



**WORK INSTRUCTION MANUAL
SECTION 3.15**

**NS-1 MANUFACTURING
FACILITY APPROVALS
Rev 000**

March 2009

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APPROVALS**

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1.0 PURPOSE

1.1 To establish procedures for the approval of manufacturers' facilities to produce NS-1™ certified products.

2.0 SCOPE

2.1 This procedure applies to persons involved in the process of approval of manufacturing facilities to NS-1™, including activities such as process audits, product audits and design review.

3.0 APPROVAL PROCESS

3.1 Initial Application.

3.1.1 Manufactures are responsible for requesting an initial review for approval and qualification of their facility relative to the Standard NS-1™ stating the desired level of approval required.

3.1.2 Approval is categorized under five levels; for approvals at each level, all the requirements of previous levels shall be completed.

3.2 Approval Levels

3.2.1 Level 1 (Process Audit)

3.2.1.1 Process Audits shall be conducted by FP engineer of the manufacturer's facilities systems and in house processes. The audit shall cover the following areas;

- a) Management System Review
- b) Contract/Order Processing



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- c) Procurement
- d) Workshop Process
- e) Quality Control
- f) Inspection & Test Equipment Calibration & Control
- g) Packaging & Dispatch
- h) Personnel Competence Assurance Scheme

3.2.2 Level 2 (Product Audit)

3.2.2.1 Product audits shall be conducted for this level and include requirements of Level 1. Product audits shall cover the following areas;

- a) Supplementary Requirements
- b) Sub-Specifications

Products Audits shall be conducted on equipment currently covered under NS-1™.

3.2.3 Level 3 (Independent Design Review to NS-1™)

3.2.3.1 Design review shall be conducted for this level and include requirements of Levels 1 & 2. Reviews shall cover the following;

- a) Review of Design Drawings to ensure that the product has been designed with consideration to failure avoidance. Evaluations are conducted based on failure modes more commonly observed when equipment is used for purposes to which they were designed, and may require calculations to be performed for determining the maximum loading conditions equipment may be subjected.



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3.2.4 Level 4 (Application Approval of NS-1™ Products)

3.2.4.1 Product Application Approval (i.e. Hardbanding, Plastic Coating etc.) shall be conducted for this level and include requirements of Levels 1, 2 & 3. this process shall cover the following;

- a) Approval for application of an NS-1™ such as hardbanding or internal plastic coating, through witness of application, destructive test, and application procedures. (**Reference WIM003 Section 3.12 Hardbanding Approvals.**)

3.2.5 Level 5 (Use of NS-1™ Approved Suppliers Only)

3.2.5.1 Level 5 approvals shall be granted when manufacturers satisfy the requirements of Levels 1, 2, 3, & 4 and use only approved suppliers of raw materials, heat treated and upset tubulars, etc.

3.3 Preliminary Review

3.3.1 The engineer shall identify the appropriate manufacturing processes to be reviewed and request applicant to complete Pre Audit Questionnaire. The applicant is required to submit along with the Pre Audit Questionnaire copies of relevant supporting documents.

3.3.2 The engineer shall then provide sales with the scope of work involved for the preparation of a quotation.

3.4 Facility Assessment

3.4.1 Upon receipt of applicant's completed Pre Audit Questionnaire and supporting documents, the engineer shall prepare audit questionnaire and schedule based on level of approval requested.

3.4.2 Where Level 4 approval is requested the engineer shall reference **WIM003 Section 3.12 for Hardbanding Approvals**, the applicant shall as a minimum meet the requirements of Level 3 (for hardbanding.) For other types of applications technical review shall be required.



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3.4.3 Where the engineer detects a major non-conformance during the audit process, the applicant is required to address areas of concerns. When the engineer is satisfied that corrective measures are acceptable the application can then proceed for review before a Full NS-1 Review Sub Committee.

3.4.4 An NS-1 Technical Review Committee shall be formed by issuing all NS-1 Controlled Copy Holders notification of the equipment under review and requesting receipt of their acceptance for election. An NS-1 Technical Review Committee shall consist of an odd number of members no less than 3.

3.4.5 When both the Job and Project Engineers are satisfied that all parameters of the review and approval process has been completed, a Full Audit, Technical and Summary Review shall be formatted, prepared and issued to appropriate sub-committee members, retaining the original on file for approval certification package, referencing either of the following 2 clause conditions such as;

- **1 – General Acceptance**

Job and Project Engineer are satisfied that the applicant's facility and processes meet the requirements - defined by the level of review performed and other any other relevant Industry Standard and Specification. Dependant upon comments received, the Report may be circulated to other sub-committee members for comments and feedback.

- **2 – Acceptance subject to Revision of Processes/Procedures**

Reviewing/Approval Engineer has detected minor discrepancies that require resolving either by a System, Quality, Manufacturing or Process change with a follow-up re-verification, or issued to the Technical Review sub-committee for approval prior to acceptance.



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3.5 Acceptance and issue of Certification Packages

- 3.5.1 Manufacturing facility approval and acceptance can only be granted and carried forward in favour of a majority vote by the NS-1 Technical Review Panel and once all NS-1 Technical Review Committee Members have signed and returned the acceptance form.
- 3.5.2 If approval is not unanimous, then individual Committee Members who have not granted approval must provide reasons for this. These concerns shall then be highlighted to the rest of the Committee and re-approval shall need to be granted on the grounds of these concerns.
- 3.5.3 Once acceptance has been granted by majority vote from the Final Technical Review Panel, a Certification Package shall be prepared in duplicate containing the following;
- Covering letter advising the Client/Applicant on the status of the Approval of their Facility to Standard NS-1 including the extent and or exceptions.
 - Copies of acceptance forms from each selected member of the Review Panel.
 - Copies of Applicants Quality related Documents, Procedures, Process Instructions etc. which have been submitted and over stamped for NS-1 Approval stating the facility's number and date Approval was granted.
- 3.5.4 A Certificate of Approval shall be prepared in tandem with the Certification package consisting of the following information:
- Date of Approval
 - NS-1 Certificate Number
 - Review Number(s)
 - Candidate/Facility Name and Address



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- Manufacturing Process Description
- Review Level (clause 1, 2, 3, 4 or 5)
- Scope of review including a general statement of Approval Cover
- Audited/Reviewed Against
- Valid Until date

3.5.6 The covering letter shall inform the Applicant that Approval has been granted only in accordance with facility and processes reviewed and that any change to the manufacturing processes will invalidate the original Approval and responsibility for continual Approval rests with the custodian or original Applicant.

4.0 Attachments

4.1 NS-1 Manufacturing Facility Approval Flow Chart