



System Development and Life-Cycle Management (SDLCM) Methodology

Subject Environment Change	Type	Procedure
	Identifier	P-1601
	Effective Date	December 1999
	Revision No.	

Approval

CISSCO II Program Manager

1. PURPOSE

This procedure establishes the mechanism for requesting and effecting changes to the NRC hardware and software environment for both infrastructure and applications support.

2. APPLICABILITY

This procedure applies to all requests for changes to the NRC hardware and software environment, including (but not necessarily limited to) the following elements:

- Platform hardware (server or desktop)
 - ◆ Processor
 - ◆ Communications
 - ◆ Storage
 - ◆ Memory
- Platform Software (specific version, release, and patch)
 - ◆ Operating system (desktop, server, or host)
 - ◆ Compilers and interpreters
 - ◆ Groupware
 - ◆ Database Management Systems
 - ◆ User interfaces, including images
 - ◆ Transfer Protocol Software
 - ◆ Utilities
- Application Development and Maintenance Tools
 - ◆ Vendor software (specific version and release)
 - ◆ Add-on software (specific version and release)
 - ◆ Libraries (shared code, call libraries, DLL's, etc.)
 - ◆ Reusable components

Subject Environment Change	Type	Procedure
	Identifier	P-1601
	Effective Date	December 1999
	Revision No.	

The NRC Environment Configuration Control Board (CCB) may consider requests for changes to other environmental elements not specifically itemized in the list above.

SDLCM Methodology Procedure P-2501 (Configuration Control Board) defines the activities of the NRC Environment CCB (and all other NRC CCBs). The interface between this procedure and the CCB procedure is defined herein.

Any NRC personnel and any personnel from NRC contractor organizations may submit an Environment Change Request (ECR). ECRs propose additions, deletions, or modifications to the current environment¹.

3. REFERENCE PUBLICATIONS

The following publications contain related information:

- *SDLCM Methodology Handbook*
- SDLCM Methodology Form F-1601, Environment Change Request Form
- SDLCM Methodology Procedure P-2501, Configuration Control Board
- NRC Technical Reference Model, NRC/OCIO.

4. PROCEDURE

4.1 Data Flow Diagram

The Environment Change procedure has the five major steps identified in the data flow diagram shown in Figure 1601-1.

4.2 Entry Criteria

This section identifies the inputs and triggers.

The following input is necessary to begin this procedure:

- A recognized need for an addition, deletion, or modification to the NRC environment

Any of the following events may trigger this procedure:

- A failure of the environment to support a functional requirement
- An opportunity for process improvement
- The introduction of new technology

¹ In a future revision to this procedure, the phrase "current environment" will be changed to "baselined operational environment."

Subject Environment Change	Type	Procedure
	Identifier	P-1601
	Effective Date	December 1999
	Revision No.	

- Cessation of vendor support.

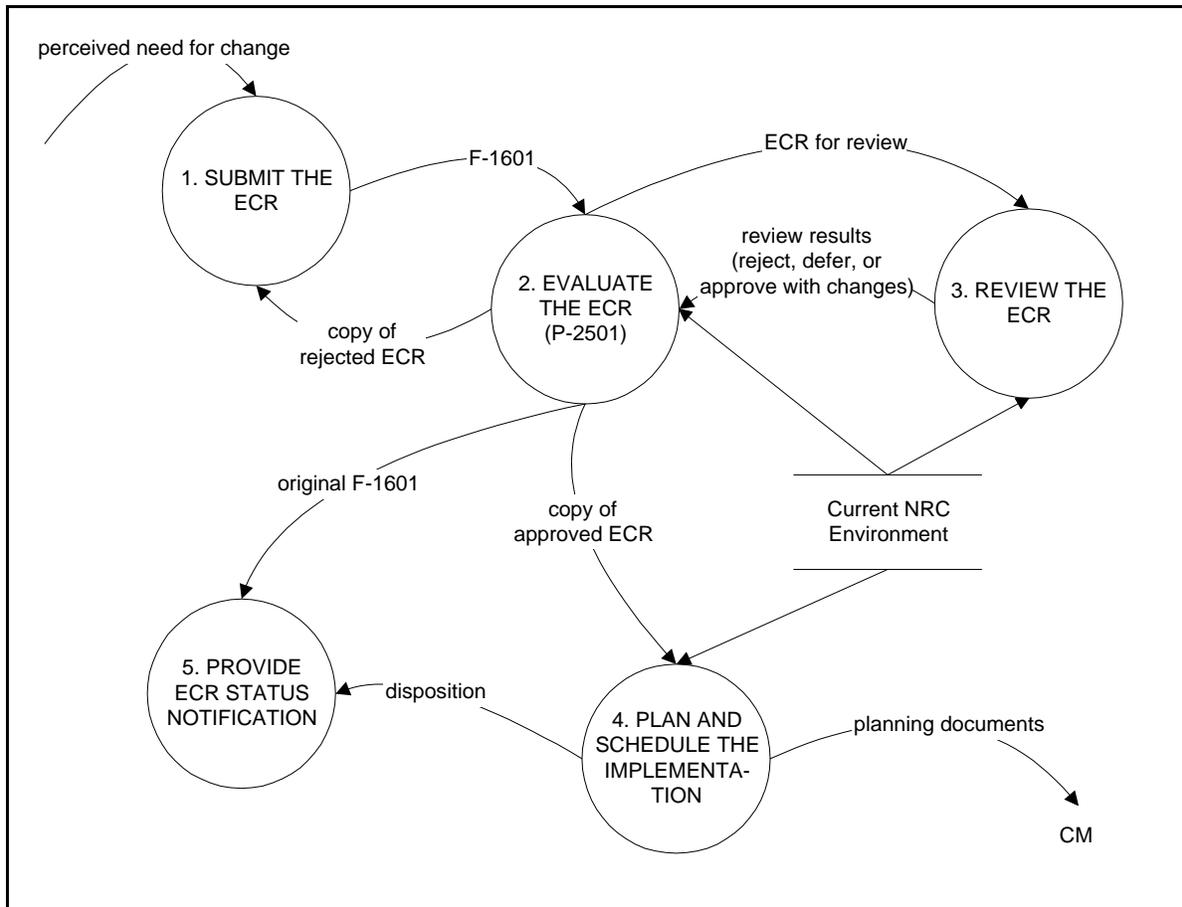


Figure 1601-1. Environment Change Data Flow Diagram

4.3 Steps

This section provides details of the steps shown in the data flow diagram (Figure 1601-1) and the data items that flow among the steps. The Step-Role table included in Section 4.6 clarifies which roles are responsible for performing which steps.

Perform the following steps:

1. Submit the Environment Change Request

Any NRC personnel and any personnel from NRC contractor organizations may submit an ECR. ECRs propose additions, deletions, or modifications to

Subject Environment Change	Type	Procedure
	Identifier	P-1601
	Effective Date	December 1999
	Revision No.	

NRC's current environment².

To request a change, use SDLCM Methodology Form F-1601, Environment Change Request Form. Complete all blocks under "Originator Information" and "Change Information." Attach additional pages as needed to provide the required details, and use the form as a cover sheet to submit the request.

ECR Form Instructions

Originator Information

- ◆ Complete fields for Originator's Name, Organization, Location, Telephone Number, and Date Submitted.
- ◆ Provide the printed name of the Originator's Supervisor. Obtain the signature and date after completing the Change Information portion.

Change Information

- ◆ **Responsible NRC Organization.** Specify the NRC organization responsible for the environmental element to be changed.
- ◆ **Scope.** Check the applicable box.
- ◆ **Priority.** Check the applicable box. For a time-critical change, specify a deadline. For time-critical and urgent changes, provide a justification and state the effect of a delay in Part A, Items 6 and 7 (see below).
- ◆ **Brief name.** Provide a brief identification of the new hardware or software technology to facilitate references to your ECR.
- ◆ **Details.** Provide information that addresses each of the items in Parts A, B, and C, as applicable.

Part A. Enter the following information directly on the form or provide an attachment labeled "Part A." If an item does not apply, justify why not and specify "N/A."

1. Vendor Name
2. Complete name of new or expanded technology, including version, release, and patch identifiers, if applicable
3. Number of copies that will be needed
4. Number of desktops that will be affected by the presence of either the vendor product or the output generated by the vendor product (for example, run-time modules)
5. Source of funding to satisfy Items 3 and 4
6. Justification for Time-Critical or Urgent priority
7. Consequences of rejecting this request from the requestor's perspective (for example, a failure to meet an agreed-upon delivery date for a system as promised to the Commission)

² See first footnote.

Subject Environment Change	Type	Procedure
	Identifier	P-1601
	Effective Date	December 1999
	Revision No.	

8. Compatibility with the NRC's Technical Reference Model (Preferred or Target)
9. Required operating environment (hardware, operating system, or other products)
10. Intended functionality that this product, upgrade, or patch will offer
11. Summary of distinguishing features of the product, upgrade, or patch
12. Technological benefit to the NRC
13. Applicability of the product for other users, systems, platforms, etc. (for example, can others benefit from the change?)
14. Availability of a competing (or comparable) technology product already in the NRC environment (for example, for a new product request, is there a similar product already installed?)

Part B. Provide an attachment to the form labeled "Part B."

Using the criteria listed below, provide a comparative evaluation of the requested new or upgraded technology with at least two competing products. (If the answer to Part A, Item 14 is "yes," one of these must be the currently available product.)

For each of the criteria, rate each product numerically from 1 to 4 as follows: (1) Does not satisfy requirements, (2) Partially satisfies requirements, (3) Satisfies requirements, and (4) Exceeds requirements. Indicate not applicable (N/A) where appropriate. The first criterion (specifically required functionality) shall be weighted higher than the other criteria. Use a table or narrative as appropriate for your ECR. Provide any explanatory information needed to support your evaluation. Conclude the comparison with a cost-benefit analysis that supports the Environment Change Request.

- a. Specifically required functionality
- b. Documentation support
- c. Y2K compliance
- d. Ease of installation, setup, and use
- e. On-line help
- f. Vendor training (specify costs if separate from purchase price)
- g. Vendor stability
- h. Product Stability
- i. Licensing requirements and issues (specify costs and whether site licensing is available)
- j. Upgrade to earlier version already in the environment

Part C. Optionally, provide an attachment to the form labeled "Part C" to present any other information in support of your Environment Change Request.

Submit the completed ECR form to the originator's supervisor for approval.

The supervisor submits the form to the CISSCO Configuration Management organization for processing as defined in SDLCM Methodology Procedure P-2501, Configuration Control Board. CM processing includes reviewing the package for completeness, assigning an

Subject Environment Change	Type	Procedure
	Identifier	P-1601
	Effective Date	December 1999
	Revision No.	

ECR number if complete, packaging the ECR along with other ECRs, and submission to the CCB. Review for completeness includes confirming the presence of all applicable information in Part A and a comparison of at least three products in Part B.

2. Evaluate the Environment Change Request

The NRC Environment CCB reviews the ECR (see Procedure P-2501).

In accordance with Procedure P-2501, the members review the ECR (or a package of ECRs) prior to the actual CCB meeting. Each CCB member's review includes, at a minimum, assessment of any effect on the member's area of responsibility. (For example, is there any effect on other environmental elements or any need for other upgrades to support the current change request?)

The CCB shall forward the ECR to the Change Review Committee to review its potential effect on the current environment³ (Step 3). This technical review will normally be completed prior to the scheduled CCB meeting so that the CCB members will be prepared to vote on the disposition of the ECR during the meeting.

If the CCB rejects the ECR, the form is annotated with the justification for the rejection, and the CM organization provides a copy of the ECR form to the originator.

If the CCB approves the ECR, CM forwards a copy to the Change Implementation Committee (Step 4).

The CCB may also decide to defer action until a future CCB meeting date, possibly to permit additional review by the Change Review Committee (Step 3).

ECR Form Instructions

CCB Action

- ◆ Select one box to indicate the disposition of the ECR. Justify a rejected ECR in the Comments field. Specify a date for a deferred ECR.
- ◆ Provide the printed name and signature of the CCB Chairman. Indicate the date the ECR is signed.
- ◆ Comments. If applicable, provide comments from the CCB as feedback to the originator or for the record; attach additional pages if necessary.

³ See first footnote.

Subject Environment Change	Type	Procedure
	Identifier	P-1601
	Effective Date	December 1999
	Revision No.	

3. Review the Environment Change Request

The Change Review Committee reviews the request for its potential effect on the current environment⁴. The committee members may request additional information from the originator. The committee documents its recommendations (including any possible implementation alternatives) and returns the ECR to the CCB for further evaluation (Step 2).

4. Plan and Schedule the Implementation

The Change Implementation Committee develops a plan, including a schedule, for implementing approved ECRs. If necessary, the committee members consult with a person or group possessing the necessary expertise or experience (possibly the originator). A copy of the reviewed and approved plan is placed under CM control.

5. Provide Environment Change Request Status Notification

The Chairman of the Environment CCB sends an e-mail notification to all personnel within the Office of the Chief Information Officer and to the members of the Information Technology Business Council announcing the nature of the change and the schedule for implementation.

The CM organization notifies the requester of the final disposition of the ECR.

The CM organization maintains the status of all ECRs; ECR status is available for review by any personnel throughout the environment change process.

4.4 Exit Criteria

The outputs of this procedure are:

- A completed Environment Change Request Form maintained by CM
- All information required to update the environment if the request was approved
- Information necessary to update the applicable NRC inventory

The results of the procedure are:

- The ECR is approved; a plan and schedule have been prepared and placed under CM control.

⁴ See first footnote.

Subject Environment Change	Type	Procedure
	Identifier	P-1601
	Effective Date	December 1999
	Revision No.	

- Alternatively, the originator understands why the change request was rejected

4.5 Verification

Quality Assurance personnel verify that this procedure is followed and that all outputs are filed.

4.6 Roles

Table 1601-1 depicts the roles responsible for each step in the Environment Change procedure.

Table 1601-1. Environment Change Step-Role Table

Steps	Roles:	Change Request Originator	NRC Environment CCB	Change Review Committee	Change Implementation Committee	CM
Submit the ECR		P				R
Evaluate the ECR			P			S
Review the ECR		S	A	P		S
Plan and Schedule the Implementation		S	A	R	P	S
Provide ECR Status Notification			P			P

Legend: P=Performs, R=Reviews, A=Approves, S=Supports

Note: The NRC CIO (or his or her designee) appoints the members of the NRC Environment CCB. The chairman of the Environment CCB appoints the members of the Change Review Committee and the Change Implementation Committee.