Perform Air International Inc.
Fabrication Control Manual
Section XIII
Process: XIII.02 Engineering Change Order (ECO)

Revision	Revision Date	Revision Change
N/I	12/29/2023	Initial Release
1	*08/20/2025*	*Added 6.7 (ECR Form 67.14)*

1.0 Purpose:

The purpose of this document is to describe the process to be followed for design control of engineering documents.

2.0 Scope:

This document applies to all drawings and test instructions. Perform Air International Inc. personnel in Engineering and Quality Assurance have responsibility for implementation as defined herein.

The scope of the ECO procedure includes the initiation and revision of all product-oriented design engineering documentation. Quality management system documents are not included under the ECO procedure.

3.0 Responsibility:

Engineering management is responsible for the development, implementation, and control of this procedure.

The Engineering Department has the primary responsibility for implementation of engineering changes to released documents.

The Engineering Change Board is a group of individuals selected to review and approve changes applicable to the procedure.

4.0 Definitions:

4.1 Engineering Change Order (ECO) - The approval vehicle used by engineers to issue direction to implement engineering actions.

4.2 Revision Engineering Change Order - An ECO that makes changes to the bill of material, actual parts(s), or associated documentation.

4.3 Release Engineering Change Order - An ECO that formally releases one or more engineering documents to users. Upon release, a document is thereafter under configuration control.

4.4 Obsolete Engineering Change Order - An ECO that removes a project, assembly or part from active drawing files and archived by document control.

4.5 Blanket Engineering Change Order - An ECO that incorporates identical changes to various different drawings.

4.6 General Engineering Change Order - An ECO that captures changes that are general in nature (obsolescence, substitution, etc.), have multiple drawing effectivities, and are not cost effective to incorporate into all drawings at the time of the change.

4.7 Engineering Change Request (ECR) - The vehicle that documents a need for ECO action.

5.0 Process:

5.1 The ECR document is used to gather information in preparation for an ECO.

5.2 The effectivity time of a change is controlled by Engineering with input from the responsible department.

5.3 The Engineer determines customer requirements for change approval.

5.4 The Engineer is responsible to coordinate changes with specification, MIL specs, standards, and other general requirements.

5.5 ECR originators are responsible to provide complete data requested on ECR forms and to supply a redlined drawing, if applicable.

5.6 ECO Coordinator or Designee maintains the ECO and ECR database for tracking purposes.

5.7 Multiple part numbering systems are acceptable and represent product lines originating from separate locations.

5.8 Criteria for ECO approval is that changes are approved by Engineering Management.

5.9 Approval functions are categorized by Division.

5.10 An ECR may be originated by any employee of the company and submitted to Engineering for review through the ECO Coordinator or Designee.

5.11 Engineering Change Request (ECR):

5.11.1 An ECR should provide sufficient information about its purposed change to permit a realistic evaluation of the consequence of approval. Costly steps that can be incurred by an uninformed approval are:

5.11.1.1 Many more documents to change than were anticipated.
5.11.1.2 More products affected than anticipated.
5.11.1.3 Unanticipated re-identification of non-interchangeable items.
5.11.1.4 Re-qualification/Re-certification of hardware.

5.11.2 The ECR must give a thorough statement of the problem and a proposed solution. The top half of the form is to be filled out completely and all applicable prints, specifications, and details required to explain the problem must accompany the ECR **before** being submitted to Engineering for evaluation.

5.11.3 ECR's can be used to document a problem only. It is sometimes necessary to submit an ECR when the solution is not yet known. Approval of an ECR by the Project Engineer then provides the authority to expend resources on solving the problem. The ECR will remain "open" until the problem's solution can be implemented.

5.11.4 An ECR remains "open" until all the "affected documents" are revised by an ECO. See Form 67.08 – Engineering Change Request.

5.11.5 As a part of the ECR process, the engineer shall determine whether the change if approved has an environmental aspect. If the change does not have an environmental aspect or has an environmental aspect but will not result in a significant impact to the environment, the engineer shall note the determination on the form and continue the ECR process. If the change will result in a significant impact to the environment, then the engineer shall note the determination on the form, continue the ECR process, and must notify the appropriate department using Form 67.14.

5.11.6 Prior to proceeding with an approved ECR, the ECR shall be reviewed and approved by Engineering Management. The impact, suitability, and implementation of the change shall be reviewed and a final determination of approval to proceed or rejection will be made. The decision will be recorded on the ECR and returned to the ECO Coordinator or Designee.

5.12 Engineering Change Orders (ECO):

5.12.1 When an ECR is approved, it provides the authority for the generation of an ECO against each affected document listed on the ECR. These ECOs must be linked to their authorizing ECR by referencing the ECR number to complete the paper trail.

5.12.2 There must be an individual ECO for each document revised. The "description of change" block can only describe a change to a particular document and/or drawing. The ECO form is not setup for multiple drawing changes on one form.

5.12.2.1 The exception to the above statement is for "Released ECOs." When releasing drawings for a project, it is allowable to list these drawings all together on one ECO.

5.12.2.2 The drawings will be listed showing drawing part number, drawing title, drawing size, and revision level at release.

5.12.2.3 This exception also applies to "Blanket ECOs." When one or more ECRs are submitted for identical changes to various drawings, it is allowable to list all of these drawings on one ECO. These drawings will be listed showing drawing number, drawing title, drawing size, ECR number, current revision, and revision at change.

5.12.3 The ECO form is the standard form that will be used for all revisions, releases, and obsolete orders. The "Type" of ECO will vary by the use of the "Type of ECO" block that is chosen. See form "ENGINEERING CHANGE ORDER" Form 67.07 .

5.12.4 Release and incorporation of ECO's – Once an ECO is approved it shall be released immediately to provide users with the information and authority to make a timely and orderly implementation.

5.12.5 Outstanding ECO's shall not be released (or accumulated) against Separate Parts Lists. Since these lists are computer generated, the turnaround time for incorporation and distribution is such that it is possible to release revised parts lists each time an ECO is authorized. Each ECO released must result in a new revision letter issue with its own production effectivity.

5.13 Special ECO Applications:

5.13.1 Obsolete ECO – Obsolete ECO is used when a project, part, or assembly has been determined to be obsolete. The obsolete ECO is written and circulated to notify all departments. Upon approval, Document Control will pull all associated drawings and file in the obsolete files.

5.13.2 General ECO – The General ECO captures changes that are general in nature (obsolescence, substitution, etc.) that are approved for multiple drawings. The General ECO contains items that are not cost effective to incorporate into all drawings at the time of the change. The General ECO provides engineering approval for the change to the associated document(s) and applies until the change is incorporated into the document(s). After approval of the change by ECR, the ECO is generated to document the change to the General ECO document. The ECO is processed and incorporated per section 5.12 above.

5.14 ECO Corrections:

5.14.1 When an ECO is released containing an error, a new ECO must correct it. **ECOs cannot be revised.**

5.15 ECO Approvals:

5.15.1 Managers of the activities provided with approval signature blocks on the ECO forms shall personally sign-off for their organizations or delegate the authority to sign for them, a primary representative and an alternate. See the general section of this procedure for the lists of those authorized to approve ECOs.

5.15.2 Prior to final release of a change requiring customer or agency approval, a copy of the change and copy of the incorporated documentation shall be forwarded to the respective authority by Document Control and the change release held pending receipt of formal written approval.

5.15.2.1 All Class I changes to documentation shall be approved by the associated customer or agency (FAA-DER, Customer, FSDO, etc.). Customer coordination shall be made by the Perform Air International Inc. Engineering Department. FAA coordination shall be made by the Quality Assurance Department.

5.15.2.2 Class II changes may require approval, concurrence, or only a copy provided to the customer or agency.

5.15.2.2.1 All Class II changes for end items including all changes to detail drawings require a copy of the released documentation to be forwarded to the assigned FAA-DER for Category 1 and 2 components. Release of the change may proceed after "acceptance" of the documentation, and a revised EO is generated.

6.0 Records:

6.1 Engineering Change Order – Form 67.07
6.2 Engineering Change Order Form Instructions – Form 67.07-INST
6.3 Engineering Change Request – Form 67.08
6.4 Engineering Change Request Form Instructions – Form 67.08-INST
6.5 Engineering Change Request Log Book
6.6 Engineering Change Order Log Book
6.7 *Engineering Change Review – Form 67.14*