ADMINISTRATIVE PROCEDURE
CLASSE-005

REVISION 0
REVISION 1 (RE-RELEASED)
REVISION 2 (EDITED, RELEASED)

DRAWING RELEASE & REVISION PROCEDURE

Prepared by: [Signature]  6/6/17
Director Engr/Design

Approved by: [Signature]  6/6/17
Machine Shop Supervisor

Approved by: [Signature]  6/6/17
Vacuum Scientist

Approved by: [Signature]  6/9/17
Technical Director

CLASSE-005 Expires June 30, 2019
A. Introduction

The Cornell Laboratory for Accelerator-based Sciences and Education (CLASSE) is engaged in variety of research activities that use complex mechanical/electrical systems, high voltage/current power systems, and ultra clean high vacuum systems. Since the Laboratory fabricates a wide range of components, a system to ensure that all engineering and design requirements are up to date is essential.

B. Scope

This procedure defines the requirements for releasing and editing approved/issued drawings, individual responsibilities and vendor contacts. This procedure applies to all CLASSE personnel and design documents under the control of the CLASSE Design-Drafting Office. Critical components (research programs) that are being fabricated or modified in a strict configuration-control process are included.

C. Procedure for Releasing and Revising CLASSE Drawings

As any given design matures from concept through to completion, it is important to follow a semi-formal review process prior to initial release to fabrication. This should be true even in our research and development environment. Important aspects of the design to be considered should include, but are not limited to:

- Manufacturability in a machine shop
- Value engineering ($)
- Vacuum properties
- Synchrotron radiation power parameters
- All other power and heat loads
- Physical stresses and strains
- Aperture checkout
- Installation procedure
- Welding (including EBW) and/or braze joint design
- Utilities integration
The author or originator of the design is responsible for consultation and review of the aforementioned properties and obtain explicit approvals where applicable.

Once a drawing has been released and issued into the CLASSE design-drafting system through the CLASSE design office it is very important to understand and follow a best practice for changing those drawings, writing revisions (rev letter increments), and releasing/issuing those revised drawings. Please note that drawings that have not been released through the CLASSE Design-Drafting Office must not be sent for fabrication, especially to outside vendors, except with explicit permission by the P.I./co-P.I. in charge or project CAM plus one of Engineering/Fabrication Director, Technical Director, CHESS/ERL/SRF project director.

A design develops to a point where the initial drawings have been completed. The author (defined as originator of the design or originator of subsequent design changes) communicates to the Design-Drafting Office when they have been approved and are ready to be released and issued for fabrication, either by the Newman Machine Shop or by outside vendors.

The Design-Drafting Office plots the drawings and enters the initial release data, from the drawing title block, into the drawing database (called NUMO). This release data includes the release/plot date, the author's name (Drawn For), the drawing titles and sheet quantities. At this time, the plot date on every sheet's title block reflects the date that any sheet of the drawing was last revised or released. There is no revision letter used at the initial release, either in the title block or the revision history in the upper right hand corner of every drawing sheet. However, the date and approval fields for the Initial Release should be filled out by the drafting office to show that the sheet has been released and is OK to send to the shop or outside vendors. (See figures 1 & 2).

![Figure 1. Title Block](image-url)
Figure 2. Revision History (Upper Right Corner of Sheet)

Changing any drawing after it has been released necessitates writing a revision to the affected sheet(s). This revision could be as minor as adding a missing dimension or as major as total part re-designs. The same approval process for releasing drawings initially is also followed for approving the revised drawings. The author communicates to the Design-Drafting Office when the revisions have been approved and are ready to be released and issued. At this time, the title block and revision history sections of the drawing have been edited to show an incremental revision letter distinguishing the revised sheet from the initial release. The plot date is also changed to reflect this revision release date, further distinguishing it from the initial release. (See figures 3 & 4).

Figure 3. Revised Title Block
Figure 4. Revision History Updated

<table>
<thead>
<tr>
<th>REVISION</th>
<th>DESCRIPTION</th>
<th>DATE</th>
<th>AP#</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Moved Opening in West From 104” to 14.50” (SWH)</td>
<td>4/6/17</td>
<td>JPS</td>
</tr>
</tbody>
</table>

It is the author’s responsibility to secure approval for the revisions from the original drawing approver (if available) and to secure any relevant system approvals for SR Power, Aperture Checkout, HOM Heating, Vacuum Properties and Installation Procedure if/when applicable. It is then the responsibility of the author to make sure a hard copy of the revised drawing goes to the Newman Machine Shop or to the CLASSE Purchasing Office for relay to the outside vendor. If requested by the designated contact person for the order, the CLASSE Design-Drafting Office will forward these drawings electronically to the vendor. The CLASSE Purchasing Office will be copied on this electronic transfer and, if needed, a change order will be negotiated and issued.

This process is repeated each time a released drawing needs to be revised.