) authorizes return to operations (Note 2 and Note 3).</p> <ul style="list-style-type: none">• Activity requires written approval or concurrence, or a permit from a regulatory agency (Note 4).• Activity adds or modifies safety class or safety significant structures, systems and components (Note 5).• When directed by DOE O 425.1C, <i>Startup and Restart of Nuclear Facilities</i>, SCRD, Revision 1, FH Office of the President, or the responsible Project Vice President or Senior Director. <p>NOTE 1: <i>Deactivation, Decommissioning, or Transition activities as defined in DOE G 430.1-3 through DOE G 430.1-5 respectively.</i></p> <p>NOTE 2: <i>This criterion applies when the change(s) result(s) in new or revised controls, operational requirements, or other positive actions required to be put in place prior to resuming operation.</i></p> <p>NOTE 3: <i>When a review is required due to the USQ process, the USQ documentation (e.g., technical review) can be submitted in lieu of the Startup Notification Technical Description, providing the USQ documentation contains the required information.</i></p> <p>NOTE 4: <i>This criterion applies when changes to permits or written approval or concurrence, other than Notice of Construction (NOC) are required.</i></p> <p>NOTE 5: <i>This criterion does not apply to the complete deactivation or complete removal of safety class or safety significant structures, systems or components.</i></p>

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
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3. a. Quarterly, starting one year prior to an activity start or restart:
- Add activities (see [Step 5.1.2](#)) to the SNR (Site Form [A-6002-852](#))
 - By the first day of the last month in the quarter, electronically, forward the SNR to the FH Startup Readiness Program Manager.

NOTE: *The SNR should include every nuclear activity startup or restart other than routine resumption of operations after a short, planned interruption.*

Or

- b. If less than a one-year determination, notify the FH Startup Readiness Program Manager and the Department of Energy – Richland Operations (RL) program manager of the need to submit an update to the quarterly SNR and electronically, forward the updated SNR to the FH Startup Readiness Program Manager.

NOTE: *For activities when no formal review is required, interim SNR updates will not be submitted.*

And

- c. Complete a *Startup Notification Technical Description* (Site Form [A-6002-574](#)) and *Level of Review Score Sheet* (Site Form [A-6002-573](#)) if the activity meets any criterion listed in [Step 5.1.2](#), and proceed to [Step 5.1.4](#).

NOTE 1: *The recommended level of review should be commensurate with the evaluated risk and conducted at the lowest practical level.*

NOTE 2: *The [implementation validation review](#) (IVR) process of [HNF-PRO-8317](#), “Safety Basis Implementation and Maintenance,” may not be used to reduce the level of review of activities determined to be subject to a Readiness Assessment or Operational Readiness Review.*

NOTE 3: *It is recommended to interface with the DOE-RL program manager for the activity when completing these forms.*

Or

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
		d. Justify the negative responses to each criterion if none of the criteria of Step 5.1.2 are met.
	4.	Submit the QSNR and the <i>Startup Notification Technical Description</i> and <i>Level of Review Score Sheet</i> , or the justification for negative responses, and the final hazard categorization, as applicable, to the responsible Project Vice-President/Senior Director for concurrence.
Responsible Project Vice President/Senior Director	5.	<p>a. Concur with the QSNR, the <i>Startup Notification Technical Description</i> and <i>Level of Review Score Sheet</i>, justification for negative responses, and the final hazard categorization, as applicable.</p> <p>b. Forward the QSNR and the <i>Startup Notification Technical Description</i> and <i>Level of Review Score Sheet</i> to the Director, Quality Assurance for concurrence.</p> <p>And</p> <p>c. Return the justification for negative responses/and or the final hazard categorization to the Facility Manager for retention.</p>
Facility Manager	6.	<p>a. Retain the justifications for negative responses and/or final hazard categorization for Hazard Category 3 or greater activities and proceed to Step 5.2.1.a. See section 7.0. (Activity Hazard Categorization and Justifications for Negative Responses are records.)</p> <p>Or</p> <p>b. Retain the final hazard categorization for activities that are less than Hazard Category 3 and exit this procedure. See section 7.0. (Activity Hazard Categorization is a record.)</p>
Director, Quality Assurance	7.	<p>a. Compile the QSNR inputs from the projects.</p> <p>b. Concur with the <i>Startup Notification Technical Description</i> and <i>Level of Review Score Sheet</i> and return to responsible Project Vice President/Senior Director.</p>

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
		c. If Level of Review Score Sheet score is 20 or greater add activity to Quarterly SNR for RL approval.
		<i>Or</i>
		d. If Level of Review Score Sheet score is 19 or less, add activity to Quarterly SNR enclosure documenting no formal review required.
		<i>And</i>
		e. For justifications for negative response, add activity to Quarterly SNR enclosure documenting no formal review required.
FH Office of the President	8.	Concur with the Technical Description if the recommended level of review is less than that indicated by the <i>Level of Review Score Sheet</i> .
	9.	Submit the SNR to RL for approval. See HNF-RD-7753 .

NOTE: *SNR is a record.*

5.2 Readiness Preparation

NOTE 1: *Readiness review actions to start or restart operations should not commence until the DOE authorization authority has approved the proposed readiness review process.*

NOTE 2: [HNF-GD-11615](#) contains guidance to assist facility management to prepare their facility (facility, activity, process) for startup.

NOTE 3: *Readiness preparation takes a great deal of time and resources. These preparations should be started early in the construction phase of the project to have sufficient time for procedure development and validation, training, and multiple dry-runs.*

NOTE 4: *Time frames are recommended and not required.*

NOTE 5: *Lessons Learned are generated by the team leader and placed in the final report. These and other lessons from across the complex are placed on the Startup Readiness web page under "Lessons Learned," and should be reviewed during readiness preparations.*

NOTE 6: *The Vice President, Regulatory Compliance will have an independent review of RSA packages conducted to provide the necessary information to give concurrence. This process could take a day or two and should be included in the readiness preparation schedule.*

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Facility Management	1.	<p>a. If a readiness review is not required:</p> <ul style="list-style-type: none"> • Use the facility’s startup/restart procedures <p><i>Or</i></p> <ul style="list-style-type: none"> • Perform a Management Assessment using a checklist specific to the activity and document per HNF-PRO-246, <i>Management Assessment</i>, then exit this procedure. (Management Assessment report is a record.) <p><i>Or</i></p> <p>b. If a readiness review is required, go to Step 5.2.2.</p>
Manager, Operations Assurance	2.	<p>a. Approximately twelve months before readiness declaration for an activity requiring an ORR or DOE RA, assign a Startup Mentor with the following qualifications:</p> <ul style="list-style-type: none"> • Technical knowledge of the activity assigned for evaluation, including experience working in the technical area; • Knowledge of performance-based assessment processes and methods; and • Knowledge of facility-specific information. <p><i>Or</i></p> <p>b. For Contractor RA, evaluate and determine if a Mentor, meeting the above qualifications, is required based on the Activity Complexity (see Note 2),</p>
Project VP and Regulatory Compliance VP		<p>NOTE 1: <i>Additional guidance for Mentors is documented in HNF-GD-11615, applies to 5.2.2.a and 5.2.2.b.</i></p> <p>NOTE 2: <i>The Activity Complexity is addressed in the Technical Description and is based upon the definition as stated in DOE-STD-1027-92.</i></p>
Facility Manager	3.	<p>a. Approximately six months before readiness declaration for an ORR or DOE RA, develop the POA that contains the following:</p> <ul style="list-style-type: none"> • <u>Name and description of the Facility/Activity Being Started.</u> • <u>Identification of the Responsible Contractor.</u>

Startup Readiness

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
		<ul style="list-style-type: none">• <u>Designation as a New Start or Restart and discussion.</u>• <u>Proposed Breadth for the Review</u> (Address the minimum set of Core Requirements, as defined in DOE O 425.1C CRD, Section 2.d, or justify not performing the core requirement).• <u>Prerequisites</u> (prerequisites must address each applicable core requirement).• <u>Estimated Review Start Date and Duration.</u>• <u>Proposed Team Leader.</u>• <u>Official to Approve Start of the Review.</u>• <u>Official to Approve Startup/Restart of the Facility.</u>• <u>Reviewers' Approval.</u>• <u>Distribution.</u>

NOTE: [HNF-GD-11615](#) contains guidance on the development of a Plan of Action.

b. Forward the POA to the Authorization Authority for approval. (The approved POA is a record.)

Or

c. For a FH RA, approximately six months before readiness declaration, develop the POA that contains the following:

- Name and description of the Facility/Activity Being Started.
- Proposed Breadth for the Review (Address the applicable Core Requirements).
- Prerequisites (prerequisites must address each applicable Core Requirement).
- Estimated Review Start Date and Duration.
- Proposed Team Leader.

Startup Readiness

Actionee	Step	Action
		<p>NOTE 1: Facility management should interface with the DOE-RL program manager to ensure the DOE POA has scope and breadth consistent with the contractor's POA.</p> <p>NOTE 2: The depth of the review is established using a graded approach based on the following:</p> <ul style="list-style-type: none">a. The relative importance to safety, safeguards, and security;b. The magnitude of any hazard involved;c. The life cycle stage of a facility;d. The programmatic mission of a facility;e. The particular characteristics of a facility;f. The cause and circumstances of the facility shutdown; andg. Other relevant factors. <p>NOTE 3: The performance of an IVR may be taken into consideration for reducing the depth of review of specific Core Requirements or possibly eliminating the Core Requirement entirely, if the IVR was performed at the same level of an ORR or RA.</p> <p>NOTE 4: For a FH RA, the contents of the POA may also include the contents of the IP. Step 5.4.4.d. provides example(s) of this application.</p> <p>NOTE 5: The Core Requirements of DOE O 425.1C are documented in Appendix E.</p> <p>d. Forward the POA to the Authorization Authority for approval. (The approved POA is a record.)</p> <p>4. Perform a High Level Review of the activity. Conduct this review with the same level of rigor and participation as the Enhanced ALARA Committee for High Risk activities.</p> <p>NOTE: If an Enhanced ALARA Committee review was performed, an additional review is not required.</p> <p>5. a. Approximately six months before declaration of readiness, develop an Activity Readiness Plan (ARP).</p> <p>NOTE 1: The Activity Readiness Plan is required for ORRs or DOE RAs and is highly recommended for FH RAs. If the ARP will not be used, justification and the plan to get ready are required to be presented to the Project VP/Senior Director.</p>

Startup Readiness

Actionee	Step	Action
		<p>NOTE 2: HNF-GD-11615 contains guidance on the development of an Activity Readiness Plan. The generic set of RSA documents is located at the following hyperlink: Generic Set of Readiness Self-Assessment documents.</p> <p>b. Forward the ARP to the responsible Project Vice President/Senior Director.</p> <p><i>Or</i></p> <p>c. Forward the justification for not using the ARP and the plan to get ready to the Project Vice President/Senior Director</p>
Responsible Project Vice President/Senior Director	6.	<p>a. For activities with FH as the Authorization Authority, concur with the POA and forward to the FH Authorization Authority.</p> <p><i>And</i></p> <p>b. Concur with the ARP or the justification for not using the ARP and the plan to get ready. Go to Step 5.2.7. (The ARP or the Justification for not using the ARP and the plan to get ready are records.)</p> <p><i>Or</i></p> <p>c. For activities with DOE RA or ORR, concur with the POA and forward to DOE-RL for approval by the Authorization Authority.</p> <p><i>And</i></p> <p>d. Concur with the ARP. Go to Step 5.2.8. (The ARP is a record.)</p>
FH Authorization Authority	7.	<p>Approve the POA. (The approved POA is a record.)</p>
Facility Manager	8.	<p>Prepare the activity (facility, activity, process) for safe operations.</p> <p>NOTE: HNF-GD-11615 provides guidance for preparing the activity.</p> <p>a. If an ARP is required, (see Step 5.2.5.a. NOTE 1) go to Step 5.2.9.</p> <p><i>Or</i></p> <p>b. If an ARP is not required, go to Step 5.3.1.a.</p>

Startup Readiness

Actionee	Step	Action
Responsible Manager	9.	Complete the Management Assessment tutorial identified in HNF-PRO-246 , prior to commencement of the Management Self-Assessment (MSA) . The Management Assessment tutorial only needs to be completed once.
		<p>NOTE 1: <i>Qualifications for completing the Readiness Self-Assessment (RSA) forms include being a responsible manager, knowledgeable of the subject matter being assessed, and trained to the requirements of HNF-PRO-246. Additional guidance for training is included in HNF-GD-11615.</i></p> <p>NOTE 2: <i>The process for completing the ARP is performing a MSA using the RSA documents for criteria. The generic set of RSA documents is located at the following hyperlink: Generic Set of Readiness Self-Assessment documents.</i></p>
	10.	Complete a MSA using the RSA forms to confirm readiness. This includes verifying the POA prerequisites have been met. (The MSA, which includes the completed RSA packages, is a record.)
		<p>NOTE 1: <i>Assessments conducted by independent sources (e.g., contractors, central organizations, etc.) are not considered Management Self-Assessment and should not be used as such.</i></p> <p>NOTE 2: <i>When the MSA has been completed (via the Activity Readiness Plan with the Facility Manager's Checklist, RSA and the Facility Manager's declaration of readiness), credit for functional area Management Assessments can be documented within the Management Assessment program.</i></p>
	11.	a. Determine if items identified during the MSA (documented on the RSA forms) are pre-start or a post-start, using Appendix C and are deficiencies requiring processing in accordance with HNF-PRO-052 .
		<p>NOTE: <i>The examples are provided as supplemental information. Refer to HNF-PRO-052 for specific requirements.</i></p>
		b. Process noncompliances, issues with programmatic implications (e.g., issues that may have an affect in other areas), and program deficiencies through the established corrective action mechanism (e.g., Nonconformance Report [NCR], Radiological Problem Report [RPR], Facility Modification Package [FMP], Issue Identification Form, etc.) in accordance with HNF-PRO-052 .

Startup Readiness

Actionee	Step	Action
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Examples:

1. During the completion of the RSA forms, it is determined an incorrect pipe (e.g., wrong size or wrong material) was installed. This is a deficient condition; a NCR should be generated per and processed through [HNF-PRO-298](#) based on the NCR requirements.
2. During the completion of the RSA forms, it was discovered that an approved procedure contains steps that are contrary to a requirement (i.e., authorized safety basis, DOE order, contract, required code, etc.) The noncompliance should be documented and processed through [HNF-PRO-052](#).
- c. Track non-deficient issues identified during the MSA, documented on the RSA forms (e.g., punch list, tickle file, etc.) until closed.

For example, following installation of a piping system (e.g., during operational testing) Operators recommend moving a section of piping for ease of operations. This is not a deficient condition and does not get evaluated through the CAM process.

NOTE: *Open pre-start items, at the time of declaration (see Section 5.3) make up the Manageable List of Open Items.*

Responsible
Project Vice
President/
Senior
Director

12. For ORRs and DOE RAs, verify adequacy of selected RSA packages by conducting a [RSA Review Board](#). (See [Appendix F, Section 3.1](#)).

NOTE: *The Senior Board Member selects the RSA packages to be reviewed. As a minimum, RSA packages from each of the Responsible Managers will be reviewed.*

Facility
Manager

13. Once the Activity Readiness Plan is complete, retain per facility procedures, per HNF-PRO-10588. (The completed ARP is a record.)

Startup Readiness

5.3 Declaration of Readiness to Start Review

NOTE: *The Facility Manager should be able to answer yes to the following questions prior to declaring readiness:*

- a. *Is the Documented Safety Analysis approved, signed and implemented?*
- b. *Is construction complete and has all testing been satisfactorily completed and documented?*
- c. *Does the system configuration match the system documentation (e.g., Drawings, specifications, procedures ...) and align with the design requirements (e.g., Design Criteria, Laws, Orders ...), are all drawings as-built, and has the system been adequately walked down and verified?*
- d. *Are personnel trained and qualified or certified to support all shifts of operations?*
- e. *Are all operations and maintenance procedures that implement the safety basis requirements written, verified and approved and have they been performed in an integrated operation?*
- f. *Are all Emergency Procedures written, verified and approved and have they been performed?*
- g. *Are all Alarm Response Procedures written, verified and approved and have they been performed?*
- h. *Are “off normal” operations drills written, verified and approved and have they been performed?*
- i. *Is Conduct of Operations implemented per the matrix of applicability?*
- j. *Are all required Environmental permits, NOCs, etc., in place?*
- k. *Has the plan to transition from “cold standby” to “hot operations” been written and approved and is it ready to be implemented?*
- l. *Has Management verified readiness?*

Actionee	Step	Action
Facility Manager	1. a.	After readiness preparation activities (Section 5.2) are complete, generate the Declaration of Readiness, certifying all prerequisites specified in the POA have been met (a Manageable List of Open Items may exist) and declaring readiness to be evaluated by the Contractor readiness review team. The Declaration of Readiness should contain the following:

Startup Readiness

Actionee	Step	Action
		<ul style="list-style-type: none"> • A statement of readiness, • A declaration that the prerequisites have been met, and • The manageable list of open items (if applicable). <p>NOTE: <i>When determining the number of open items as “manageable”, the Facility Manager should assure that every area being evaluated is sufficiently complete to permit evaluation and that the items on the list can be completed prior to the start of the activity.</i></p>
		<p>b. Transmit the Declaration of Readiness to the Project Vice President/Senior Director.</p>
Responsible Project Vice President/ Senior Director	2.	<p>a. Confirm readiness of the activity.</p> <p>b. Concur with the Declaration of Readiness. (The Declaration of Readiness is a record.)</p> <p>c. Obtain Vice President, Regulatory Compliance concurrence of readiness.</p> <p>NOTE: <i>The Vice President, Regulatory Compliance will have an independent review of RSA packages conducted to provide the necessary information to give concurrence. This process could take a day or two and should be included in the schedule. The independent review will be performed per the Assessments organization procedure, FEI-1, “Independent Assessments,” Attachment 5, “Declaration of Readiness Independent Assessment Requirements.” A written report is not required unless directed by the Vice President, Regulatory Compliance.</i></p>
	3.	<p>Forward the Declaration of Readiness to the FH review team and direct the review team to commence the startup review (Section 5.4).</p>

5.4 Startup Reviews

NOTE 1: *Time frames in Steps 5.4.1 – 5.4.4 are recommendations based on past experience and may be adjusted as needed.*

NOTE 2: *Team membership shall not include Startup Mentors for the project receiving the ORR.*

Startup Readiness

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Director, Quality Assurance	1.	Approximately three months before readiness declaration, assign FH Review Team Leader for ORR or DOE RA.
		<i>Or</i>
Responsible Project Vice President/ Senior Director	2.	Approximately three months before readiness declaration, assign FH Review Team Leader for FH RA.
Facility Management	3.	Forward copy of approved POA to FH Review Team Leader.
FH Review Team Leader	4.	<p>a. Approximately one month before the start of the review, with input from Director, Quality Assurance, assign FH review team members with the following qualifications:</p> <ul style="list-style-type: none"> • Technical knowledge of the activity assigned for evaluation, including experience working in the technical area; • Knowledge of performance-based assessment processes and methods; and • Knowledge of facility-specific information. <p>NOTE: <i>The ORR team must not include as senior members (including team leader) individuals from offices assigned direct line management responsibility for the work being reviewed without approval of the Authorization Authority.</i></p> <p>b. Document team member qualifications on <i>Startup Review Team Member Qualification Summary</i> – Form 4 (Site Form A-6002-571).</p> <p>c. Approximately one month before start of an ORR or DOE RA, prepare an Implementation Plan (IP), with input from team members, that includes the following:</p> <ul style="list-style-type: none"> • <u>Introduction/Background.</u> • <u>Purpose</u>. • <u>Scope.</u> • <u>Prerequisites (from the POA).</u> • <u>Overall Review Approach.</u> • <u>Process.</u>

Startup Readiness

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
		<ul style="list-style-type: none"> • <u>Administration.</u> • <u>Reporting and Resolutions.</u> • <u>Schedule.</u> • <u>Appendices.</u> <ul style="list-style-type: none"> • Criteria and Review Approach Documents. • Team Assignments and Qualifications Summaries. • Finding Classification Screening Criteria.
		<p>NOTE 1: HNF-GD-11615, <i>Startup Readiness Guidance</i>, contains guidance for developing the IP.</p> <p>NOTE 2: <i>The FH Review Team Leader should interface with the DOE-RL program manager to ensure the DOE POA has a consistent scope and breadth consistent with the contractor's IP.</i></p> <p>Or</p> <p>d. If not included in the POA, approximately one month before start of a FH RA prepare an IP that includes the following:</p> <ul style="list-style-type: none"> • A checklist or Forms 1, based upon the POA, identifying the objectives and criteria to be assessed. • Team Assignments and Qualifications Summaries. <p>e. Approve the IP. (The approved IP is a record.)</p> <p>f. Submit approved IP to Facility Management.</p>
Facility Management	5.	<p>a. For activities involving an ORR or a DOE RA, forward copy of the IP to DOE-RL for review and comment.</p> <p>b. Review comments from DOE.</p> <p>c. Provides comments to the team leader for resolution.</p>
FH Review Team Leader	6.	<p>a. Incorporate comments as applicable.</p> <p>b. Coordinate team training on the contents of the approved IP.</p> <p>c. Following receipt of the Declaration of Readiness (Step 5.3.3), commence the startup review as directed by the responsible Project Vice President/Senior Director.</p>

Startup Readiness

Actionee	Step	Action
FH Review Team Members	7.	<p>a. Conduct the review in accordance with the approved IP.</p> <p>NOTE: <i>Team members should not review work for which he or she is directly responsible.</i></p> <p>b. Document methods used for evaluation and actions taken during the review on <i>Startup Review Appraisal – Form 1</i> (Site Form A-6002-568.)</p> <p>c. Document the findings and observations identified during the review on the <i>Startup Review Finding – Form 2</i> (Site Form A-6002-569.)</p> <p>d. If the review team concludes the facility is not ready for operation or cannot support successful completion of the review, go to Section 5.6</p>
FH Review Team Leader	8.	<p>a. Prepare the Final Report for ORRs or DOE RAs that contain the following:</p> <ul style="list-style-type: none"> • Title Page (shall include Type of Review). • Signature Page. • Table of Contents. • Executive Summary. • Introduction. • Review Evaluation. • Integrated Safety Management System Implementation. • Lessons Learned. • Appendices. • Forms 1, Criteria and Review Approach Documents. • Forms 2, Findings. <p>NOTE 1: HNF-GD-11615, <i>Startup Readiness Guidance</i>, contains guidance for developing the Final Report.</p> <p>NOTE 2: <i>The final report must document the results of the ORR, make a conclusion as to whether startup or restart of the nuclear facility can proceed safely, and state whether the facility has established the following:</i></p> <ul style="list-style-type: none"> • <i>An agreed-upon set of requirements to govern safe operations of the facility;</i> • <i>That this set of requirements has been formalized with DOE through the contract or other enforceable mechanism;</i>

Startup Readiness

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
		<ul style="list-style-type: none">• <i>That these requirements have been appropriately implemented in the facility, or appropriate compensatory measures, formally approved, are in place during the period prior to full implementation; and</i>• <i>That, in the opinion of ORR team, adequate protection of the public health and safety, worker safety, and the environment has been maintained. This conclusion must be based on:</i><ol style="list-style-type: none">1. <i>Review of the program to document conformance with the agreed-upon set of requirements, including a process to address new requirements, and</i>2. <i>Extensive use of references to the established requirements in the ORR documentation.</i>

NOTE 3: *During the review issues are identified in the Form 1 and may become a finding. This note identifies criteria for rolling up issues or for dropping issues from the final report.*

Criteria for Rolling up Issues and for Dropping Issues from the final report:

- *Rolling up Issues - Criterion: Issues with a similar theme: During the review, multiple issues may be identified that have a similar theme. The Team Leader may roll these issues into one finding and each issue is documented as an issue supporting the similar theme.*
 - *Dropping Issues - Criterion: Issues that have been resolved. During the review issues may be identified requiring additional information to be resolved. If the required information is supplied and satisfies the reviewer the issue is no longer valid.*
- b. *Submit copy of the draft final report to Director, Quality Assurance for technical review.*

Or

- c. *For FH RA, prepare the Final Report that includes the following:*
- *The completed checklist or completed Forms 1*
 - *Findings (Forms 2)*
 - *Recommendation to start operations*

Startup Readiness

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
	d.	Submit copy of the draft final report to Director, Quality Assurance for technical review.
Director, Quality Assurance	9.	Conduct a technical review of the draft final report and submit comments to FH Review Team Leader.
FH Review Team Leader	10.	Incorporate comments if applicable and submit Final Report to the responsible Project Vice President/Senior Director and Facility Management.
Facility Management	11.	Submit the final report to the Authorization Authority. (The final report is a record.)
<p>NOTE: <i>Submitting the final report to the Authorization Authority may be performed at the same time as the Readiness to Proceed Memorandum submittal.</i></p>		

5.5 Responding to Readiness Review Findings and Observations

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Facility Manager	1.	Review the entire Final Report.
Responsible Manager	2.	Process observations in accordance with HNF-PRO-052 . (No further action required within this procedure for observations.)
<p>NOTE: <i>Observations are documented on Forms 2 (Startup Review Finding Form, A-6002-569), not on an IIF.</i></p>		

Startup Readiness

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
	3.	<p>Process findings in accordance with HNF-PRO-052 as follows:</p> <ul style="list-style-type: none">• All findings in the final report (either the contractor or DOE) require processing per HNF-PRO-052 and require a causal analysis (e.g., root cause and/or apparent cause). During the evaluation process, findings that are evaluated as non-issues (opportunities for improvement, observations) require concurrence of the Authoritative Source, the Functional Area Interpretative Authority and the HNF-PRO-055 Interpretative Authority.• Identify if actions are pre-start or post-start actions.• For DOE identified findings, include an action to obtain RL closure Authority Concurrence for pre-start or post-start actions.• Closure of actions to be documented on a Corrective Action Management (CAM) evaluation form or Site Form A-6002-971, <i>Corrective Action Management</i>, as a minimum.• Closure Statement and evidence to be provided for actions (i.e., remedial, corrective action and RL closure Authority Concurrence actions.) <p>NOTE 1: <i>Retention of the closure documentation by the CAM organization is sufficient to meet the retention requirements of requirement 4.6.3. (Finding closure packages are records.)</i></p> <p>NOTE 2: <i>Findings are documented on Forms 2 (Startup Review Finding Form, A-6002-569), not on an IIF.</i></p>
	4.	<p>If a change to the DOE approved Corrective Action Plan (CAP), follow the process identified in HNF-PRO-052 and inform DOE of the changes.</p>
	5.	<p>a. For activities requiring reviews with FH as the Authorization Authority, go to Step 5.7.1.</p> <p>b. For activities requiring reviews with DOE as the Authorization Authority, go to Step 5.7.4.</p>

Startup Readiness

5.6 Review Termination

NOTE: *The actions in this section apply only if the review team concludes the facility is not ready for operation or cannot support successful completion of the review based on specific termination guidance contained in [Appendix B](#).*

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
FH Review Team Leader	1.	<ul style="list-style-type: none"> a. Communicate the intent to terminate the review with Vice President, Regulatory Compliance and the Responsible Vice President/Senior Director. b. Develop Issue Identification Forms (IIF) (Site Form A-6002-898) for issues which led to the termination. c. Submit a letter, including the IIF, to the responsible Project Vice President/Senior Director explaining why the review was terminated. (The Termination Letter is a record.)

NOTE: *Letters, memos and other correspondence with RL are issued and maintained in accordance with HNF-RD-7752, FH Correspondence and Communication with RL,” and [HNF-GD-8515](#), “Correspondence Style Guide.”*

Responsible Vice President/Senior Director

2. Notify the FH Chief Operations Officer of the termination.

Facility Manager

3.

- a. Notify the DOE program division director of the termination.
- b. Submit the approved IIF to the Authoritative Source for processing as a Significant Issue. (The approved IIF is a record.)

NOTE 1: *During the evaluation process, findings that are evaluated as non-issues (opportunities for improvement, observations) require concurrence of the Authoritative Source, the Functional Area Interpretative Authority and the [HNF-PRO-055](#) Interpretative Authority.*

NOTE 2: *Pre-start and post-start corrective action(s) must be identified in the Corrective Action Plan.*

- c. Re-evaluate all Readiness Self-Assessments, which make up the Activity Readiness Plan.

Startup Readiness

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
		d. Close the pre-start corrective actions from the issues that led to the termination.
Responsible Vice President/Senior Director	4.	<ul style="list-style-type: none"> a. Certify the activity (facility, activity, process) for readiness. b. Notify the VP, Regulatory Compliance c. Notify the readiness review team leader when the pre-start corrective actions are complete and forward the Declaration of Readiness to FH Chief Operations Officer.
Vice President, Regulatory Compliance	5.	<ul style="list-style-type: none"> a. Perform an Independent Assessment of the completed Readiness Self-Assessment (RSA) packages, per FE1-1, Independent Assessments. The scope of the Independent Assessment will include a review of objective evidence of the IIF pre-start corrective actions. <p>NOTE: <i>The Independent Assessment may start prior to completion of all RSA, but those RSA packages relying on input from other RSA packages may not be started until all affiliated RSA packages are complete.</i></p> <ul style="list-style-type: none"> b. Upon satisfactory completion of the Independent Assessment, concur with the declaration of readiness. (The Independent Assessment Report is a record.)
FH Chief Operations Officer	6.	<ul style="list-style-type: none"> a. Certify the activity (facility, activity, process) for readiness to commence the ORR or RA. (The Certification is a record.) b. Notify the review team to recommence the review.
FH Review Team	7.	Return to Step 5.4.7

5.7 Readiness to Proceed

NOTE: *Steps 5.7.1 – 5.7.3 apply to activities when FH is the Authorization Authority.*

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Facility Manager	1.	<ul style="list-style-type: none"> a. After successful completion of the startup review (Section 5.4) and closure of pre-start actions (Section 5.5), generate a Readiness to Proceed Memorandum to include closure of pre-start actions and post-start Corrective Action Plans and request authorization to commence operation. The Readiness to Proceed Memorandum should include the following:

Startup Readiness

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
		<ul style="list-style-type: none"> • A certification statement that the facility is in a state of readiness to commence operations. • A statement that all pre-start items have been completed and appropriately closed. • A list of any open post-start items, identified by Readiness Review Finding Number and descriptive title, along with the scheduled and timely closure date for each item. All items must have an approved action plan for closure (CAP). • Identification of the recommended date for startup. • Identification of any circumstances internal to the facility or external to the facility’s cognizance that could impact the recommended startup date and any compensatory measures that the facility plans to take that would allow startup by the recommended date.
		<p>NOTE 1: <i>HNF-GD-11615</i>, <i>Startup Readiness Guidance</i>, contains guidance for developing the <i>Readiness to Proceed Memorandum</i>.</p> <p>NOTE 2: <i>Some pre-start findings may have both pre-start and post-start actions to close the finding; closure of the pre-start actions is required prior to submitting the Readiness to Proceed Memorandum.</i></p>
		<p>b. Forward Readiness to Proceed Memorandum to responsible Project Vice President/Senior Director.</p>
Responsible Project Vice President/Senior Director	2.	<p>a. Confirm closure of pre-start items.</p> <p>b. Concur with Readiness to Proceed Memorandum and transmit to FH Authorization Authority as defined in the SNR. (The Readiness to Proceed Memorandum is a record.)</p>
FH Authorization Authority	3.	<p>Authorize startup.</p> <p>NOTE: <i>Steps 5.7.4 – 5.7.8 apply to activities when DOE is the Authorization Authority.</i></p>

Startup Readiness

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Facility Manager	4. a.	<p>After successful completion of the FH review (Section 5.4) and closure of FH pre-start actions (Section 5.5), generate a Readiness to Proceed Memorandum. The Readiness to Proceed Memorandum should include the following:</p> <ul style="list-style-type: none"> • A certification statement that the facility is in a state of readiness to commence operations, • A statement that pre-start items have been completed and appropriately closed, a manageable list of open item may exist, • Identification of the recommended date for startup, and • Identification of any circumstances internal to the facility or external to the facility’s cognizance that could impact the recommended startup date and any compensatory measures that the facility plans to take that would allow startup by the recommended date. <p>NOTE: <i>Some pre-start findings may have post-start actions to close the finding; closure of the pre-start actions is required prior to submitting the Readiness to Proceed Memorandum or the action added to the manageable list of open items.</i></p>
	b.	Forward Readiness to Proceed Memorandum to responsible Project Vice President/Senior Director.
Responsible Project Vice President/Senior Director	5. a.	Confirm closure of pre-start items.
	b.	Concur with the Readiness to Proceed Memorandum and transmit to DOE-RL declaring readiness to be evaluated by DOE. (The Readiness to Proceed Memorandum is a record.)
Facility Manager	6.	If the DOE ORR team terminates the review, another contractor ORR shall be required as part of the recovery path forward actions prior to resumption of the DOE ORR. Go to Step 5.2.8
		Or

Startup Readiness

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
	7. a.	<p>After successful completion of the DOE review (Section 5.4), if applicable, and closure of DOE pre-start actions (Section 5.5), revise the Readiness to Proceed Memorandum to document the following:</p> <ul style="list-style-type: none"> • Completion of all startup reviews, • Correction of pre-start actions, • Post-start Corrective Action Plans, • Request authorization to commence operations, • Identification of the recommended date for startup, and • Identification of any circumstances internal to the facility or external to the facility’s cognizance that could impact the recommended startup date and any compensatory measures that the facility plans to take that would allow startup by the recommended date. <p>NOTE: <i>Some pre-start findings may have both pre-start and post-start actions to close the finding; closure of the pre-start actions is required prior to submitting the Readiness to Proceed Memorandum.</i></p>
	b.	Forward the Readiness to Proceed Memorandum to responsible Project Vice President/Senior Director.
Responsible Project Vice President/Senior Director	8. a.	Confirm closure of pre-start items. (Finding closure packages are records.)
	b.	Concur with the Readiness to Proceed Memorandum and transmit to DOE-RL for authorization to commence operation. (The Readiness to Proceed Memorandum is a record.)

5.8 Lessons Learned

NOTE: *Lessons Learned are generated by the team leader and placed in the final report. These and other lessons learned across the complex are placed on the [Startup Readiness web page under Lesson Learned](#) and should be reviewed during readiness preparations.*

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Team Leader	1. a.	Generate Lessons Learned relating to design, construction, operation, or decommissioning of similar facilities and to future readiness reviews.
	b.	Add the Lessons Learned to the final report.

Startup Readiness

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Facility Management	2.	If during the readiness process facility management identifies lessons that may be beneficial, generate a lessons learned using HNF-PRO-067 , <i>Managing Lessons Learned</i> .

5.9 Exemptions

NOTE: *Exemptions to DOE O 425.1 may be authorized by the Richland Operations Office in accordance with DOE O 251.1A, Directives Systems, for situations when a short duration, one-time activity is to be conducted for which the requirements for an ORR are not warranted. Examples include one-time, unique operations to clean out systems or components incident to deactivation or decommissioning or short duration actions necessary to support national commitments in unusual circumstances.*

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Facility Manager	1.	<ol style="list-style-type: none"> a. Complete Steps 5.1.1 through 5.1.9 as applicable. b. In addition to the Technical Description, add the justification for requesting relief from DOE O 425.1 or to perform a RA in lieu of an ORR. c. Include in the justification the process to confirm readiness to safely start the operation and to ensure that the operation will be conducted with the degree of safety warranted by the hazards and risks of the process being conducted. d. Also, include the compensatory measures to be taken to assure safety, such as: <ul style="list-style-type: none"> • Continual supervisory oversight • DOE presence during operations
FH Office of the President	2.	Submit exemption request to RL for approval. (Exemption Requests are records.)

5.10 Record Retention

NOTE: *Maintaining the Finding closure documentation with the CAM organization meets the requirements of [4.6.3](#). (Finding closure packages are records.)*

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
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Startup Readiness

Facility
Manager

1. Retain documents in accordance with [HNF-RD-210](#), *Records Management Program* and [HNF-PRO-10588](#), *Records Management Processes*. [7.0 Records Identification](#), contains the Records Capture Table, which identifies specific records and retention requirements.
2. Identify the Facility Active Storage locations and personnel in accordance with section [7.0 Records Identification](#).

NOTE: *The term “Facility Readiness Package” is unique to the readiness and startup process and includes the documents identified in section [7.0 Records Identification](#).*

6.0 FORMS

The forms and report formats used throughout this procedure are either identified below or in an appendix that addresses and defines the form or report. Pre-formatted forms are MS Word templates and are also located in Site Forms by title or number.

NOTE: *The form titles below are hyperlinked to the form. To obtain a MS Word template, open MS Word, click on file, click on new, click on the FH tab, click on the form you need and it will open. Instructions are included with the form template. To obtain a form from Site Form, on the FH intranet, double click on “Project Hanford Management Contractor”, then click on “General Information” and then “Site Forms”; in the “Search by Form No.”, type the form number and press enter, or; in the “Search by Title”, type the title or a portion of the title and press enter.*

Corrective Action Management, [A-6002-971](#)

Issue Identification Form, [A-6002-898](#)

Level of Review Score Sheet, [A-6002-573](#)

Quarterly Startup Notification Report, [A-6002-852](#)

Startup Notification Technical Description, [A-6002-574](#)

Startup Review Appraisal Form, Form 1, [A-6002-568](#)

Startup Review Finding Form, Form 2, [A-6002-569](#)

Startup Review Team Member Qualification Summary, Form 4, [A-6002-571](#)

7.0 RECORD IDENTIFICATION

Operations organization records are maintained and managed in accordance with [HNF-RD-210](#), *Records Management Program* and [HNF-PRO-10588](#), *Records Management Processes*. Fluor Hanford letters are maintained and managed in accordance with [HNF-RD-7753](#), *FH Correspondence and Communication with RL* and [HNF-GD-8515](#), *Correspondence Style Guide*.

Startup Readiness

Records Capture Table

Records related to Startup Readiness			
Document	Generator	Retained by	Retention
Facility Readiness Package			
Startup Notification Documentation			
<i>Quarterly Startup Notification Report, A-6002-852</i>	Facility Manager	Facility Active Storage	Until superseded
<i>Startup Notification Technical Description, A-6002-574</i>	Facility Project Manager/Facility Manager	Facility Active Storage	Until superseded
<i>Level of Review Score Sheet, A-6002-573</i>	Facility Project Manager/Facility Manager	Facility Active Storage	Until superseded
Quarterly Startup Notification Report Transmittal Letter	Quality Assurance Director	Facility Active Storage	Until superseded
DOE Approval of the QSNR	DOE-RL	Facility Active Storage	Until superseded
Activity Hazard Categorization	Facility Nuclear Safety	Facility Active Storage	Until next Restart
Negative Responses to HNF-PRO-055 Criteria	Facility Project Manager/Facility Manager	Facility Active Storage	Until next Restart
Readiness Documentation			
Management Assessment	Facility Manager	Facility Active Storage	Until next Restart
Activity Readiness Plan	Facility Manager	Facility Active Storage	Until next Restart
Justification for not using the Activity Readiness Plan	Facility Manager	Facility Active Storage	Until next Restart
Plan to get ready	Facility Manager	Facility Active Storage	Until next Restart
Readiness Self-Assessments	Facility Management	Facility Active Storage	Until next Restart
Declaration of Readiness	Facility Manager	Facility Active Storage	Life of Facility
Declaration of Readiness Transmittal Letter	Facility Manager	Facility Active Storage	Life of Facility
Review Documentation			
Plan of Action	Facility Manager	Facility Active Storage	Life of Facility
Plan of Action Transmittal Letter	Facility Manager	Facility Active Storage	Life of Facility
Implementation Plans	Review Team Leader	Facility Active Storage	Life of Facility

Startup Readiness

<i>Startup Review Team Member Qualification Summary, Form 4, A-6002-571</i>	Facility Manager	Facility Active Storage	Life of Facility
Implementation Plan Transmittal Letter	Review Team Leader/ Facility Manager	Facility Active Storage	Life of Facility
Final Report	Review Team Leader	Facility Active Storage	Life of Facility
<i>Startup Review Appraisal Form, Form 1, A-6002-568</i>	Facility Manager	Facility Active Storage	Life of Facility
<i>Startup Review Finding Form, Form 2, A-6002-569</i>	Facility Manager	Facility Active Storage	Life of Facility
Final Report Transmittal Letter	Review Team Leader	Facility Active Storage	Life of Facility
Readiness to Proceed Documentation			
Finding Closure Package	Facility Manager	Facility Active Storage	Life of Facility
<i>Corrective Action Management, A-6002-971</i>	Facility Manager	Facility Active Storage	Life of Facility
Readiness to Proceed Memorandum	Facility Manager	Facility Active Storage	Life of Facility
Readiness to Proceed Memorandum Transmittal Letter	Facility Manager	Facility Active Storage	Life of Facility
Termination Documentation			
<i>Issue Identification Form, A-6002-898</i>	Facility Manager	Facility Active Storage	Life of Facility
Termination Letter	Review Team Leader	Facility Active Storage	Life of Facility
Independent Assessment Report	Independent Assessment Team Leader	Facility Active Storage	Life of Facility
Certification of Readiness	Chief Operating Officer	Facility Active Storage	Life of Facility
Exemptions			
Exemption Request	Facility Manager	Facility Active Storage	Life of Facility

8.0 REFERENCES

8.1 Source References

DOE O 425.1C, *Startup and Restart of Nuclear Facilities*, Supplemented Contractor Requirements Document (SCRD), Revision 1

FH Letter FH-0303195A R1, *Readiness Preparation*

DOE-STD-3006, *Planning and Conduct of Operational Readiness Reviews*

Startup Readiness

8.2 Working References

10 CFR 830.3, *Definitions*

DOE G 430.1-2, *Implementation Guide for Surveillance and Maintenance during Facility Transition and Disposition*

DOE G 430.1-3, *Deactivation Implementation Guide*

DOE G 430.1-4, *Decommissioning Implementation Guide*

DOE G 430.1-5, *Transition Implementation Guide*

[DOE O 251.1A](#), *Directives System*

DOE O 430.1A, *Life Cycle Asset Management*

DOE-STD-1120-98, *Integration of Environment, Safety, and Health into Facility Disposition Activities*

[FE1-1](#), *Independent Assessments*

[HNF-GD-11615](#), *Startup Readiness Guidance*

[HNF-GD-8515](#), *Correspondence Style Guide*

[HNF-PRO-052](#), *Corrective Action Management*

[HNF-PRO-067](#), *Managing Lessons Learned*

[HNF-PRO-246](#), *Management Assessment*

[HNF-PRO-298](#), *Nonconforming Items*

[HNF-PRO-8317](#), *Safety Basis Implementation and Maintenance*

[HNF-PRO-8366](#), *Facility Hazard Categorization*

[HNF-RD-210](#), *Records Management Program*

[HNF-RD-7753](#), *FH Correspondence and Communication with RL*

9.0 APPENDICES

[Appendix A](#).....ORR and RA Requirements Table

[Appendix B](#).....Termination Criteria and Guidance

[Appendix C](#).....Finding Classification Criteria

[Appendix D](#).....Glossary

[Appendix E](#).....Core Requirements

[Appendix F](#).....Readiness Self-Assessment Review Board

Startup Readiness

APPENDIX A
ORR and RA Requirements Table

Type of Startup or Restart	Hazard Category 2 Nuclear Activity (Note 1)		Hazard Category 3 Nuclear Activity (Note 1)	
	Type of Review (Note 2)	Authorization Authority (Note 2)	Type of Review (Note 2)	Authorization Authority (Note 2)
425.1C, CRD Section 2.a.(1)(a): Initial startup of a new hazard category 2 or 3 nuclear activity. (For the definition of a Hazard Category 2 or 3 activity see Note 1) (Note 7)	ORR	Secretary of Energy or Designee	ORR	Secretarial Officer or Designee
The initial startup of a new Hazard Category 2-non-reactor nuclear activity after non-substantial process, system, or facility modifications, requiring moderate changes to safety basis controls or limits. (Note 7 and Note 9)	ORR	Secretary of Energy or Designee	NA	NA
The initial startup of a new Hazard Category 2-non-reactor nuclear activity after non-substantial process, system, or facility modifications, without changing safety basis controls or limits. (Note 7 and Note 9)	ORR	Secretary of Energy or Designee	NA	NA
The initial startup of a new Hazard Category 3-non-reactor nuclear activity after substantial process, system, or facility modifications, requiring moderate changes to safety basis controls or limits. (Note 7 and Note 9)	NA	NA	ORR	Secretarial Officer or Designee
The initial startup of a new Hazard Category 3-non-reactor nuclear activity after substantial process, system, or facility modifications, without changing safety basis controls or limits. (Note 7 and Note 9)	NA	NA	ORR	Secretarial Officer or Designee
The initial startup of a new Hazard Category 3-non-reactor nuclear activity after non-substantial process, system, or facility modifications, requiring moderate changes or without changes to safety basis controls or limits. (Note 7 and Note 9)	NA	NA	ORR	Secretarial Officer or Designee
425.1C, CRD Section 2.a.(1)(b): Restart after a DOE management official directs the unplanned shutdown of a nuclear activity for safety or other appropriate reasons. (Note 1)	ORR	Shutdown Official or Secretarial Officer Delegate	ORR	Shutdown Official or Secretarial Officer Delegate
425.1C, CRD Section 2.a.(1)(c): Restart after an extended shutdown for hazard category 2 or 3-nuclear activity. (Note 1 and Note 5)	ORR	Secretarial Officer or Designee	RA	Operations Office Manager or Delegate

Startup Readiness

Type of Startup or Restart	Hazard Category 2 Nuclear Activity (Note 1)		Hazard Category 3 Nuclear Activity (Note 1)	
	Type of Review (Note 2)	Authorization Authority (Note 2)	Type of Review (Note 2)	Authorization Authority (Note 2)
425.1C, CRD Section 2.a.(1)(d): Restart of hazard category 2 or 3-nuclear activity after substantial process, system, or facility modifications. [The restart authority must determine if the modifications are substantial based on the impact of the changes on the safety basis and the extent and complexity of changes; this would not necessarily be determined by the Unreviewed Safety Question (USQ) process]. (Note 1 , Note 6 , Note 7 , and Note 8)	ORR	Secretarial Officer or Designee	RA	Operations Office Manager or Delegate
Restart of hazard category 2 or 3-nuclear activity following substantial process, system or facility modifications with moderate or minor or no change to safety basis controls or limits. (Note 1 , Note 6 , Note 7 , and Note 8)	ORR Same as above	Secretarial Officer or Designee	Evaluate (Note 4)	Evaluate
Restart of hazard category 2 or 3-nuclear activity following non-substantial process, system or facility modifications, with major change to safety basis controls or limits. (Note 1 , Note 6 , Note 7 , and Note 8)	ORR	Operations Office Manager or Delegate	Evaluate (Note 4)	Evaluate
Restart of hazard category 2 or 3-nuclear activity following non-substantial process, system or facility modifications, with moderate change to safety basis controls or limits. (Note 1 , Note 6 , Note 7 , and Note 8)	Evaluate (Note 4)	Evaluate	Evaluate (Note 4)	Evaluate
425.1C, CRD Section 2.a.(1)(e): Restart after a nuclear facility shutdown because of operations outside the safety basis. (Note 1)	ORR	Approval Authority for Safety Basis	ORR	Approval Authority for Safety Basis
425.1C, CRD Section 2.a.(1)(f): When deemed appropriate by DOE management officials, including restarts of hazard category 3-nuclear activity. (Note 1)	ORR/RA	Operations Office Manager or Delegate	ORR/RA	Operations Office Manager or Delegate

Startup and Restarts of activities listed above are included in the SNR.

NOTE 1: *The definition of a Hazard Category 2/3 non-reactor nuclear facility (activity) is: Activities or operations that involve radioactive and/or fissionable materials in such form or quantity that a nuclear hazard potentially exists to the employees or the general public.*

NOTE 2: *Startup and Restart Review requirements and Authorization Authority (identified by CRD section) are per DOE O 425.1C.*

NOTE 3: *The definitions for safety basis changes are contained within [HNF-PRO-8317](#), "Safety Basis Implementation and Maintenance."*

NOTE 4: *Activities with "Evaluate" for the "Type of Review" will be determined using the Level of Review Score Sheet*

Startup Readiness

NOTE 5: *Extended Shutdown (planned or unplanned): >12 months for Category 2 Activity;
> 24 months for Category 3 Activity.*

NOTE 6: *Substantial modifications are determined by the Authorization Authority.*

NOTE 7: *Included are the startup or restart of facility disposition activities such as transition (DOE G 430.1-5), deactivation (DOE G 430.1-3), and decommissioning (DOE G 430.1-4). Each facility disposition activity must be evaluated to determine the level of review.*

NOTE 8: *Activities transitioning into [Surveillance and Maintenance](#), as defined below, do not require a readiness review per this procedure.*

NOTE 9: *The described activity is a startup and therefore would normally require an ORR. However, if the circumstances of the activity involve non-substantial modifications and moderate or no changes to safety basis limits or controls, initiate discussions as soon as possible with DOE-RL to determine if a request for an exemption to performing an ORR is justified.*

Surveillance and Maintenance Prior to Deactivation and/or Decommissioning

Surveillance and maintenance periods between deactivation and/or decommissioning is described in DOE-STD-1120-98, *Integration of Environment, Safety, and Health into Facility Disposition Activities*, Volume 2, *Appendices*; DOE G 430.1-2, *Implementation Guide for Surveillance and Maintenance during Facility Transition and Disposition*, definitions section; and DOE O 430.1A, *Life Cycle Asset Management*, CRD Section 2.h (3) and Section 3.b.(1)(b). No review under the startup and restart process is required.

Planned or Unplanned Shutdown

A readiness review prior to restart following a planned shutdown or unplanned shutdown, as defined in DOE-STD-3006-2000, is not required under the following condition unless directed by line management:

- Hazard Category II Activity: The restart is performed within 12 months of the shutdown and contractor restart procedures are in place.
- Hazard Category III Activity: The restart is performed within 24 months of the shutdown and contractor restart procedures are in place.

A restart after a planned or unplanned shutdown that meets the above requirements is reported in the SNR.

Startup Readiness

APPENDIX B Termination Criteria and Guidance

Criteria for Termination

- The facility is not constructed in accordance with the approved design.
 - Safety class or safety significant equipment is not constructed in accordance with the approved design.
- The facility is not operated safely and presents undue risk to employees, the public or the environment.
 - Team intervention is necessary to prevent operation outside the documented safety analysis, *or*
 - Team intervention is necessary to prevent personnel injury, *or*
 - Team intervention is necessary to prevent a reportable release to the environment.
- The facility does not have trained and competent personnel.
 - There are insufficient numbers of trained personnel to conduct operations.
- The facility is not designed and operated in conformance with applicable DOE Orders and regulatory requirements.
 - Safety class or safety significant equipment are not designed in conformance with applicable DOE Orders or regulatory requirements and there are no approved compensatory measures in place.

NOTE: *Isolated incidents of the above criteria should not constitute a failure, as long as they can be managed as part of the “manageable list of open items” or compensatory measures are in place to maintain an acceptable level of risk until permanent corrective actions are completed.*

Guidance for Termination of a Readiness Review

This guidance provides the framework to develop the conditions to be evaluated by the above criteria.

Startup Readiness

By Core Requirement:

1. Line Management has established programs and personnel exhibit an awareness of public and worker safety.
 - a. Criticality Safety Evaluation Report not completely implemented.
 - b. Environmental protection requirements not completely implemented.
 - c. Testing has not documented satisfactory test results for all Safety Equipment List items.
2. Functions, assignments, reporting relationships are clearly defined.

No specific criteria are identified.
3. Training and qualification program is established.
 - a. Training and qualification program is not established and implemented.
4. Level of knowledge for managers, operations and operations support is adequate.
 - a. Any of the following support organizations do not demonstrate adequate knowledge level.
 - Criticality Safety
 - Engineering
 - Environmental Protection
 - Nuclear Safety
 - Quality Assurance
 - Radiological Controls
 - b. Management fails to demonstrate adequate knowledge.
 - c. Operations fail to demonstrate adequate knowledge.
5. Facility modifications reviewed for training.
 - a. Training conducted did not include facility modifications.
6. There are sufficient numbers of qualified personnel, adequate facilities and equipment.

Startup Readiness

- a. Minimum required personnel, in the following organizations, on all required shifts are not qualified.
 - Criticality Safety
 - Emergency Preparedness
 - Engineering
 - Environmental Protection
 - Nuclear Safety
 - Operations
 - Quality Assurance
 - Radiological Controls

7. Facility safety documentation is in place.
 - a. Safety documentation requirements are not completely implemented.
 - b. Safety documentation is not approved.

8. A program is in place to confirm and periodically reconfirm operability of safety structure, system, or component (SSC).
 - a. Any Safety Equipment List (SEL) Structure System or Component found not operable.
 - b. Any Technical Safety Requirement (TSR)/Operational Safety Requirement (OSR) found not implemented.
 - c. Any Administrative Control found not implemented.

9. Facility systems and procedures, as affected by modifications, are consistent with the description of the safety basis.
 - a. Any facility modification, requiring an Unreviewed Safety Question Determination (USQD) screen, without a USQD/Unreviewed Safety Question (USQ) screen.
 - b. Any procedure, as affected by modifications, not incorporating applicable modifications.

10. There are adequate and correct procedures and safety limits.
 - a. Any procedure missing a safety basis document requirement.
 - b. Any procedure missing required actions generated by facility modifications.
 - c. Operations unable to perform procedures as written, i.e., requiring a technical change, and fails to get a change.

Startup Readiness

11. Routine and emergency operations drill program.
 - a. Any drill performance determined to be unsatisfactory.
12. Adequate startup program.

No specific criteria are identified.
13. Conduct of Operations.
 - a. Operations resulting in a personal injury as a result of lack of identification of hazards or implementing appropriate controls.
 - b. Operator or operations support personnel action requiring a team member to stop operations, to prevent personal injury or environmental release.
14. Formal agreements have been established.
 - a. Formal agreements not approved by appropriate authority.
15. Corrective action management.
 - a. Program for correcting less than adequate conditions determined to be inadequate.

Startup Readiness

APPENDIX C Finding Classification Criteria

The Pre-start and Post-Start determination criteria is documented in the Implementation Plan (IP). The Team Leader and the team members to evaluate if an issue must be corrected prior to startup, should use the following checklist:

a. Initial Screening

1. Does this finding involve a safety system?
2. Does this finding involve processes, functions, or components identified in the technical Safety Requirements, Operational Safety Requirements or nuclear safety control procedures?
3. Does this finding involve potential adverse environmental impact exceeding regulatory or site specific release limits?
4. Does this finding impact non-safety processes, functions or components that could adversely impact safety related processes, functions or components?
5. Is this finding non-compliant with FH or DOE-RL approved startup documents?
6. Does this finding indicate a lack of adequate procedures or administrative systems?
7. Does this finding indicate operational or administrative non-compliance with procedures or policy?
8. Has this finding occurred with a frequency that indicates past corrective actions have been lacking or ineffective?
9. Does this finding require operator training not specified in existing facility training requirements?
10. Does the finding involve a previously unknown risk to worker or public safety and health or a previously unknown threat of environmental insult or release?

If the response to any of the above is **yes**, further evaluation in accordance with the finding impact criteria below is required:

b. Finding Impact

1. Does the loss of operability of the item prevent safe shutdown, or cause the loss of essential monitoring?

Startup Readiness

2. Does the loss of operability of the item require operator action in less than ten (10) minutes to prevent or mitigate the consequences of events described in the Safety Analysis?
3. Does the loss of operability of the item cause operations outside the TSR/OSRs or Safety Analysis?
4. Does the loss of operability of the item result in a reduction of the margin of safety as described in the Safety Analysis?
5. Does the finding indicate a lack of control which can have a near term impact on the operability or functionality of safety related systems?
6. Does the finding involve a violation or potential violation of worker safety or environmental protection regulatory requirements, which poses a significant danger to workers, the public, or of environmental insult or release?

If the response to any of the above questions is **yes**, the item should be considered a **pre-start item**.

Startup Readiness

APPENDIX D Glossary

Activity Readiness Plan: Set of documents that define the scope of the activity, identify and evaluate hazards, document the controls implemented (procedures, training, unreviewed safety questions, records, etc.), and verifies readiness (i.e., Activity Readiness Checklist, Activity Readiness Checklist Affidavits, and Readiness Self-Assessment).

Change facility safety limits: Changes to the authorization basis documents (e.g., OSR, TSR, DSA, SAR, BIO,) that result in consequences exceeding the original safety analysis, or level of risk associated with the facility as previously agreed upon by the contractor and DOE or the addition of new requirements to ensure that existing limits are not exceeded.

Change facility safety requirements: Changes to the authorization basis documents (e.g., OSR, TSR, DSA, SAR, BIO) resulting in redefining operability or the addition of new actions or conditions required to maintain operability. Reapplying existing required actions or conditions to additional components would not equate to a change in facility requirements as defined in the DOE Order.

Continuous Readiness Model: 1) Breaking work scope into small, manageable segments early in the project's planning process. 2) Taking credit for recently completed reviews and/or assessments that document a facility's readiness to operate and/or document that a facility is operating safely. Therefore, the readiness review scope could be reduced.

Facility: The term facility refers to facility, process, or activity performing program work.

- **Changed Facility:** Changes introducing new/different hazardous/radioactive materials, process changes significant enough to cause a revision to an existing procedure, changes not covered in the current authorization basis, and changes in the physical location of the process within the facility.
- **New Facility:** Those activities not covered by a current approved operations activity, have been shutdown for an extended period of time and/or not described in the current authorization basis. This includes physical changes in facility, glovebox or laboratory operations. It does not include administrative activities.

Finding: An identified deficiency, such as an identified noncompliance/nonconformance with, or unapproved deviation from, an established requirement. The review team may classify findings as either pre-start or post-start, as defined below:

- **Pre-start Finding:** A finding that must be resolved before an activity can be started.
- **Post-start Finding:** A finding that must be resolved, but may be corrected after the start of the activity. Post-start findings are addressed by a CAP, which includes any compensatory measures taken.

Startup Readiness

Implementation Validation Review: A process that encompasses the following objectives:

- Verify that the safety basis controls and requirements are incorporated in appropriate facility documents and work instructions.
- Verify that facility personnel are knowledgeable of safety basis controls and requirements.
- Verify that safety basis controls and requirements have been implemented.

This definition is derived from [HNF-PRO-8317](#), *Safety Basis Implementation and Maintenance*.

Manageable list of open items: A list representing the pre-start work necessary for completion between the declaration of readiness (i.e., the end of the Management Self-Assessment) and the start of the activity (Approximate time frames to complete the work for each review: FH RA-1 week, DOE RA-3 weeks, and ORR-6 weeks). This work should have a well defined plan and schedule for closure. There should be no unresolved issues in the path towards closure of these pre-start items.

Management Self-Assessment: Assessments conducted by a member of the management team, for the purpose of completing the Readiness Self Assessment (RSA) form, that consists of the act of reviewing, evaluating, inspecting, testing, checking, surveillance, auditing, or otherwise determining and documenting whether items, processes, systems, or services meet specified requirements and/or are performing effectively. The following is applicable to this definition:

- 1) The completion of the Readiness Self-Assessment forms by management constitutes completion of a Management Self-Assessment.
- 2) Assessments conducted by independent sources (e.g., contractors, central organizations, etc.) are not considered Management Self-Assessments and are not exempt from [HNF-PRO-052](#) requirements.

High Level Review: This is a multi-disciplinary management review of the activity, with the purpose of ensuring that work planning and review is comprehensive; ownership of the planning and review process is clearly established; the work to be performed can be accomplished safely and effectively; the personnel performing the work have the necessary training and experience; and the hazards have been properly identified and mitigated. The focus of this review is the adequacy of work planning and the level of management oversight for the entire work evolution. The High Level Review group should review all work to ensure the work being performed meets project/activity standards.

Startup Readiness

Observation: Positive or negative actions observed during an ORR or RA that will not impact startup, restart or shutdown but, if corrected, could lead to excellence in operations.

- Positive observation: Strength in applying a "good practice" and/or management expectation. This includes items identified as noteworthy practices or performance.
- Negative observation: Weakness or lack of applying a "good practice" and/or management expectation. This includes items identified as opportunities for improvement.

Program Work: Work in a reactor or non-reactor nuclear facility that is accomplished to further the goals of the facility mission and/or the program for which the facility is operated. Program work is not accomplished when a facility is shutdown. Program work does not include work that would be required to maintain the facility in a safe shutdown condition, minimize radioactive material storage, or accomplish modifications and correct deficiencies required before program work can recommence.

Readiness Self-Assessment: RSA form: Documents identifying criteria relating to DOE O 425.1 Core Requirements, that provide the objective evidence (through review approaches including documentation review, interviews and/or observation of activities) when confirmed by facility management. The following hyperlink leads to the generic set of RSAs: [Generic Set of Readiness Self-Assessments](#). RSA package: The documentation, which includes the RSA form, supporting documents and objective evidence. The completion of the set of Readiness Self-Assessment forms constitutes the completion of the Management Self-Assessment.

Readiness Self-Assessment Review Board: This is a board convened by senior management to verify the knowledge level of the Responsible Managers and adequacy of the Readiness Self-Assessment packages prior to declaration of readiness. The board consists of the following and must contain a quorum:

- * Vice President/Director, (Senior Board Member);
- Deputy, (Alternate Senior Board Member);
- * Regulatory Compliance participant (Non-voting member)
- * Responsible Manager (for the RSA packages being reviewed);
- Project Manager;
- Operations Manager;
- Engineering Manager;
- Nuclear Safety Manager;
- * RSA package Independent Reviewer;
- Startup Mentor (RSA package Independent Reviewer);
- [Startup Manager](#) (RSA package Independent Reviewer).

A quorum consists of six individuals. An "*" by the individual indicates a mandatory member.

Startup Readiness

Readiness Review Types: There are two types of reviews required by this procedure: Operational Readiness Review and Readiness Assessment. There are two levels of Readiness Assessment: DOE and FH.

- **Operational Readiness Review:** Normally, an ORR consists of two separate reviews performed in series: The first review conducted by the Contractor; and the second review conducted by DOE. The DOE line management organization usually conducts an assessment during the conduct of the contractor review. DOE is the Authorization Authority. When the review is an ORR, the following apply: A Mentor is assigned by Manager, Operations Assurance; an Activity Readiness Plan is used for getting the activity ready; the Plan of Action is approved by the DOE Authorization Authority; Team Leader is assigned by Director, Quality Assurance; the Implementation Plan submitted to DOE-RL for information; the Final Report and a Readiness to Proceed Memorandum are submitted to DOE-RL declaring readiness to start the DOE ORR; and a Readiness to Proceed Memorandum is submitted to DOE-RL requesting authorization to start or restart.

Readiness Assessments:

- **DOE RA:** Normally a DOE RA consists of a single review performed by the Contractor, with the DOE line management organization conducting an assessment during the conduct of the contractor review. DOE is the Authorization Authority. When the review is a DOE RA, the following applies: A Mentor is assigned by Manager, Operations Assurance; an Activity Readiness Plan is used for getting the activity ready; the Plan of Action is approved by the DOE Authorization Authority; Team Leader is assigned by Director, Quality Assurance; the Implementation Plan is submitted to DOE-RL for information; and the Final Report and the Readiness to Proceed Memorandum are submitted to DOE-RL requesting authorization to start or restart.
- **FH RA:** Normally a FH RA consists of a single review performed by the Contractor, with DOE conducting oversight during the conduct of the contractor review and FH is the Authorization Authority. When the review is a FH RA, the following applies: The Plan of Action is approved by the FH Authorization Authority; Team Leader is assigned by Project Vice President/Senior Director; and the Final Report and the Readiness to Proceed Memorandum are submitted to the Authorization Authority for authorization to start or restart. The following are recommended: Mentor to assist with getting the activity ready; and an Activity Readiness Plan to assist with getting the activity ready.

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Responsible Manager: Those personnel responsible for a specific group (i.e. Maintenance, Operations, Engineering, and others). Those personnel are responsible for:

- Completion of the Activity Readiness Checklist Affidavit.
- Ensuring equipment and personnel readiness for startup or restart through performance-based demonstrations of all tasks under each activity before declaration of readiness and submittal of the Activity Readiness Checklist Affidavit and applicable Readiness Self-Assessment for readiness review.
- Addressing and ensuring closure of all issues before resubmitting the Activity Readiness Checklist Affidavit and applicable Readiness Self-Assessment for final work authorization and work release.
- Incorporating compensatory measures to address post-start issues as appropriate.
- Ensuring post-start issues are corrected to ensure transition to normal unrestricted operations.

Startup Manager: The person with the responsibility for managing the startup or restart of an activity. The position may be a collateral assignment, but the management team must realize the end of readiness the process is the most hectic and the potential for the Startup Manager being overloaded has a high probability.

Startup Readiness

APPENDIX E Core Requirements

This appendix identifies the Core Requirements of DOE O 425.1C mandated by the PHMC contract. Each of the minimum Core Requirements listed below must be addressed when developing the breadth of an Operational Readiness Review. Justification must be provided in the plan of action, which must be prepared in accordance with this procedure, if it is determined that a particular Core Requirement will not be reviewed. The plan of action may reference a timely, independent review that addressed the requirements in a technically sound manner to justify not performing further evaluation of a Core Requirement during an Operational Readiness Review. An appropriate set of the Core Requirements should be selected when developing the breadth of a readiness assessment. The purpose of these Core Requirements is to assess the readiness of facility personnel, programs, and equipment to conduct work safely; hence, these Core Requirements are directly related to the seven guiding principles of integrated safety management.

Guiding Principle #1 – Line management is responsible for the protection of employees, the public, and the environment. Line management includes those contractor and subcontractor employees managing or supervising employees performing work.

NOTE: *The Core Requirements are in normal print and the Guiding Principles are in Italic.*

- (1) Line management has established programs to ensure safe accomplishment of work (the authorization authority should identify in the plan of action those specific infrastructure programs of interest for the startup or restart). Personnel exhibit an awareness of public and worker safety, health, and environmental protection requirements and, through their actions, demonstrate a high-priority commitment to comply with these requirements. *(CR #14)*
(CR #8)

NOTE: *The numbers in Italic following the Core Requirements reference the Core Requirements from the previous version of DOE O 425.1.*

Guiding Principle #2 – Clear and unambiguous lines of authority and responsibility for ensuring ES&H are established and maintained at all organizational levels.

- (2) Functions, assignments, responsibilities, and reporting relationships [including those between the line operating organization and Environment, Safety and Health (ES&H) support organizations] are clearly defined, understood, and effectively implemented with line management responsibility for control of safety. *(CR #11)*

Guiding Principle #3 – Personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.

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- (3) The selection, training, and qualification programs for operations and operations support personnel have been established, documented, and implemented. The selection process and applicable position-specific training for managers assures competence commensurate with responsibilities. (The training and qualification program encompasses the range of duties and activities required to be performed.) (CR #2) (CR#19)
- (4) Level of knowledge of managers, operations, and operations support personnel is adequate based on reviews of examinations and examination results and selected interviews of managers, operating, and operations support personnel. (CR #3) (CR #19)
- (5) Modifications to the facility have been reviewed for potential impacts on training and qualification. Training has been performed to incorporate all aspects of these changes. (CR #18b)

Guiding Principle #4 – Resources are effectively allocated to address ES&H, programmatic, and operational considerations. Protecting employees, the public, and the environment is a priority whenever activities are planned and performed.

- (6) Sufficient numbers of qualified persons are available to conduct and support operations. Adequate facilities and equipment are available to ensure operational support services are adequate for operations (Such support services include operations, training, maintenance, waste management, environmental protection, industrial safety and hygiene, radiological protection and health physics, emergency preparedness, fire protection, quality assurance, criticality safety, and engineering). (CR #8) (CR #13)

Guiding Principle #5 – Before work is performed, the associated hazards are evaluated and an agreed-upon set of standards and requirements is established which, if properly implemented, provide adequate assurance that employees, the public, and the environment are protected from adverse consequences.

- (7) Facility safety documentation is in place and has been implemented that describes the “safety envelope” of the facility. The safety documentation should characterize the hazards/risks associated with the facility and should identify preventive and mitigating measures (e.g., systems, procedures, administrative controls, etc.) that protect workers and the public from those hazards/risks. Safety structures, systems, and components (SSCs) are defined and a system to maintain control over their design and modification is established. (CR #4)
- (8) A program is in place to confirm and periodically reconfirm the condition and operability of safety SSCs. This includes examinations of records of tests and calibration of these systems. The material condition of all safety, process, and utility systems will support the safe conduct of work. (CR #5)

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- (9) The facility systems and procedures, as affected by facility modifications, are consistent with the description of the facility, procedures, and accident analysis included in the safety basis. (CR #15)

Guiding Principle #6 – Administrative and engineering controls to prevent and mitigate hazards are tailored to the work being performed and associated hazards. Emphasis should be on designing the work and/or controls to reduce or eliminate the hazards and to prevent accidents and unplanned releases and exposures.

- (10) Adequate and correct procedures and safety limits are in place for operating the process systems and utility systems that include revisions for modifications that have been made to the facility. (CR #1) (CR #18a)

- (11) A routine drill program and emergency operations drill program, including program records, have been established and implemented. (CR #9)

- (12) An adequate startup or restart program has been developed that includes plans for graded operations and testing after startup or resumption to simultaneously confirm operability of equipment, the viability of procedures, and the performance and knowledge of the operators. The plans should indicate validation processes for equipment, procedures, and operators after startup or resumption of operations, including any required restrictions and additional oversight. (CR #10)

- (13) The formality and discipline of operations is adequate to conduct work safely and programs are in place to maintain this formality and discipline (e.g., DOE 5480.19). (CR #12)

Guiding Principle #7 - The conditions and requirements to be satisfied for operations to be initiated and conducted are established and agreed upon by DOE and the contractor. These agreed-upon conditions and requirements are requirements of the contract and binding on the contractor. The extent of documentation and level of authority for agreement shall be tailored to the complexity and hazards associated with the work and shall be established in a Safety Management System.

- (14) Formal agreements between the operating contractor and DOE have been established via the contractor or other enforceable mechanism to govern the safe operations of the facility. A systematic review of the facility's conformance to these requirements has been performed. These requirements have been implemented in the facility, or compensatory measures are in place and formally agreed to during the period of implementation. The compensatory measures and the implementation period are approved by DOE. (CR #7)

- (15) A feedback and improvement process has been established to identify, evaluate, and resolve deficiencies and recommendations made by independent review groups, official review teams, audit organizations, and the operating contractor (e.g., DOE P 450.5). (CR #6)

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APPENDIX F Readiness Self-Assessment Review Board

- 1.0 Purpose: The purpose of the Readiness Self-Assessment (RSA) review board is to give the project's senior management an opportunity to evaluate their management team's readiness by reviewing the team's level of knowledge and quality (completeness and accuracy) of the RSA package, thereby evaluating the overall readiness of the management team and the activity prior to the declaration of readiness.
- 2.0 Responsibilities: The RSA Review Board is a multi-disciplined board with the responsibility to review the quality of selected RSA packages and interview the Responsible Managers to determine their knowledge level (knowledge of the RSA package and readiness to commence operations).
- 2.1 Senior Board Member (Project Vice President/Director or Delegate)
- Oversee board activities.
 - Identify the RSA packages to be reviewed.
 - Final approval for RSA packages.
- 2.2 Board Member (Facility Manager)
- Evaluate the RSA packages.
 - Make recommendations for acceptance or rejection.
- 2.3 Board Member (Technical Experts)
- Evaluate the RSA packages.
 - Make recommendations for acceptance or rejection.
- 2.4 Board Member (Regulatory Compliance)
- Non-voting Member.
 - Observe process.
- 2.5 Responsible Manager
- Present the RSA package to the review board.
- 2.6 Startup Manager
- Performs an independent review of the selected RSA packages prior to the Review Board.
 - Coordinates with the Startup Mentor to perform an independent review of all RSA packages.

NOTE: *The position of Startup Manager may be a collateral responsibility.*

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2.7 Startup Mentor

- Performs an independent review of the selected RSA packages prior to the Review Board.
- Coordinates with the Startup Manager to perform an independent review of all RSA packages.

NOTE: *The position of Startup Mentor is required for activities with DOE as the Authorization Authority.*

2.8 Membership

- Review Board:
 - Vice President/Director, (Senior Board Member);
 - Deputy, (Alternate Senior Board Member);
 - Regulatory Compliance participant (Non-voting Member)
 - Responsible Manager (for the RSA being reviewed);
 - Project Manager;
 - Operations Manager;
 - Engineering Manager;
 - Nuclear Safety Manager;
 - RSA package Independent Reviewer;
 - Startup Mentor (RSA package Independent Reviewer);
 - [Startup Manager](#) (RSA package Independent Reviewer).

NOTE: An alternate member may represent any member provided the alternate is appointed by an internal memo from the review board member to the Vice President/Director. Use of alternate members should be minimized.

2.9 Quorum: A quorum consists of six individuals. An "*" by the individual indicates a mandatory member.

- * Vice President/Director, (Senior Board Member or Alternate Senior Board Member);
- * Regulatory Compliance participant (Non-voting member)
- * Responsible Manager (for the RSA packages being reviewed);
- Project Manager;
- Operations Manager;
- Engineering Manager;
- Nuclear Safety Manager;
- * RSA package Independent Reviewer;
- Startup Mentor (RSA package Independent Reviewer);
- [Startup Manager](#) (RSA package Independent Reviewer).

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3.0 Process:

<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Responsible Manager	3.1	Completes and signs the package for acceptance and readiness to be presented to the RSA review board.
Senior Board Member	3.2	Identify the RSA packages to be reviewed by the RSA review board. NOTE: <i>The set of RSA packages to be reviewed must include all Responsible Managers.</i>
RSA Independent Reviewer	3.3	Conduct a thorough review of each RSA package designated for Review Board review prior to submitting it to the Review Board for review.
RSA Review Board Members	3.4	Before the Review Board meeting, individually review each RSA package scheduled and identify topics for discussion by the Responsible Manager. NOTE: <i>The preparation will permit Review Board members to ask questions for clarification in order to validate that the Responsible Manager has adequately satisfied the objectives of the RSA Review Approaches and Criteria.</i>
	3.5	Meet to review the scheduled RSA package(s).
Responsible Manager	3.6	For each scheduled RSA package, make a presentation to the board which includes a discussion of: <ul style="list-style-type: none"> • The approach taken to conduct his/her self-assessment. • The results of the self-assessment. • The basis for his/her determination that the RSA Criterion is met. NOTE: <i>Additional guidance is provided in HNF-GD-11615, Startup Readiness Guidance.</i>
RSA Review Board Members	3.7	Interview the Responsible Manager to determine his or her knowledge and understanding of the contents of the RSA package. Ask clarifying questions as necessary in order to make a determination of acceptability of the RSA package.

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Board Member (Startup Manager)	3.8	Record any Review Board issues requiring additional action or resolution and provide them to the Responsible Manager for action.
Board Member (Technical Experts)	3.9	<p>a. Upon satisfactory knowledge level by the Responsible Manager and satisfactory contents of the RSA package, make a recommendation for acceptance of the RSA package.</p> <p>Or</p> <p>b. If the determination is the Responsible Manager or the RSA package does not meet the expectations of the Review Board member, identify the areas needed for improvement and have the Responsible Manager correct the deficiencies.</p>
Board Member (Facility Manager)	3.10	<p>a. Upon satisfactory knowledge level by the Responsible Manager and satisfactory contents of the RSA package, make a recommendation for acceptance of the RSA package.</p> <p>Or</p> <p>b. If the determination is the Responsible Manager or the RSA package does not meet the expectations of the Review Board member, identify the areas needed for improvement and have the Responsible Manager correct the deficiencies.</p>
Senior Board Member	3.11	<p>Based upon input from the Members, select one of the following dispositions for each RSA package reviewed:</p> <ul style="list-style-type: none"> • The RSA package is acceptable. Sign the RSA form approval and no further action is required. • Minor changes are necessary. Forward to the Responsible Manager for the necessary changes. • Significant changes are necessary. Forward to the Responsible Manager for rework.

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Responsible Manager	3.12	If minor changes are necessary, incorporate the necessary changes in the RSA package, obtain a review from the assigned Independent Reviewer (who will review the revised RSA package for accurate comment incorporation), and resubmit to the Senior Board Member for final approval.

NOTE: *The RSA package will **not** be resubmitted to the Review Board prior to Senior Board Member approval.*

- 3.13 If significant changes are necessary, conduct the necessary rework for the RSA package and process as outlined in [Steps 3.1 through 3.7](#).