

## 1 Purpose of this Standard

The purpose of this standard is to ensure that documentation which is required to be published follows a set of rules to ensure the efficiency and effectiveness of quality processing.

## 2 Risks of non-compliance

Some of the risks of not having, or not complying with these standards are:

- Documentation is made available for general use before it has been quality checked
- Un-checked documentation may have errors that cause confusion about the intended purpose of the content found within
- Documentation and data may not be distributed to the correct individuals or groups at the most appropriate time
- Disorganized published information creates a need for individuals to duplicate files in their own drives, external devices, or local disk drives
- Documentation and data may become misplaced or lost
- Users experience dramatic reductions in productivity searching for up-to-date, controlled versions.
- Important confidential or restricted access documentation and data may be stored in an uncontrolled and unsecure location, which may not be backed up through Information Technology protocols

## 3 Overview

Publishing documentation and data is the method in which information that has been created is processed and made available to the users of the data in a controlled manner. There are various levels of control for different types of files that are utilized in different types of organizations and industries.

## 4 Preparation

Document Controllers must be prepared for any data that needs to be published, which includes:

- Being involved with the schedule on when data is to be published
- Understanding the distribution requirements upfront (including restricted access)
- Ensuring appropriate and adequate resources are available
- Understanding the purpose of the data; is it a revision to an existing document, drawing or data file, or is the data a portion of an EWP or CWP (see section 7 below)
- Understand the requirements or constraints of available applications

## 5 Quality in communication of data

Document Controllers provide the last review of how data is communicated before publishing and, as a result, they need to ensure the quality of the data, in both documented and digital format. Details of quality assurance mechanisms and quality checking can be found in DMC-DM-STD-015.

## 6 Processing

Processing includes:

- Gathering the documentation in an order that makes sense to the users of the information
- Creating a PDF or other non-modifiable format of the file
- Published files must be derived from the signed file whenever possible. Renditions should only be used when absolutely necessary, or if intermediate revisions are being distributed (See DMC-DM-STD-008 for further clarification)
- Files being sent for Information Only must be marked as such, both clearly on the file and in the transmittal
- Original hard copy or electronic copy is appropriately stored
- Placing individual PDF files into repository (network drive or software platform)
- Indexing the files in Excel, or entering metadata into a software application
- Superseding files that have been replaced, or versioning old files within software application (See DMC-DM-STD-008)

### 6.1 Common Issue Stages

Submissions can be processed for a number of different reasons. The reasons, or issue stages, typically identify the level of progression of the content. For example, IFA will only typically have 20% of the content designed, but it will show the overview of the concepts, and IFB should be close to 80% complete, while IFC should be 95% complete. However, in some organizations, like equipment fabricators, IFA may indicate a 90% completion. It is important for organizations to cross-functionally discuss, document, and implement the expectations.

NOTE: Determining what the percentage complete entails can include elements of technical design, manhours consumed, progression of collective data, timelines, and/or number of documents or files processed. It can be detailed or it can be simplified, as long as it is described and explained.

Below is a list of the most common issue stages, with some standard descriptions of the more misunderstood stages, as well as some issue stages that should be avoided.

#### **Issued for Review (IFR)**

#### **Issued for Approval (IFA)**

#### **Issued for Regulatory Application/Submission (IFREG)**

#### **Issued for Engineering (IFE)**

#### **Issued for Hazop (IFH)**

Hazop is an abbreviated word meaning hazards and operability. This is the stage in which the design can be reviewed for any safety concerns within the design, or the ease in which the facility can be operated. It can be replaced with just the safety element and thus be called Issued for HazID (Hazard Identification).

**Issued for Design (IFD)**

**Issued for Bid (IFB)**

Bid drawings are used to request pricing from construction crews. Bid drawings must be complete enough to ensure no major changes happen between when a contractor bids on a job and when they arrive on site (mobilize) to perform the work.

**Issued for Construction (IFC)**

**Issued for Record (IFRCD)**

Files IFRCD are created by the authenticating (signing) engineer as the construction occurs. He/she is to be present during the construction to ensure the accuracy of any changes that are marked on the construction drawings. These mark ups are performed by the signing engineer.

**Issued for As Built (IFASB or ASB)**

As Built drawings and facility documents are created by having the construction representative mark any changes that occurred during construction in red pen on a hard copy (typically) or on an electronic copy (if electronic redlining tools are available). The authenticating engineer is not present during this process and thus cannot authenticate the changes. If authenticated As Built files are requested, the signing engineer must be present and perform the markups himself/herself.

**IFU (Issued for Use)**

This is used primarily for documents as opposed to drawings. It states that the information in the document is now available for its intended purpose.

**IFV (Issued for VOID)**

When a drawing is to be removed from the scope of the job. The drawing number is not used again.

**IFO (Issued for Obsolete - STAMPED)**

When a drawing needs to be made obsolete because it will be replaced by another drawing of the same number and revision. Used primarily to retract prematurely issued drawings.

**IFDEMO (Issued for Demolition)**

Demolition drawings are temporary drawings to indicate items that are to be removed either from physically existing equipment or from a drawing once it has been issued IFC (even if the items have not yet been physically built).

**IFIO (Issued for Information Only)**

This type of issue can be used on any drawing at any stage. For example, if an IFC drawing is incomplete, but the drawing needs to go to a third party for general information, the IFC drawing is NOT to be signed or authenticated, but it can be stamped IFIO and safely sent out for Information.

## 6.2 Issue Stages to Avoid

There are some issue stages that should be avoided. The information that the following attempt to portray, should be captured by other methods.

### Issued for General Revisions or Added Pump (as an example)

General revisions or describing an item that has been included into the design does not provide the instruction on what the content is to be used for. A user cannot determine if they are to use the information for review, construction, or any other action. “General revisions” can be placed in the notes or comments section of a file – within the file or within the file’s metadata. This holds true for documents as well. All revisions must indicate the purpose of the file, such as approval, use, etc.

### Issued for Squad Check

Squad Check refers to a peer review of the file’s content. A file can be reviewed for its appropriateness for approval, or for its appropriateness for construction, both of which will go through the Squad Check process, but Squad Check is not an issue stage as it does not indicate a percentage the content is complete.

Creating codes for issue stages that occur more than once in succession should be avoided. For example, if a document is issued for use, the issue stage code would be IFU. If that same document is then re-issued for use on the next revision, it is still IFU (**IssuedFU**), it is not RFU (**Re-issuedFU**).

## 7 Transmittals

Transmittals are documents that indicate the precise list of files that are being transmitted. Transmittals should be used whenever files are being made known as available, which includes when files are physically being sent in hard copy, files that are being transmitted electronically over email, ftp, or any other transfer mechanism, and when files are located in an accessible environment and hyperlinks to the location of those files are being sent.

Transmittals are used for a number of reasons:

- When evidence of notification is required regardless of if notification is internal or external
- To provide ease of understanding the transmitted content
- To provide a quality check list for the recipient (this allows them to notify the sender if a file has not made it through)

Each transmittal must contain the following elements, at a minimum:

- A unique transmittal number
- The sender’s information
- The recipient’s information
- The date of the transmission (not the date the transmittal was created)
- A list of each individual file
  - The name of the file

- The number of the file
- The issue stage/status of the file
- Any alternative identification number
- The details of the purpose of the transmission (project, activity, etc.)
- Any additional notes or instructions to the recipient

## 8 Distribution

Not all files need to be distributed to all members on a team or in an organization. To ensure clarity of distribution, a distribution matrix should be created for the various distribution situations. For example, there may be a corporate distribution matrix, and there may also be a distribution matrix specific to each project or task. There should also be a unique distribution matrix for a facility document controller to use for distributing submissions to the facility crews (construction, operations, maintenance, etc.).

A distribution matrix should list all the documentation and data deliverables that may occur, with a cross reference list to all the individuals who pertain to those deliverables. At the beginning of a project, or at the beginning of creating a corporate governance system, the matrix is completed and distributed to the individuals listed on the matrix. The individuals then review the matrix to ensure they will receive what they need, and will not receive notification of redundant information. Once reviewed, it is published. Changes to the team or deliverables will justify a revision to the matrix.

Distribution of modifiable files must be strictly controlled (See DMC-DM-STD-012).

Various methods of distribution are acceptable; email, secure transfer portal, CD, USB, hard copy, etc. However, each submission (set of files) must include the following elements:

- Transmittal heading/email subject line that clearly identifies the overall submission content, the purpose for the submission, and what the submission pertains to.  
Example: “Electrical drawing package Issued for Construction for Facility XYZ on Transmittal# ABC123”.
- Many recipients prefer to receive the submission as one file (for electronic submissions) however, submissions made into a package of multiple files must not be stored in the Document Control repository. All files must always be stored as individual files, but can be distributed as one package. In this event, the transmittal number must be indexed (or added as metadata) as it pertains to each revision of each file number.
- Clear instructions of the action the recipient needs to take must be communicated in all submissions.

Additional elements that are preferred but optional are:

- Excel or system generated Indexes of the appropriate range of files, for example, a list of all drawings for a facility even if you are only submitting the electrical drawings allows the users to ensure they understand all the information that is available to them.

- A cover page with the submission’s description. This ensures that when the transmittal is no longer attached to the package of drawings, they users still know what the overall content of the package is – particularly relevant of hard copy distribution.

## **9 Facility Data Control**

Document Controllers who are receiving submissions of drawings and documents at the facility will often need to gather the submissions into workable data packages for the construction crews, or after construction, for the groups responsible for maintaining and operating either the whole facility, or portions thereof.

The use of Engineering Work Packages (EWP) and Construction Work Packages (CWP) assists in this area.

EWP’s are groupings of data, typically by physical area of the facility, which pertains to one engineering or technical discipline, for example electrical.

Often, facilities are either very large in footprint, or in the case of a commercial building, it may have many floors. Facility area numbers (for physical areas of a facility, see DMC-DM-STD-008) are used to group data in manageable portions. There may be multiple EWPs in one physical area, therefore a CWP is a grouping of EWPs for one specific area.

Once the facility document controller has gathered the appropriate data together, the submission needs to be distributed to the users of the data.

If data is gathered across multiple submissions and re-packaged, a new transmittal must be created.

Facility generated documents must also be distributed appropriately. Facility generated data can comprise of safety inspections, quality audits, field notes, survey data, redlines on drawings indicating changes have been made, or data from other facility service contractors.

It is acceptable to retain a photocopy and/or scan of the data created out at a facility, but unless there are regulatory requirements to keep the original hard copy at the facility, all files should be distributed to the head office for safe keeping and proper retention.