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| Procedure:  **QP-119** | Pages:  **5** |
| Printed:  **8/22/2024** | Released: **12/05/2023**  Rev. Num: **14** |
| Authorized By:  **V.P of Manufacturing** | |



**PRODUCTION PROCESS**

1. Purpose and Scope

**PURPOSE**

To define the development of written operator instructions to describe and communicate the proper methods of production to employees.

**SCOPE**

This procedure applies to all production products for E.C. Styberg Engineering Co.

1. Definitions

**M.I.S.**: The Manufacturing Instructions Sheet describes production work/inspection to be

performed for a specific job, operation and work center. It will include all parameters

necessary to perform the operation, as well as inspection criteria and inspection equipment.

1. Process Owners

**V.P. of Manufacturing**

**Process Designees**: **Project Engineer**

**SPC Coordinator**

**Department Supervisor**

**Industrial Engineering**

1. **Procedures**
2. **Project Engineer**

**Develops Process Routing**

The Chief Engineer develops a sequence of operations process routing for the production of all parts.

**Process Change Notification**

If there is a need to change or modify an established manufacturing process and/or material source, which is deemed critical, the Chief Engineer, V.P. of Manufacturing, Quality Manager or SPC Coordinator will notify the customer.

If a temporary change and/or modification to the manufacturing process is needed only a Supervisor, Manager or Engineering personnel can modify a manufacturing routing on the plant floor. The Lead person can only make changes with a Supervisor’s approval. All changes to manufacturing routings must be signed and dated.

Permanent manufacturing changes can only be made by Engineering. Requested changes must be submitted to Engineering through the Computer Routing Change Requests program. The requestor must sign and date the electronic change form. Once received, the request will be reviewed by an Engineer. The routing will only be changed if the request is approved and no changes are made without approval.

Once the change is completed, the Engineer will sign and date the electronic change form. Within the next two weeks, I.E., will review the approved changes and make revisions to Manufacturing Instruction Sheets that are applicable. Once completed, I.E. will sign and date the electronic change form. Within two weeks of Engineering approval the Q.A. Supervisor and SPC Coordinator will review the approved changes then initial and date the electronic change form. Engineering will monitor this process every two weeks to make sure this procedure is followed.

All Master Routings will list any alternate operations as “A” electronically. Routings with these alternate operations will only be printed and put into a job packet if they are being used.

1. **Department Supervisor**

**Identifies and Develops Manufacturing Processes**

The Department Supervisor identifies the manufacturing processes within a job that require operator instructions and develops the job until he is satisfied that all requirements are met. One this is completed, the I.E. department will be contacted to compile process information for M.I.S. creation.

1. **Industrial Engineering**

**Compiles Process Information**

1. Work Methods
2. Manufacturing Processes
3. Sequence of Job Elements
4. Type of Equipment Required
5. Customer Specifications (if applicable)
6. Layout of Work Area and Machine Set up
7. Designated Special Characteristics
8. Government Regulations If Applicable
9. Operator Inspection (including any associated data collection, attribute logging and charting)

**Creates Manufacturing Instructions**

The M.I.S. is created using all information compiled in the above list a. through i., as a means of instructing the operator how to perform their job.

**Revises Manufacturing Instructions**

Manufacturing Instruction Sheets are reviewed and revised on an as needed bases, including, but not limited to, revisions due to requests by the Department Supervisor, inspection checklist updates, new issues, blueprint change notifications, and electronic routing change requests.

**Controls Manufacturing Instructions**

Previous revisions or obsolete M.I.S.s (paper copies) if not digitally referenced, are collected and destroyed. See INS-9000 for instruction on the control of new and revised M.I.S.’s.

1. **References**

**5.1 Related Procedure**

Part Approval Process: QP-138

Process Setup QP-120

Production Equipment Maintenance QP-121

Production Process Development and Qualification QP-118

**5.2 Reference Documents**

Creating, updating, and controlling Manufacturing Instruction Sheets INS-9000

1. **Records**

Manufacturing Instruction Sheet M.I.S. Retain life of job + min. 1 yr.

Routing Change Requests ROUT109 Retain life of job + min. 1 yr.

(ERP System Production Menu)

1. **Policy References**

None

1. **Revision History to Procedure QP-119**

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| **Chg. No.** | **Date** | **Rev.** | **Change Description** |
| 1 | 2-13/1998 | 0 | Creation of Document |
| 2 | 1/25/1999 | 1 | Added "j" to section 4.3. Added section 4.10 regarding safety walk. |
| 3 | 5/24/2000 | 2 | Changed retention time for M.I.S.'s under section 6 'records'. |
| 4 | 1/18/2006 | 3 | Deleted last sentence in 4.7 'In the future M.I.S.'s will also be available on the computer networking system'; changed frequency of safety walk from 'monthly' to 'quarterly'; deleted section 7 'Governing Policies'. Section 8 'notes' is now section 7. |
| 5 | 4/26/2007 | 4 | Added 2nd and 3rd paragraph regarding modifications to processes and  manufacturing routings to 4.9 |
| 6 | 5/12/2009 | 5 | Added paragraph to 4.9 regarding signing change notification. Added record  "Change request |
| 7 | 9/4/2014 | 6 | Responds: Removed ENG MGR and HR MGR. 4.2 Change dept from IE to dept sup also, added and develop to title. Added last sentence too. 4.3 replaced j. from contingency plan to operator inspection. 4.5 Removed most verbiage and replaced with will include all info from sect 4.3. 4.5 removed most verbiage and replaced. 4.10 Removed whole section on Safety Walk. 4.6 Removed Approve Manufacturing Instructions and paragraph. 4.8 Removed and replaced verbiage. 4.9 changed ENG MGR to CHF ENG, separated a paragraph added and replaced some verbiage. 4.10 Removed HR MGR and safety walk paragraph. 6.0 changed Change Request to Routing Change Requests. |
| 8 | 8/31/2015 | 7 | Added to 4.6, "Will collect and destroy obsolete M.I.S.s" Removed Will, from Will  distribute., changed to Distributes... |
| 9 | 1/12/2018 | 8 | Revise for ISO 9001/ IATF 16949 |
| 10 | 4/5/2018 | 9 | 5 Instructions: number 16 |
| 11 | 4/24/2018 | 10 | Added to #16  Exception for Punch Press Department: Print and file only one copy for the I.E. M.I.S. cabinets (Punch Press prints their M.I.S.s from the Oracle Routing).  Updated Punch Press M.I.S.s are not distributed to department binders.  A "N/A" is placed in the "Received from floor?" Column for updated Punch Press M.I.S.s.  Rev. 2: Correction to #16  Print one copy of an updated Punch Press M.I.S. for the I.E M.I.S. cabinets.  A "N/A" is placed in the "Received from floor?" col n for updated Punch Press  M.I.S.s. |
| 12 | 8/22/2019 | 11 | Changed section 4.3 from the "distribution" of MIS' s to the "control" of MIS' s since MIS' s are now referenced from both paper binders as well as digitally. Added instructional reference to INS-9000 which details the  control of new and revised MIS' s. |
| 13 | 8/29/2019 | 12 | 4.3 Distributes Manufacturing Instructions  From: in each manufacturing department and previous versions…”  To: “…in each manufacturing department, except Punch Press. Previous.”  Changed Sec. 4.3 from the “distribution” of MIS’s to the “control” of MIS’s are now referenced from both paper binders as well as digitally. Added instructional reference to INS-9000 which details the control of new and revised MIS’s. (Initiator: Erik Wellhoefer) |
| 14 | 12/05/2023 | 13 | Changed Document Type from Instruction to Procedure.  Section 7- Added Policy References  Section 8-Removed “of”, added “History to Procedure.”  Added-Revised Styberg Logo, Revision History Block,  Changed revision number from 2 to 14 to reflect correct change history  Section 6 changed “oracle” to “ERP System” |