Quality Assurance Instruction

STORING OF CONTRACTOR DRAWINGS IN EDMS/CDD

Abstract
This document gives detailed instructions for anyone involved in collecting and storing engineering drawings produced by contractor in CERN's Engineering Data Management System (EDMS/CDD).

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Checked by: 
LHC Quality Assurance Working Group
## History of Changes

<table>
<thead>
<tr>
<th>Rev. No.</th>
<th>Date</th>
<th>Pages</th>
<th>Description of Changes</th>
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<td>1.1</td>
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1. PURPOSE

This document gives detailed instructions for anyone involved in collecting and storing in CERN's EDMS/CDD engineering drawings produced by manufacturers and suppliers in the framework of a contract.

For more information on the management of drawings from contractors see "Drawing Process – External Drawings" [1].

2. ROLES

In this document the term Contract Engineer refers to the engineer designated by the firm to be responsible for the technical execution of the contract and its follow-up. The term Project Engineer refers to the CERN engineer in charge of the contract.

3. PREPARATORY STEPS

A number of administrative and technical steps have to be carried out before the actual storage of drawings can start. These steps are outlined in the following paragraph.

The forms, template, fax cover page referenced in the text as annexes are all accessible on the Web. The URL addresses are given in section 6, "Annexes".

3.1 REGISTER THE FIRM AS A CERN COMPUTER CENTRE USER

This step is required in all cases where the firm is going to use the EDMS/CDD web interface to store or read drawings. The procedure to follow is:

- Complete the first part ("To be filled by the User") of the CERN computer centre registration form (annex 1) with the following information:
  - FAMILY NAME(s): the surname of the Contract Engineer
  - FIRST NAME(S): the first name of the Contract Engineer
  - BIRTH DATE: Day... Month... Year The birth date of the Contract Engineer (used by the computer system to build a unique user environment)
  - HOME INSTITUTE/FIRM: the name of the firm
  - NATIONALITY: the country in which the firm is based
  - CERN SUPERVISOR: the name of the Project Engineer
- Complete the fax cover page (annex 2)
- Send the completed form and fax cover page to EDMS support, fax number 41 22 767 8890.

When the registration is complete, both the Project Engineer and the Contract Engineer are informed by e-mail.

The Project Engineer has the responsibility to supply the firm with the registration form, help with its completion and check that it is faxed back to CERN. He should also inform the firm about the rules of use of CERN's computers, networks and related services, as described in "Operational Circular nº 5" [2].

3.2 REGISTER THE FIRM AS AN EDMS/CDD USER

This step registers the firm as an EDMS/CDD user. The information in the form is used to:
• Attribute a design office number to the firm.
• Attribute a pseudo-designer name and password to the firm.
• Define the location of the CERN label on the drawings.
• Define which equipment code to use.
• Define a release procedure with the person or group of persons authorised to carry-out the first and second controls.
• Define the access rights to the drawings.

The procedure to follow is:
• Complete the EDMS/CDD external drawing office registration form (annex 3).
• Send the form to EDMS.support@CERN.ch by e-mail or by fax with the fax cover page (annex 2).

When the registration is complete, the firm's Contract Engineer is informed by e-mail.

3.3 REMINDER OF SOME EDMS/CDD MECHANISMS AND RULES

Many EDMS/CDD processes are linked to the equipment code. This is the case of the release procedure and access rights applicable to a set of drawings. This has the following implication:

• If the release procedure, i.e. the list of persons authorised to manage (see and control the drawings) is different from the list of people authorised to manage drawings made at CERN for the same equipment, a different equipment code must be used.

By default all drawings supplied by firms are treated as confidential. This means that they can only be accessed by the group of persons listed in the release procedure.

There is one exception for drawings supplied by firms providing design services to CERN.

3.4 HPGL VIEWER

It is good practice for the firm to have a look at the drawing files and check that they are satisfactory before they are stored in EDMS/CDD. To do that the firm will need to use the CERN HPGL viewer. The viewer is available free of charge to firms working on a CERN contract for a period of up to two years, renewable in the case of contracts of long duration. The procedure to follow to obtain a license is:

• Complete the license registration form (annex 4).
• Send the form to EDMS.support@CERN.ch by e-mail or by fax with the fax cover page (annex 2).

When the license is ready, the firm is informed by e-mail.

3.5 PLOT FILE LANGUAGE

The preferred language for the plot files is HPGL/2.

4. TESTS

Once the preparatory steps have been completed, it is strongly recommended to carry out a set of tests to verify that:

• The firm is able to use EDMS/CDD and the HPGL viewer
• Reserved spaces for CERN labels are suitable
- Drawing plot files (HPGL files) are acceptable in terms of:
  - Line thicknesses
  - Drawing size
  - Drawing orientation
- The approval process works

5. COLLECTING AND STORING DRAWINGS

There are two possible methods for contractors to supply their drawing files in a way suitable for loading into EDMS/CDD. The choice of method has to be agreed between the Project Engineer and the contractor.

5.1 METHOD 1: STORING IN EDMS/CDD USING INTERNET

In this way, once the contractor is a registered user of EDMS/CDD, he is able to register and store drawings in the same way as a designer at CERN. Using the web interface of EDMS/CDD, drawings can be stored one at a time by first entering all the descriptive drawing information (title etc.) and then "uploading" the corresponding drawing file.

This method requires:
- A fast Internet connection. The performance of the Internet access should be checked by searching and viewing drawings from EDMS/CDD at the firm's site.
- Training an operator in the use of EDMS/CDD.

5.2 METHOD 2: USING A CD-ROM

In this way the contractor is required to copy all the drawing files to a CD-ROM and to complete an Excel spreadsheet with all the drawing information.

An example Excel spreadsheet, with instructions to fill in data, is shown in annex 5

The appropriate Excel spreadsheet template is accessible on the Web, the address is given in annex 5.

When ready, the CD-ROM containing the drawing files and the Excel list should be forwarded to the Project Engineer at CERN. After verification of the contents the CD-ROM should be sent to the EST external drawing manager together with a completed request for EDMS/CDD batch loading form (annex 6).

The Project Engineer will be informed by e-mail when the loading is completed.

6. DRAWING REVIEW AND APPROVAL

When loaded in CDD drawings have to be checked and approved in the same way as drawings produced at CERN before they are released.

The first control, i.e. the technical verification that the drawing is conform to appropriate standards and practices may be omitted if the firm's own approval process is found to be adequate by the Project Engineer.

The verification of the drawings using EDMS/CDD is completely separate from the verification carried out by the firm's design office. The firm's verification is attested by the signatures in the drawings' title block, CERN's verification is attested by the signatures in EDMS/CDD and copied in the CERN label on the drawing.
7. RECOMMENDATIONS

The process of registration, setting up EDMS/CDD, verifying the performance of Internet access takes time. It is strongly recommended that these administrative tasks are completed well ahead, but at least one month before, the first drawings are ready to be stored in CDD.

An approximate time scale is given in the contractor drawing process flowchart, annex 7.

The registration process may be speeded up by supplying all the necessary forms at the same time.

The location of the CERN label maybe shown on the drawings as a box of 50 x 25 mm. Any text indicating the purpose of the box should be written inside the box as the box area is cleared before the CERN label is applied.

Contractors should prepare their drawings using their own drawing title block and parts list layout, and not copy the CERN layout. The CERN layout is reserved for the use of CERN design offices and companies supplying CERN with design and drawing services.

8. ANNEXES

8.1 ANNEX 1: CERN COMPUTER CENTRE - USER REGISTRATION FORM

Available from the CERN IT Division web page, [http://wwwinfo.cern.ch/Welcome.html](http://wwwinfo.cern.ch/Welcome.html) under User Support – Registration Forms- User Registration Form in postscript or pdf format

8.2 ANNEX 2: FAX COVER PAGE


8.3 ANNEX 3: EDMS/CDD EXTERNAL DRAWING OFFICE REGISTRATION FORM


8.4 ANNEX 4: HPGL VIEWER LICENSE AGREEMENT (FOR FIRMS UNDER CONTRACT)


8.5 ANNEX 5: SAMPLE EXCEL DRAWING REGISTRATION LIST - TEMPLATE


8.6 ANNEX 6: REQUEST FOR BATCH LOADING OF DRAWINGS IN EDMS/CDD

8.7 ANNEX 7: CONTRACTOR DRAWINGS PROCESS FLOWCHART

9. RELATED DOCUMENTATION


[ 4 ] HPGL Viewer Information:
http://www.cern.ch/CERN/Divisions/EST/CAD/hpglviewer.html
<table>
<thead>
<tr>
<th>Ext. reference</th>
<th>File name</th>
<th>Mac + equip code</th>
<th>Rev. ind.</th>
<th>Size</th>
<th>Function</th>
<th>Design office</th>
<th>Title</th>
<th>Date</th>
<th>Firm</th>
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</thead>
<tbody>
<tr>
<td>ENT-1</td>
<td>ent1.plt</td>
<td>LHCLQAO_</td>
<td>AC</td>
<td>A1</td>
<td>D</td>
<td>6</td>
<td>SSS COLD MASS TYPE LQAO - LAYOUT FOR</td>
<td>1996-04-03</td>
<td>ACCEL</td>
</tr>
<tr>
<td>ENT-2</td>
<td>ent2.plt</td>
<td>LHCLQAO_</td>
<td>AD</td>
<td>A0</td>
<td>D</td>
<td>6</td>
<td>SSS COLD MASS - INTERCONNECT BPM SID</td>
<td>1996-04-09</td>
<td>ACCEL</td>
</tr>
<tr>
<td>ENT-3</td>
<td>ent3.plt</td>
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<td>AC</td>
<td>A1</td>
<td>E</td>
<td>6</td>
<td>QUADRUPOLE - CROSS SECTION</td>
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<td>ENT-4</td>
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<td>AB</td>
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<td>E</td>
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<td>..</td>
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<td>..</td>
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<td>A0</td>
<td>E</td>
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<td>STANDARD CROSS-SECTION - (WITH LEGEND)</td>
<td>1999-08-25</td>
<td>ACCEL</td>
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**Column contents:**

- **Ext reference:** The drawing number given by the firm (as it appears in the firm's drawing title block)
- **File name:** The drawing file name as it appears on the CD. Use lower case only and extension .plt
- **Mac + equip code:** The machine code (LHC) concatenated with the equipment code (5 chars)
- **Rev. ind.:** The drawing's revision index
- **Size:** The drawing size in ISO (A0 to A4) or ANSI (A to E) standards
- **Function:** The function of the drawing as defined in CDD
- **Design office:** The code attributed to the firm's design office in EDMS/CDD
- **Title:** The drawing's title
- **Date:** The drawing's creation date, or for new versions, the drawing's modification date in ISO format (YYYY-MM-DD)
- **Firm:** The EDMS/CDD username attributed to the firm

Annex 5: Sample Excel drawing registration list
CENTRE DE CALCUL DU CERN - FORMULAIRE D’ENREGISTREMENT DE L’UTILISATEUR

http://consult.cern.ch/service/registration

A retourner au Helpdesk Bât. 513, après avoir été rempli par un utilisateur demandant un compte informatique sur un service fourni par la Division IT. Cet utilisateur ne doit pas être déjà enregistré dans un autre groupe ou système ou avoir déjà signé ce formulaire.

A remplir par l’Utilisateur:

Il est OBLIGATOIRE de fournir les informations suivantes (sauf pour les deux dernières données). Elles seront traitées confidentiellement et utilisées uniquement pour vous identifier. Veuillez indiquer votre nom comme enregistré auprès du Users Office ou de la Division HR.

- **NOM(S) DE FAMILLE:** .................................................................
- **PRENOM(S):** ...........................................................................
- **SEX:** [M] [F] **DATE DE NAISSANCE:** Jour ... Mois (1-12) ... Année ...
- **INSTITUT D’ORIGINE/ENTREPRISE:** ................................................
- **NATIONALITÉ:** ............... **SUPERVISEUR CERN:** .........................

**INFORMATION FACULTATIVE:**
- **DIVISION CERN:** ............... **NUMERO D’IDENTIFICATION** (carte d’accès): ...

A remplir par l’Administrateur de Groupe:

Veuillez fournir cette information pour la création d’un compte. Si un compte a déjà été établi pour l’utilisateur, veuillez indiquer svp le Login_Id attribué:

- **CORE :** PLUS WGS SHIFT : _______ **EDMS:** _______
- **NICE MAIL** Autre: _______

Login_Id: ..................... Code Ordinateur du Groupe ”GG” (2 caractères) : ....

- **NOM DE L’ADMINISTRATEUR:** ..................... **SIGNATURE:** .................

A être lu et signé par l’Utilisateur:

Je, soussigné(e), m’engage à utiliser les ressources informatiques du CERN conformément aux “Règles d’Utilisation” (http://computingrules.web.cern.ch/ComputingRules/) qui m’ont été communiquées (édition d’Octobre 2000). En particulier la protection des mots de passe des comptes des utilisateurs, l’interdiction de copier des logiciels de tiers, tout comme l’interdiction d’accéder ou d’aider quiconque à accéder de manière illicite aux comptes des utilisateurs du CERN ou d’ailleurs.

Je prends acte que la non-observation de ces règles pourrait entraîner pour moi l’interdiction d’utiliser les ressources informatiques du CERN, indépendamment de toute poursuite civile ou pénale.

- **DATE:** ............. **SIGNATURE:** ...............................................
Request for external drawing office registration

Please find enclosed (tick as appropriate):

- [ ] CERN COMPUTER CENTER - USER REGISTRATION FORM
- [ ] EDMS/CDD EXTERNAL DRAWING OFFICE REGISTRATION FORM
- [ ] HPGL VIEWER LICENSE AGREEMENT
EDMS/CDD EXTERNAL DRAWING OFFICE REGISTRATION FORM

INFORMATION ABOUT THE FIRM

Name of the firm:

Firm's location - Town: Country:

RESERVED SPACES FOR CERN LABELS (50X25 MM)

<table>
<thead>
<tr>
<th>ISO SIZES</th>
<th>X COORDINATE (MM)</th>
<th>Y COORDINATE (MM)</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td></td>
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<td>ANSI SIZES</td>
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<tr>
<td>A (216 × 279 mm)</td>
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</tr>
<tr>
<td>B (279 × 432 mm)</td>
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<td></td>
</tr>
<tr>
<td>C (432 × 559 mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D (559 × 864 mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E (864 × 1118 mm)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EDMS/CDD SET-UP

Project Engineer in charge:

Equipment codes to use:

Applicable release procedure

CERN designer authorised for the first control (see note) CERN Project Engineer authorised for the second control

Note: If the first control is not necessary, enter "NOT REQUIRED"

When completed this form should be sent to EDMS.support@CERN.ch by e-mail or by fax with the fax cover page LHC-PM-QA-609.02

No 41 22 767 8890
HPGL VIEWER LICENSE AGREEMENT (for firms under contract)

<table>
<thead>
<tr>
<th>INFORMATION ABOUT THE FIRM AND CONTRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CERN project engineer:</td>
</tr>
<tr>
<td>CERN contract number:</td>
</tr>
<tr>
<td>Name of the firm:</td>
</tr>
<tr>
<td>Contract engineer:</td>
</tr>
<tr>
<td>Person in charge of installing the viewer software:</td>
</tr>
<tr>
<td>E-mail address:</td>
</tr>
<tr>
<td>Telephone number:</td>
</tr>
<tr>
<td>Type of computer (e.g. PC, UNIX workstation,...):</td>
</tr>
<tr>
<td>Operating system (e.g. Windows 2000, Sun Solaris,...):</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LICENSE CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject to the terms and conditions of this License, the Licensor (CERN) grants to the Licensee (the firm), and the Licensee accepts from the Licensor a non-exclusive, non-transferable licence to use the CERN's Hewlett Packard Graphic Language (CERN's HPGL viewer) software.</td>
</tr>
<tr>
<td><strong>Period of Licence:</strong></td>
</tr>
<tr>
<td>The term of this licence commences upon delivery of the software to the firm and is valid for a period of two years. This licence is personal to the Licensee and may not be transferred without the prior consent of CERN.</td>
</tr>
<tr>
<td><strong>Restriction of use:</strong></td>
</tr>
<tr>
<td>The Software is provided solely for your use and may not be redistributed or reproduced without the express agreement of CERN. The documentation gives information about authorship. The material cannot be sold. CERN should be given credit in all references and publications based on the Software.</td>
</tr>
<tr>
<td><strong>Applicable law and Arbitration Clause:</strong></td>
</tr>
<tr>
<td>This contract is subject to the regulations adopted by CERN by virtue of its international status and subsidiarily to the &quot;Code suisse des obligations&quot;. Failing an amicable settlement of any dispute, the parties shall resort to arbitration under the conditions of the Arbitration Clause CERN FC/1814-II (annex 1).</td>
</tr>
</tbody>
</table>

Read and agreed

Firm's signature (contract engineer)

Date:

Send by fax with the fax cover page LHC-PM-QA-609.02 to EDMS support No 41 22 767 8890
### Annex 5: Sample Excel drawing registration list

<table>
<thead>
<tr>
<th>Ext. reference</th>
<th>File name</th>
<th>Mac + equip code</th>
<th>Rev. ind.</th>
<th>Size</th>
<th>Function</th>
<th>Design office</th>
<th>Title</th>
<th>Date</th>
<th>Firm</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENT-1</td>
<td>ent1.plt</td>
<td>LHCLQAO_</td>
<td>AC</td>
<td>A1</td>
<td>D</td>
<td>6</td>
<td>SSS COLD MASS TYPE LQAO - LAYOUT FOR 1996-04-03</td>
<td>ACCEL</td>
<td></td>
</tr>
<tr>
<td>ENT-2</td>
<td>ent2.plt</td>
<td>LHCLQAO_</td>
<td>AD</td>
<td>A0</td>
<td>D</td>
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### Column contents:

- **Ext. reference**: The drawing number given by the firm (as it appears in the firm's drawing title block)
- **File name**: The drawing file name as it appears on the CD. Use lower case only and extension .plt
- **Mac + equip code**: The machine code (LHC) concatenated with the equipment code (5 chars)
- **Rev. ind.**: The drawing's revision index
- **Size**: The drawing size in ISO (A0 to A4) or ANSI (A to E) standards
- **Function**: The function of the drawing as defined in CDD
- **Design office**: The code attributed to the firm's design office in EDMS/CDD
- **Title**: The drawing's title
- **Date**: The drawing's creation date, or for new versions, the drawing's modification date in ISO format (YYYY-MM-DD)
- **Firm**: The EDMS/CDD username attributed to the firm

### Drawing function:

- A: Sketch
- D: Part
- E: Assembly
- I: Installation
- L: Layout
- S: Schematic Diagram
REQUEST FOR BATCH LOADING OF DRAWINGS IN EDMS/CDD

| Requested by: |  |
| Division and group: |  |
| E-mail: |  |
| Contract number: |  |
| Firm: |  |
| Project engineer: |  |
| Number of CD’s: |  |

Confidentiality - Tick the appropriate box

| Restricted to persons listed in the release procedure (control 1 and 2) | ✔ |
| Restricted to persons using a computer at CERN |  |
| No access restriction |  |

**Note:** By default access to drawings supplied by firms is restricted to the persons listed in the release procedure i.e. authorised to do the first or second control.

If the firm needs to access to these drawings, it has to be listed in the release procedure.

Restriction to persons using a computer at CERN is NOT considered confidential.

**When completed this form should be sent to the EST external drawing manager with the CD(s) containing the drawing files**
Request for registration of the firm as a CERN computer user
Complete form CERN/UCO/FORM01
Send by fax to EDMS Support - No 41 22 767 8890

5 working days
Firm is registered
Project engineer is informed by e-mail

Request for registration of the firm as EDMS/CDD user
Complete form Annex 3
Send by e-mail to EDMS.Support@cern.ch

5 working days
Firm is registered
Firm is informed by e-mail

TESTS

CD-ROM

Drawings copied to CD-ROM
Firm

Excel list of drawings prepared and copied to CD-ROM
CD-ROM sent to CERN

CD-ROM contents checked
Request for batch loading
Complete form Annex 6

CD-ROM and request transferred to EST design office data management unit

Drawings stored in EDMS/CDD

Drawings verified and released in EDMS/CDD
Project engineer

Drawings verified and released in EDMS/CDD
Project engineer and team

Trainings of the firm to use EDMS/CDD
Project engineer

Drawings stored in EDMS/CDD
Firm

Drawings verified and released in EDMS/CDD
Project engineer and team

5 to 25 working days

Web interface of EDMS/CDD

Annex 7: Contractor drawings process flowchart