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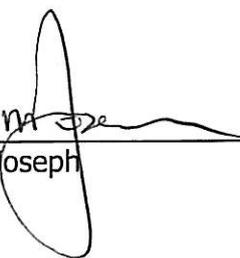
Transnet Capital Projects Engineering

Revision of Technical Documents

ENG-GL-0103

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1. Purpose

To establish the requirements and responsibilities for numbering and revising of technical documentation. This guideline is applicable to all technical documents and drawings.

2. Scope

For the purpose of this guideline 'technical documents' are all project documents and drawings that form the project deliverables and may include documents that are not Engineering specific, i.e. Contracts, Procurement Strategy Plan, Quality Plan, Project Work Plan, etc.

Some documents of necessity may fall outside this guideline in which case they shall be detailed in the Project Work Plan. An example of this may be Purchase Orders, which usually need other means of identification and control to suit the function.

3. References

- ISO 9001:2008 - Quality Management System Requirements
- ENG-P-0107 - Engineering Drawings
- ENG-P-0108 - Checking Engineering Documents
- SYS-P-0001 - Business Codification

4. Responsibilities

The National Engineering Lead is the prime responsible person for the implementation and enforcement of this guideline across all projects within Transnet Capital Projects. He shall also ensure that regular audits are conducted to ensure the compliance to the requirements of this guideline across all programmes and projects.

The Engineering Manager is the responsible person for the implementation and enforcement of this guideline on his project. He shall ensure that regular audits are conducted to ensure the compliance to the requirements of this guideline.

The Discipline Engineering Lead is the prime responsible person for the implementation and enforcement of this guideline in his discipline on a particular project he is assigned to. He shall also ensure that regular audits are conducted to ensure the compliance to the requirements of this guideline in his discipline.



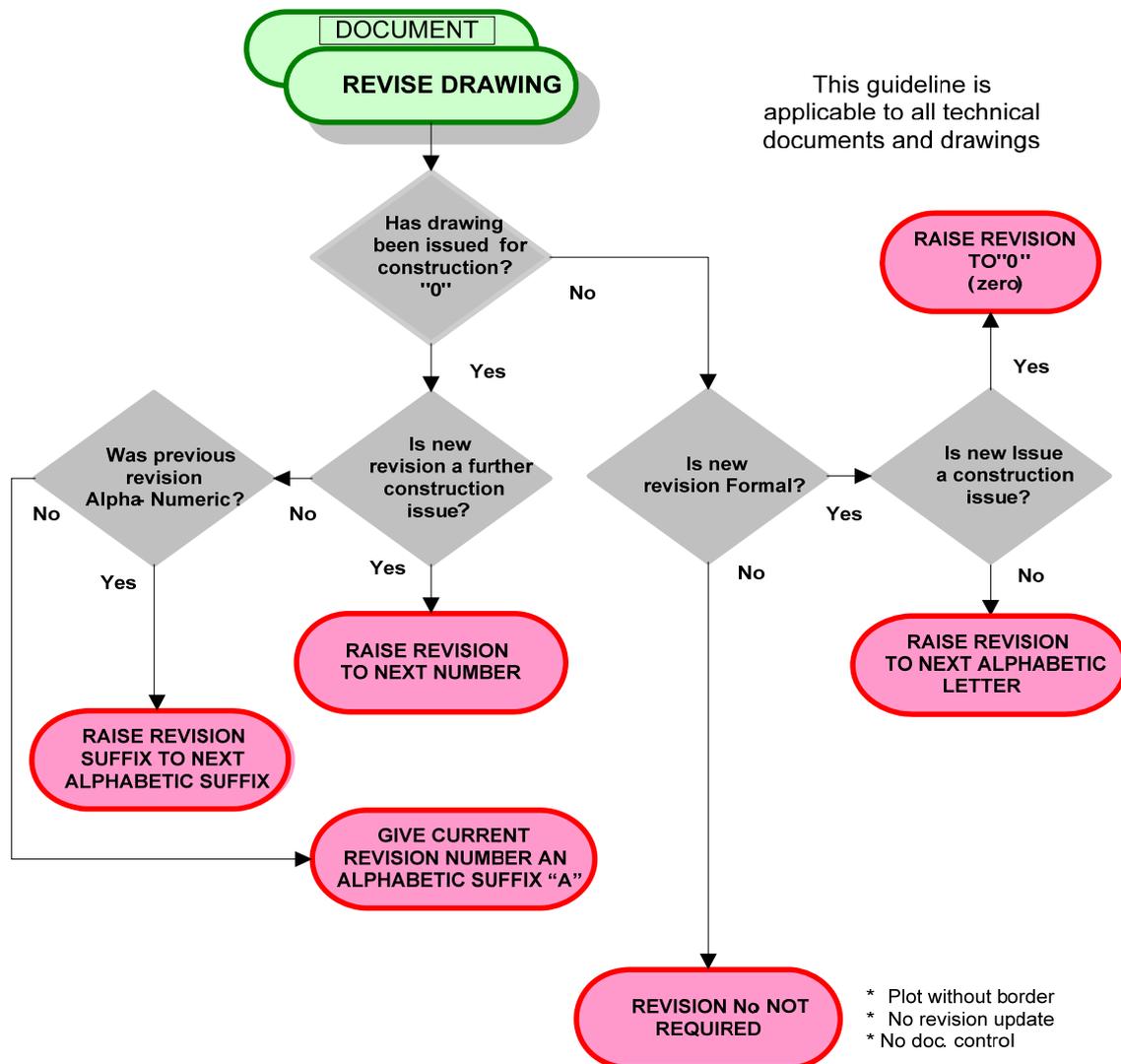
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It is the responsibility of each Discipline Design Engineer to implement and conform to the detail requirements of this guideline in the execution of the design. He will be accountable to the Discipline Engineering Lead in terms of the conformance of this guideline.

The Engineering Co-ordinator shall have a key responsibility as interface co-ordinator in supporting the disciplines to conform to this guideline.

5. Process

5.1 Document Revision Numbering



TYPICAL DRAWING REVISION SEQUENCE

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5.2 Original Document Numbering Structure

All technical documents and drawings shall be numbered, titled and registered.

All documents and drawings shall carry a Transnet Capital Projects number in the format prescribed by the Business Codification Procedure: SYS-P-0001.

In the case where Vendor/Client's own document/drawing numbering system was used, for the purpose of internal record control, the document/drawing shall also carry a Transnet Capital Projects number on a sticker or electronic stamp. Refer to DOC-P-0012 Section 4.1.

5.3 Document Number Structure

Document Numbering Structure shall be as per the Business Codification Procedure SYS-P-0001.

5.4 Project Number

The seven-digit project number shall be allocated from the relevant Project Definition Form.

5.5 Area/Facility Code

The area code shall be a project specific code that represents an area or a facility on the project. The number of characters required in this field shall be determined by project requirements. Once determined, the number of characters shall remain constant for the life of the project.

5.6 Discipline Code

This code shall be allocated a letter to indicate to which Engineering Practice or department category the document belongs as defined in the Business Codification Procedure SYS-P-0001.

5.7 Sequential Number

A sequential number, starting from "0001", shall be drawn from the Document Log/Deliverable List as a unique identifier for the document.

5.8 Revise Drawing

All new drawings (or technical documents) shall be given the revision status "A" prior to the preparation of the document or commencement of drafting.

Transnet Capital Projects defines two categories of document revisions: Formal revisions and Informal revisions.

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Formal revisions are those changes made within Transnet Capital Projects which are necessary to distinguish progress through different stages of completion and include Engineering review, checking and back drafting etc. These drawing revisions shall carry an Alpha revision reference starting with "A", with subsequent revisions being "B", "C", "D", "E" etc. which shall continue until the construction issue is reached whereupon the revision number shall be changed to a Numeric reference starting with "0" (zero).

Formal revisions shall be made prior to the initial issue for construction purposes or prior to a further construction issue where formal review and approval is required.

Informal revisions are characterised thus (if applicable):

- Drawing plotted without border
- Revision box is not updated
- No stamps or signatures required
- Not issued through document control

Note:

All drawings shall have the revision raised to the next applicable revision reference as stated in this Procedure, which shall be inserted in the revision box of the drawing title block before any drafting is started.

Previously revised drawings made obsolete by the revised drawing shall be removed from the work area in a manner to prevent inadvertent use.

It is preferable for all revised drawings to be reviewed by the same personnel that reviewed the original. If this is not possible sufficient information shall be made available for the personnel nominated to perform the review of the revised drawing.

The Drawing Progress Spreadsheet shall be updated to reflect the new revision status.

5.9 Revision Guidelines

- Revisions shall be clearly identified by placing a revision triangle with the correct revision number adjacent to the area on the drawing that has been changed

All revisions made shall be enclosed by a cloud except in cases where to add a cloud detracts from the readability of the drawing.

At subsequent revisions all clouds and revision triangles from the previous formal revision shall be removed from the drawing.

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- The revision block of the drawing title block shall be completed with a brief description of the revision. Terms such as "Minor Revision" or "General Revisions" shall be avoided in favour of a more specific notation. More than one line may be used but only the revision number and date together with the relevant initials shall appear in the top line

Revision designation shall be alphabetical starting with "A" up to issued for construction, which becomes revision "0" (zero). The letters "O", "Q" and "I" shall not be used. All revisions subsequent to Issued for Construction shall be numeric.

Where changes made to a drawing do not need to be issued for formal approval to the Client or any other external organisation, it is permissible to use alphanumeric revisions. The revision triangle for these issues shall contain the next formal issue number.

When the next formal issue is required the alphanumeric revisions shall be removed from the revision block and the next alphabetic revision shall be used for the purpose. All details within revision clouds shall be incorporated into the formal issue in order to capture and describe the changes made since the last formal issue.

- Upon reaching Revision "0" (zero) - Issue for Construction, all previous revision clouds, triangles and revision descriptions shall be removed from the drawing

When the revision block is full, begin again, adding details at the bottom of the block by removing previous revision detail sufficient to allow room to describe the current (new) revision plus one extra line to be left blank to differentiate the previous from current (new) revisions.

The revision triangles for the revision descriptions that have been deleted from the title block shall be removed from the drawing.

- When a drawing is to be revised and the drawing has reached construction status, all intermediate stages (review, approval and tender etc.) shall have an alphabetic suffix to the original revision number, i.e. "4A", "4B", etc. When the drawing is ready for further Construction Issue the alphanumeric revisions shall be removed and the drawing shall be changed to the next formal numeric revision i.e. "5".

5.10 **Is Drawing Issued for Construction?**

If **"YES"**, the drawing at the previous revision was issued for construction purposes a numeric revision reference number shall be listed in the title block.

If the drawing needs to be further revised the revision reference number, initially (as received) numeric, shall be extended by an alphabetic suffix for the next revision(s) e.g. "0" to "0A" or "1" to "1A".

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If **"NO"**, the drawing has not been previously issued for construction purposes the revision reference number shall be alphabetic.

5.11 **Is New Revision a Further Construction Issue?**

If **"YES"**, the drawing, having been previously issued for construction purposes, is required to be revised for a further direct issue for construction purposes the revision status (as received) shall be numeric, which shall be replaced by the next sequential number.

NOTE - A Further Direct Issue is a revision that is easily controlled and may be issued directly by alteration to the drawing Master Mark-Up.

If **"NO"**, the drawing needs a revision that shall require extensive work with subsequent review, checking and a back drafting cycle, then the numeric previous revision reference number shall be extended by the addition of an alphabetic suffix according to this Procedure.

5.12 **Was Previous Revision Alphanumeric?**

If **"YES"**, the previous revision reference was alphanumeric and the required revision is internal, i.e. to progress the drawing by review, checking, back drafting etc. the revision reference shall be the next alphabetic suffix to continue a previously incomplete logical review cycle (i.e. "3B" to "3C").

If **"NO"**, the previous revision reference was numeric and the required revision is internal, i.e. to progress the drawing by review, checking, back drafting etc. the revision reference shall be the number extended by an alphabetic suffix (i.e. "1" to "1A").

5.13 **Is New Revision Formal?**

Formal revisions are those changes made that are to be issued either internally or externally.

These revisions shall use a single alphabetic letter as the revision number starting with "B" which shall continue until the construction issue is reached whereupon the revision number shall be changed to a numeric reference starting with "0" (zero).

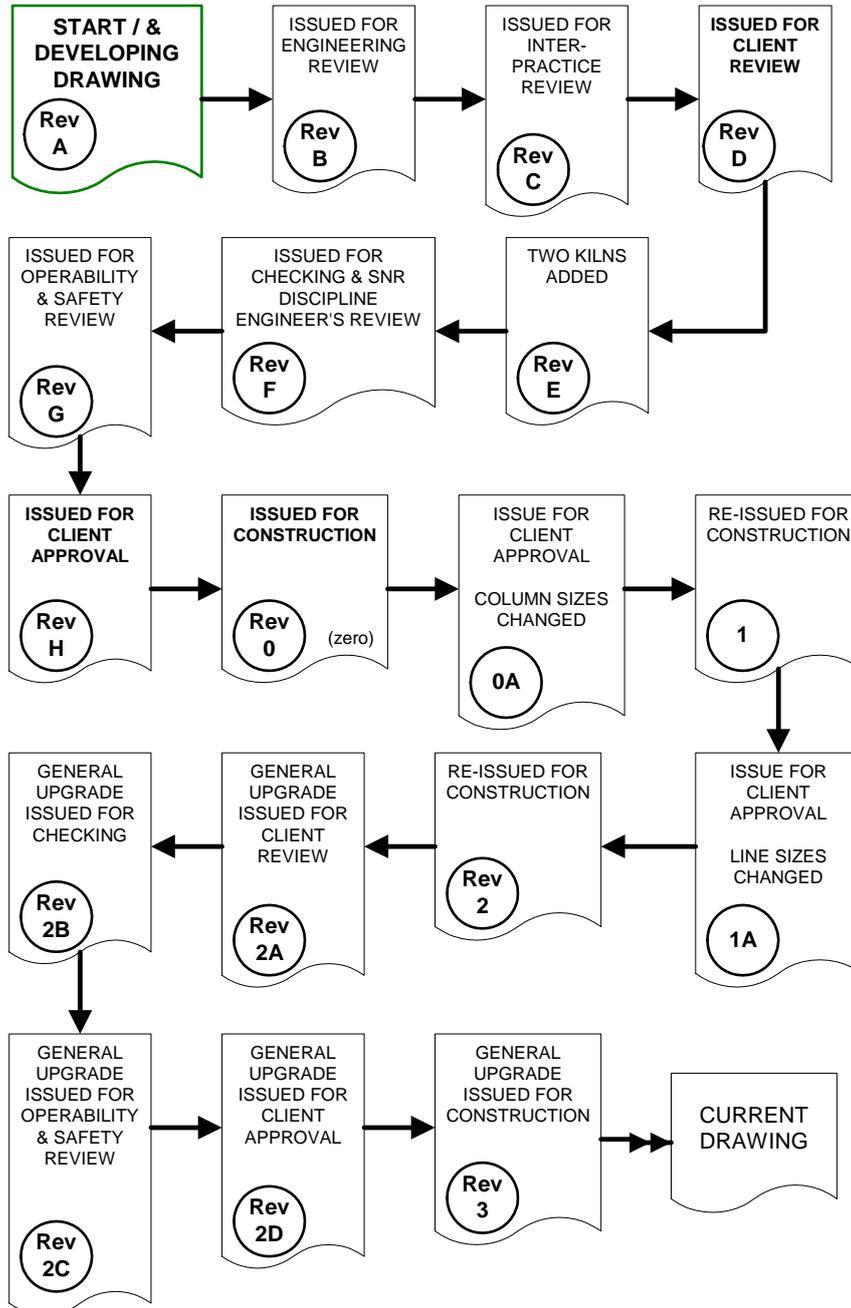
5.14 **Is New Issue a Construction Issue?**

If **"YES"**, the revision reference shall be changed to the numeric "0" (zero). All previous revision descriptions shall be removed from the title block and all revision clouds shall be removed from the drawing.

If **"NO"**, the revision reference shall be changed to the next applicable letter (e.g. "B" to "C" or "D" to "E").

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5.15 Typical Drawing Revision Sequence



Note: Only revise drawing when changes are made. Drawings should not be revised at the time it is issued for some reason other than the change from alpha to number at Construction. The same revision could be issued for more than one purpose, i.e. drawing status "Issued for Use" could be issued for "Information", "Tender", etc.



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6. **Records**

All documents generated during the life of the contract will be retained in terms of the Document Management Procedure for Records Retention Archiving of Hard Copy Documentation – DOC-P-0013.