

MANAGING CHANGE PROCESSES WITH INSIGHT :: They may be referred to as Engineering Change Orders (ECO), Engineering Change Notices (ECN), or Engineering Change Requests (ECR), but they all refer to the same thing: a packet of information used to track engineering changes within the design and manufacturing process.

Typically, an Engineering Change (EC) consists of a bundle of change requests attached to a drawing. It includes an identification number, a requested change, the person requesting the change, the time of the request, and a routing slip to identify the people who need to approve the change. Once the change is approved, an effective date is added to specify when the change will be used in production. On the effective date, the approved drawings are moved to a place where the shop floor can view them.

In an electronic environment, a document or set of documents outlining the changes that are being made are routed through various approval states based on steps within the workflow.

When implementing an ECO process with the Packaged Collaboration File (PCF), there are a few steps you should take.

1. Ensure users are mapped to the specified site groups for each document library.
2. Verify the privileges for each user work properly for each document library.
3. Run Solid Edge Administrator to set up the default root folders.
4. Set up alerts for the appropriate users in the PCF document library.
5. Set Approvals/Moderation to ON in the ECR and ECO document libraries.

The PCF document library is a location within the engineering site in which non-engineering personnel, such as shop floor and service technicians, have write access. This allows them to create PCF files and store them in an "incoming" location.

With Moderation On in the ECR and ECO document libraries, an approval workflow can be started when the PCF file is moved to that location.

The ECR document library can be thought of as the location to request approvals to create revisions of released documents. If your company does not require approval to create revised documents, you can skip this document library and create revisions without approvals.

The ECO document library can be thought of as the location to request release of revised documents after all changes have been made to the revisions.

The following steps describe the workflow for using Insight Connect: View and Markup to implement an ECO process. In this example, we will take Assembly1.asm through the ECO workflow. This example assumes that the steps needed to set up the ECO workflow have been completed and the appropriate users, roles, and document libraries have been created as shown in the table.

User	Pre-Release Subsite	Release Subsite	Obsolete Subsite	Markup Subsite	ECO Subsite	ECR Subsite
Shop Floor / Tech Support	None	Viewer	None	Creator	Viewer	Viewer
Engineer	Creator	Viewer	Viewer	Creator	Creator	Creator
Release Mgr.	Deletor	Deletor	Deletor	Deletor	Deletor	Deletor
Admin.	All	All	All	All	All	All

SESTATUS	Available In Work In Review	Released Baselined	Obsolete	Available	Available In Work In Review	Available In Work In Review
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Note: The user moving the PCF from one location to another needs to have Delete privileges. For example, you probably want to set up your workflow so that the PCF can be moved by a manager or an administrator, but not an engineer or someone from the shop floor.

GOING THROUGH THE WORKFLOW

1. Joe on the shop floor identifies a problem with an assembly and searches the Released site for the assembly document or its related draft document.
2. Joe opens Assembly1.asm in Insight Connect: View and Markup, and views the assembly. He can add comments to the assembly document and save the contents as a PCF file.
3. Engineer Ron receives an e-mail notification when the file is added to the PCF document library. In order to receive e-mail, Alerts must be turned on for this library.
4. Engineer Ron opens the PCF and reviews the comments made by Joe that indicate that Part3.par needs to be revised.
5. Engineer Ron switches from View and Markup to Revision Manager, while in Insight Connect, and does a where-used search to identify the documents that will be impacted by the revision. The search results include:
 - o Part3.par, Part3.dft
 - o S2.asm, S2.dft
 - o AssemblyA.asm, AssemblyA.dft
 - o AssemblyC.asm, AssemblyC.dft
6. Engineer Ron can perform the actions specified if no approval is needed or add information to the PCF outlining the revisions being requested. He can use an Office document to do this.
7. Engineer Ron adds all the information needed to describe the requested changes and saves the PCF to disk.
8. Release Manager Kevin moves the PCF to the ECR or ECO location, depending on the approval requested. Moderations should be turned on for these locations. The approvers for the ECR location receive notification to approve the PCF.
9. The approvers review the PCF in the ECR document library and approve or reject the requested changes. Remember, for ECR, the approvers are either approving or rejecting the request to create revisions of released documents at this time.
10. Once the request to create revisions is approved, Engineer Ron can open the same PCF, bring up Revision Manager, and run Perform Actions. The revised documents are created automatically in the Pre-Release document library root folder location, and the status is set to Available. Solid Edge is used to make all required changes documented in the PCF.
11. After all revised documents are complete, Engineer Ron opens the PCF and updates it with information that all changes were made.
12. Release Manager Kevin moves the PCF from the ECR document library to the ECO document library with Moderation turned on. At the same time, he uses Life Cycle Assistant with the PCF to set the status of all Revised documents and change the status to In Review.
13. The approvers for the ECO document library approve or reject the request to release the revised documents.
14. When approved, the Release Manager is notified the ECO was approved.
15. Release Manager Kevin uses Life Cycle Assistant to move all Revised documents to the Released folder. To do this, he: A) opens the PCF to get a list of revised documents in the Life Cycle Assistant list; B) moves the documents to the Released document library and sets the status to Released. If the option is set to make old files obsolete, he moves the original files to the Obsolete document library and sets the status to Obsolete.
16. Release Manager Kevin moves the PCF to the ECN folder. This notifies anyone that has Alerts that the new released product is available for production.

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