STAINLESS PRODUCT & ENGINEERING, INC.

GRAPHIC DESIGN CREDIT – SARA REHKLAU

QUALITY POLICY MANUAL (QPM)
REVISION 25
08/25/2023

Quality Policy Manual (QPM)

This systems manual is the basis for the administration of the quality system, supplementary systems, material codes, and appropriate reference guides contained herein. It complies and is certified in accordance with ISO 9001:2015, and it is supported when applicable by appendices for the appropriate third party specification or directive.

It is the objective of Stainless Foundry & Engineering Inc. to provide on-time delivery of castings, machined components, and services at a competitive price which conform to or exceed our customer's requirements and legal obligations the first time, every time.

To achieve the above statement of Quality Policy and other quality objectives, Stainless Foundry & Engineering Inc. is committed to:

- Providing adequate resources and assigning trained personnel for management, performance, and verification of work including audit activities.
- Ensuring that this Quality Policy is communicated and understood at all levels in the organization.
- Implementing and maintaining a quality improvement process through preventive action, internal audits, and management reviews.
- Implementing and maintaining the Quality Systems described in this Manual and the supporting Quality Management Procedures.
- Setting of Quality Policies and Goals

Approved by: _____ Date: 8/25/2023

Director of Quality and Technical Services

Approved by: _____ Date: 8/25/2023

CEO/President

Revision History:

25	08/25/2023	Appendix section B on General Dynamics – Electric Boat EB2678N section added, Organizational chart revised, reference and revision to CAN3-Z299.1-85 (2006) and CAN3-Z299.3-85 (2007) incorporated, general formatting of the entire manual. Quick Reference Guide added ASME QSC status, added reference to UK PESR 2016/1105 to Appendix D.
24	1/30/2022	Section 5.2 organizational chart revised removing Machine Shop, Reference to ISO 9001 :2008 revised to ISO 9001 :2015. Reference to QMP 18.02 removed. Appendix 24 01/30/2022 D record retention revised to 10 years, Numerous obsolete EN and ISO specifications revised to current revision level
23	7/24/21	Removed Appendix B, section 5.2 organizational chart has been revised, Quick Reference Guide 2, ISO revision year revised, UKCA addressed in locations.
22	01/15/21	Revised the page numbers on pg. 59 thru 131. Appendix NCA-3855.3 (c) revised to meet commercial grade dedication for provider approval. Codes of Regulations callouts have been revised to proper coding. New organizational chart. Introduced NCA-4200. Appendix A introduction of exigent condition audit allowance from NRC
21	03/01/18	ISO 9001:2015 conversion, added Mission, Vision and quality statements, Appendix I on the requirements of ISO 31000 and how risk is managed was amended and WIP QA3014 has been referenced. Numerous QMP Numbering has been changed.
20	08/01/16	Revised Section 5.0 to reflect changes in contract review process. Remove exclusion from Section 20.0, Service. Revised Appendix A to reflect the use of a Calibration Laboratory's 17025 Accreditation in lieu of audits.
19	04/04/11	Revised 1.3, 2.2, 3.4, org chart, COO to CEO, 11.3, ASME "accreditation" to "certification", NCA-3862.1(d), & p. 99 Tolerance.
18	05/10/10	Final ISO-9001:2008 ed. compliance, removed references to ISO-9002, removed Merkblatt (sec 2.4), pg. 74 updated to QA4003, updated definitions, org chart, Appendix A, D, E, & H due to internal audit findings (SFE CAR 2262), Sub-Appendix 1, and updated Appendix A & 7.1 to comply with NCA-3855.3(b) for witness of non-approved vendors.
17	04/23/09	Updated from ISO 9001:2000 to ISO 9001:2008, Removed CEO and replaced with SR Vice President COO, Changed QM designee to QM Supervisor, Removal of Director of Customer Service, & SR Staff to SR Management Staff.
16	04/16/08	Revised P20, section 1.4e. Revised and replaced executive committee/top management list and flowcharts, Pages 31-34. Added welding replacement Specifications, EN609-1:2004 and EN614-1:2004, Pages 88, 90 and 103.
15	01/25/07	Appendix A typos corrected due to internal audit findings listed on CAR 1582, old Appendix F removed (AD-2000), organizational chart updated to current. General conditions section added to Appendix D. Sub Appendix 1 added.

14	09/16/05	Section 1.5 revised to reflect actual practice. Quick Reference Guide 2 revised. Appendix I added, which addresses 10CFR50, Appendix B. Vendor changed to supplier. Job titles for Human Resources updated and added to the organizational chart. R & D Director added to the Executive Management. Section 18.0 typo corrected. MRB referenced in Section 14.0. Electronic distribution added to Section 4.2. Section 1.4 generalized to castings. Appendix I on ISO 31000 added.
13	10/03/03	General rewrite to include CAN3-Z299.1-85 and CAN3-Z299.2-85 requirements. Title changes due to organizational changes. Management responsibility re-defined. Quick references added. Process model revised. Appendix G on EN ISO/IEC 17025:2000 and Appendix H on ANSI/ISO 14001:1996 added.
12	05/31/02	Section 1.2 Process Approach added.
11	03/04/02	Complete rewrite to incorporate ISO 9001:2000 requirements.
10	7/31/01	Complete rewrite due to new format.
9	10/20/00	Sections 0.0, 1.0, 2.0, 3.0, Appendix B, and Appendix C revised for editorial and technical changes.
8	05/05/99	Sections 0.0, 1.0, 2.0, 3.0, 6.0, 7.0, 10.0, 11.0, 12.0, 14.0, 15.0, 17.0, 18.0, 19.0, and Appendix B revised for editorial and technical changes.
7	03/23/98	Section 0.0 and Appendix B revised for editorial and technical changes.
6	01/16/98	Sections 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 7.0, 12.0, 14.0, 15.0, 17.0, 18.0, 19.0, Appendix A, and Appendix B revised for editorial and technical changes.
5A	12/06/96	Appendix B added.
4A	07/16/96	Sections 0.0 and 3.0 revised for editorial and technical changes.
3A	07/10/96	Sections 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 10.0, 11.0, 12.0, 19.0, and Appendix A revised for editorial and technical changes.
2A	03/01/96	Sections 0.0, 1.0, 3.0, 4.0, 5.0, 7.0, 12.0, 14.0, 15.0, 17.0, 18.0, 19.0, and Appendix A revised for editorial and technical changes.
1A	02/13/95	Sections 0.0, 3.0, and 5.0 revised for editorial and technical changes.
0A	01/17/94	Revised for editorial and technical changes.
5	09/16/92	Complete revision.
4	08/09/84	Complete revision.
3	5/30/80	Sections 1.1, 2.1.3, 4.2.6, 8.3.4, 8.4.5, and 7 revised For editorial and technical changes.

2	1/28/80	Section 1.1, 10, 11, 12, and 13 revised for editorial and technical changes .
1	1/31/79	Complete revision
0	11/10/71	Original Issue

Appendix	Topic
A	ASME BPVC, Section III, Division 1, NCA-3800/ NCA-4200; Code of Federal Regulations, Section 10, Part 50, Appendix B, ASME NQA-1, and CAN3-Z299.1-85, CAN3-Z299.2-85, CAN3-Z299.3-85.
B	NAVSEA Requirements – General Dynamics/Electric Boat Specification EB Specification 2678N
C	DNV - Det Norske Veritas- Manufactures Approval Note: Stainless Foundry & Engineering relinquished its DNV Manufactures approve on 12/2016. This appendix remains as a current state of compliance to the necessary requests. If the appropriate inquiry or purchase order from a customer this section will be reinstated including re-certification as appropriate - Director of Quality.
D	Pressure Equipment Directives – EU Directive 2014/68/EU PED and UK Regulation PESR 2016 / 1105
E	MIL-I-45208A, Amendment 2; MIL-Q-9858A, Amendment 3 and CAN3-Z299.1-85,CAN3-Z299.2-85,CAN3-Z299.3-85
F	NORSOK M-650 – Qualification of manufacturers of special materials.
G	ISO/IEC 17025 – General requirements for the competence of testing and calibration laboratories.
H	ANSI/ISO 14001:2015 – Environmental Management Systems- Specifications with guidance for use.
I	ISO 31000:2018 - Risk Management
J	CAN3-Z299.1-85 (2006), CAN3-Z299.2-85 (2006),CAN3-Z299.3-85 (

Sub77 Appendix:

Quick Reference Guide:

0.0 Quality Policy Manual (QPM):

Responsible party: Quality Management (QM)

0.1 Quality management principles – SFE has adopted the 7 key principles below pertaining to quality management

- **Customer focus** – You need to understand who your customers are, what they need and aim to meet their needs. At times you may even exceed them, but you must at a minimum meet them. Knowing what your customers need should be critical to your strategy, because without customer satisfaction, a business will eventually fail. Or at best stand still.

- **Leadership** – The strategy, direction and ultimate success of any business largely depends on its leadership. What is the environment and culture that they encourage (or, more negatively, allow?) A clearly communicated vision and purpose on the part of management is key to ensuring business improvement.

- **Engagement of people** – The people in any organization make a difference, whether in the "front line" of customer services or sales, or behind the scenes. They should be actively engaged and involved in the quality management system for it to succeed.

- **Process approach** – Almost all business (or organization) activities are part of one or more processes: when you manage activities as processes (versus departments or isolated tasks) are more effective and achieve better results.

- **Improvement** – Improving is essential – a permanent element of any organization that wants to do well, let alone excel.

- **Evidence and Risk-based decision making** – Decisions that are based on sound evidence and data are more effective. Those that are based on woolly ideas, knee jerk reactions or ad hoc things on they are not. Risk abatement is assessed for key decisions.

0.2 Statement of Quality Policy – It is the objective of Stainless Foundry & Engineering, Inc. to provide on-time delivery of castings, machined components, and services at a competitive price which conform to or exceed our customers' requirements and legal obligations the first time, every time.

0.3 Process approach

0.3.1 Element of single Process as followed by SF&E

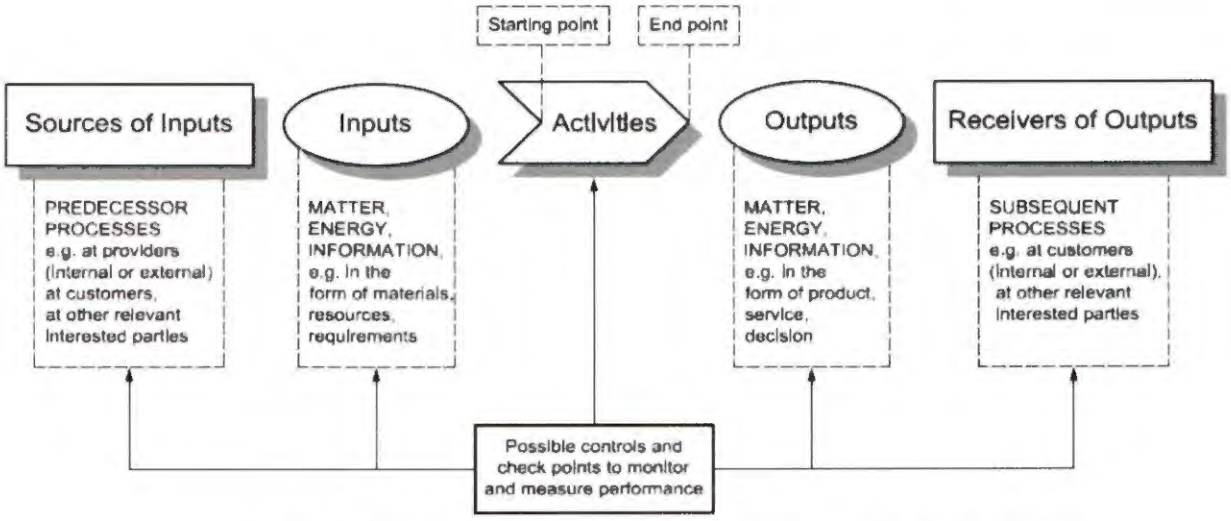
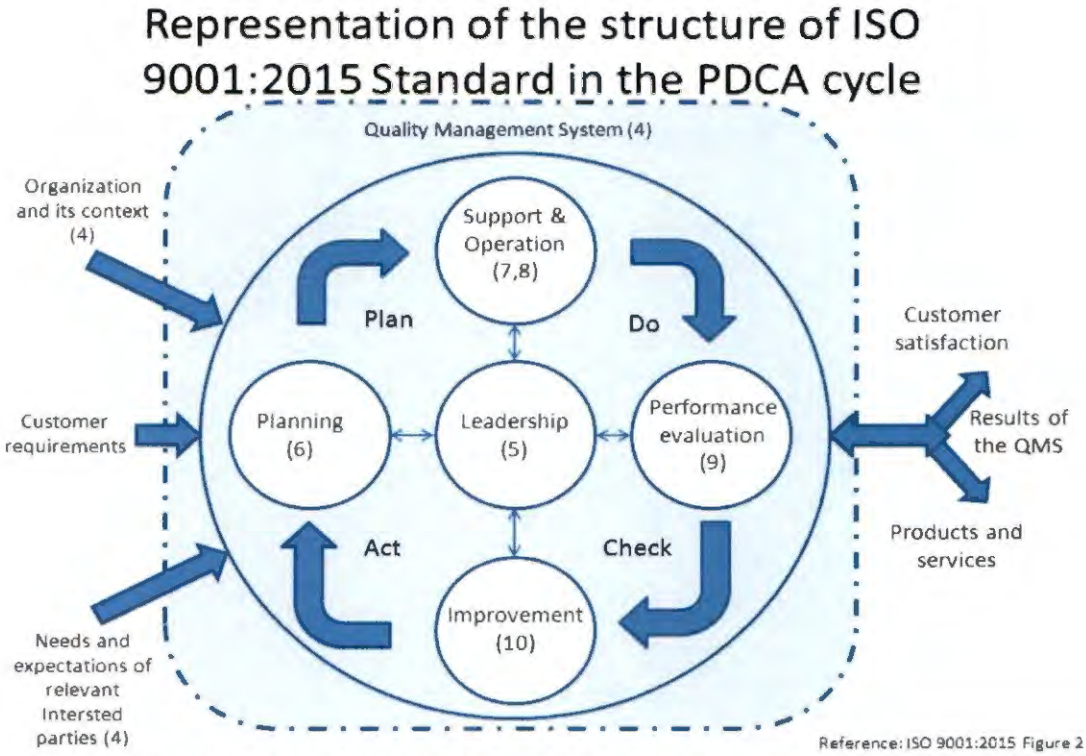


Figure 1 – Schematic representative of the elements of a single process

- Previous sources of inputs (departments) are followed from manufacturing routings for production for products or approvals in the case of office transactions or activities.
- Inputs are the activities as specified by shop documentation of Travelers or electronic guidance or instructions.
- Activities are performed as specified from Travels or other manufacturing requirements. These can be electronic or paper in nature.
- It is the opportunity for rework or to pass the product to the next phase of manufacturing or inspection. All instance instructions as specified above are followed.
- Realization of finished product or documentation is passed to the next process for completion.



0.3.2 The PDAC cycle is followed in business and manufacturing process at SF&E by the following:

Figure 2 – Representation of the structure of this International Standard in the PDCA cycle.

- Review of the operations to be performed.
- In the case of business transactions, the prior, current and past requests are considered and acted upon following the model.
- In the case of manufacturing, the same logic is applied to and followed by the supervision and operator/Inspector. Consideration to the customer's expectation is considered.
- All customer expectations, both business and production, allow for the use of procedures or instructions as well as good practice principles as applied.
- Questions as to proper decisions if required, are brought to the attention of Supervision or Management.

1.0 Scope:

Responsible party: Quality Management

Stainless Foundry and Engineering, Inc. (SF&E) is a jobbing foundry introducing castings for a wide range of applications for both domestic and foreign. Major industries served fall within the food processing, nuclear power and military applications. SF&E continues to develop its reputation as a supplier of premium quality castings at competitive prices. To achieve this goal SF&E has developed and implemented a quality management system (QMS) which uses ISO 9001:2015 as the framework. This allows our organization to not only provide products and services but also improve our practices in order to better satisfy the needs and expectations of our customers, stakeholders and interested parties

This Quality Policy Manual (QPM) describes the QMS and delineates authorities and responsibilities of personnel operating within. The QPM also provides additional appendixes, sub-appendixes and quick reference guides for ease of use to all interested parties. SF&E quality management system as the requirements of ISO 9001:2015.

Exceptions –

The following ISO 9001:2015 requirements are not applicable to our organization:

- Design and Development of products and services. Excluded from QPM as we do not design or modify customer designs or models.

1.1 Mission statement – Why we exist:

Use our technical expertise to deliver competitive customer solutions and high-quality castings on-time.

1.2 Vision Statement – Where we are headed:

By investing in technology and employee development, we will maintain the casting expertise to consistently produce defect free castings for all levels of quality with the most competitive lead time in the industry.

Standards of Conduct and Ethics Policy

At Stainless Foundry and Engineering (SF&E), we want our business to be conducted in accordance with the highest standards of business ethics, and we encourage employees to bring ethical questions to management's attention so we can maintain our high standards. All employees are expected to be courteous and businesslike in their professional interactions with customers and all other employees

The reputation and integrity of SF&E is among our most valuable assets and is vital to our success. Each of us, as an employee, bears a special responsibility to conduct business and personal affairs by a code of conduct and ethics. Any activity or behavior contrary to these standards could damage the reputation of SF&E in the eyes of our customers, our employees, and the general public.

The policies enumerated in this Code of Conduct and Ethics Policy ("Code of Conduct") address:

1. The presence of honesty and candor in our activities, including observance of the spirit as well as the letter of the law.

2. Avoidance of conflicts or even the appearance of conflicts between personal interests and the interests of SF&E.

3. Respect for the confidentiality of information received in the course of business.

4. Maintenance of SF&E's reputation and the avoidance of activities that might adversely affect our reputation.

5. Integrity of dealing with SF&E's assets.

Throughout this Code of Conduct, we stress that an employee does not use their position at SF&E to advance personal interests at the expense of or to the detriment of SF&E. "Personal interest" includes the interest of the individual's family or any corporation or other entity in which the individual or his or her family has a significant financial or business interest.

Compliance with Applicable Laws and Regulations

SF&E complies with all laws and regulations that are applicable to our business. Although laws and regulations may sometimes be ambiguous and difficult to interpret, SF&E, as a good corporate citizen, emphasizes good faith efforts to follow the spirit and intent of the law.

Conflicts of Interest

SF&E expects its employees to devote their full work time, energies, abilities, and attention to our business. Employees are expected to avoid situations that create an actual or potential conflict between the employee's personal interests and the interests of SF&E. Employees who cannot make this commitment may be asked to end their employment with SF&E.

A conflict of interest exists when an employee's loyalties or actions are divided between SF&E and a competitor, supplier, or customer, or even themselves. Employees who are unsure whether a certain transaction, activity, or relationship constitutes a conflict of interest should discuss it with their supervisor or a member of management for clarification. Any exceptions to this guideline must be approved in writing by the President of SF&E.

Some examples of the more common conflicts that should be avoided by all employees:

- Accepting personal gifts, payment, entertainment, or services from competitors, customers, employees, suppliers or potential suppliers.
- Working for a competitor, supplier or customer while employed by SF&E.
- Engaging in self-employment in competition with SF&E.
- Using proprietary or confidential SF&E information for personal gain or to SF&E's detriment.
- Having a direct or indirect financial interest in or relationship with a competitor, customer or supplier.
- Placement of business with a firm owned or controlled by an employee or his/her family, or a firm in which an employee or his/her family has a material financial interest.
- Acquiring any interest in property or assets of any kind for the purpose of selling or leasing it to SF&E.
- Committing SF&E to give its financial or other support to any outside activity or organization without appropriate written authorization.
- An immediate family member may not be hired or place in a department if the employment would create a direct supervisor/subordinate relationship with a family member or create a conflict of interest.

Failure to adhere to this guideline, including failure to disclose any conflict or seek an exception, may result in disciplinary action, up to and including termination of employment.

Outside Employment

It is SF&E's policy that any outside employment of an Employee must not conflict with the business of SF&E, impair the employee's performance, or subject SF&E to adverse publicity.

Employee's Outside Activities

Employees are prohibited from soliciting or receiving, for themselves or for a third party (other than SF&E itself), anything of value, as stated below, from anyone in return for any business, service or confidential information of SF&E. There are no exceptions to this policy. Employees are prohibited from accepting anything of value (other than bona fide salary, wages, fees, or other compensation paid by SF&E in the usual course of business) from anyone in connection with the business of SF&E whether before or after a transaction is discussed or consummated.

Recordkeeping

SF&E must maintain accurate and complete records. Transactions between SF&E and outside individuals and organizations must be promptly and accurately entered in our books and on all of our records in accordance with generally accepted accounting practices and principles. Do not ever misrepresent facts or falsify records. Integrity is critical to our business and dishonesty of any kind will not be tolerated.

Compliance with State and Federal Law

All employees are personally responsible for knowing which laws and regulations apply to their position and for adhering to those legal and regulatory standards. Employees seeking guidance on complying with state and federal laws that apply to their position at SF&E must contact their immediate supervisor or Human Resources department personnel, if necessary.

It is the policy of SF&E that all Employees shall be required to report all violations of the Code of Conduct and any other activity which may be deemed illegal or unethical, actual or apparent, to Human Resources or the President of SF&E. All such reports can be made in confidence without fear of reprisal or embarrassment unless the reporting employee is directly involved in the violation. An employee not involved in any alleged violation will not be subjected to any disciplinary or retaliatory action as a result of any report of violation or potential violation, unless the employee is found to have acted frivolously, maliciously, or with complete disregard for the truth.

2.0 Normative references:

Responsible party: Quality Assurance

- ISO 9001:2015 *Quality management systems – Fundamentals and vocabulary*
- ASME Code Section III, Part I, NCA-3800/ NCA-4200
- DNV (Det Norske Veritas)
- European Communities 2014/68/EU and UKCA Pressure Equipment Directive

- MIL-I-45208A, Amendment 2 (Obsolete as of November 3, 1995. Replaced by ISO/ANSI/ASQ900) and MIL-Q-9858A Amendment 3.
- Norsok M-650
- 10CFR, Part 50, Appendix B
- 10CFR, Part 21
- CAN3-Z299.1-85
- CAN3-Z299.2-85
- CAN3-Z299.3-85

3.0 Terms and definitions:

Responsible party: Quality Management

10CFR, Part 21: Volume 10 of the code of federal regulations part 21 governing the reporting of defects as approved by the federal government.

10CFR, Part 50, Appendix B: Volume 10 of the code of federal regulations part 50, appendix B, governing the approved elements of a QM systems programs approved by the federal government.

Acceptance Criteria: Defined limits placed on characteristics of materials, products, or services.

ANSI/ISO/ASQ Q9001: The American National Standard entitled: Quality Systems C Model for Quality Management in Production, Installation, and Servicing. Requirements are technically equivalent to ISO 9001.

Approval: Denotes acceptance, includes review, and is followed by signing/initialing and dating.

ASME: American Society of Mechanical Engineers.

ASME Boiler and Pressure Valve Code, Section III, Division 1, NCA-3800/ NCA-4200: The approved quality systems guide for material suppliers for nuclear and safety related products.

ASQ: American Society for Quality.

Audit: See Quality System Audit.

ASL: Approved Suppliers List. Used synonymously with Approved Vendors List (AVL) and Approved Providers List (APL)

Batch (volume or lot): an identifiable collection of products or quantity of material, of a single type, grade, class, size or composition produced in the same facility under essentially the same conditions and at essentially the same time.

BPVC: Boiler and Pressure Vessel Code from ASME specification series.

Calibration: Comparison and adjustment to a standard (master) of known accuracy.

CAN3-Z299.1-85: This is a Canadian Standards Association, which specifies minimum requirements for a quality management program.

CAN3-Z299.2-85: This is a Canadian Standards Association, which specifies minimum requirements for a provider's quality management program.

CAN3-Z299.3-85: This is a Canadian Standards Association, which specifies minimum requirements for a provider's Quality management program.

Certification: The procedure for and action by a duly authorized individual of determining, verifying, and attesting in writing to the qualifications of personnel, processes, procedures, materials, or items in accordance with applicable requirements.

Certified Material Test Report: A document signed by an authorized party affirming that the material is in accordance with the specified requirements, including the actual results of all required chemical analyses, tests, and examinations.
Certificate of Compliance: A document signed by an authorized party affirming that the provider of the product has met the requirements of the specification.

CEO: Chief Executive Officer also referred to as the President.

CAR: Corrective Action Request.

Conformance: Compliance with specified requirements.

Corrective Action: Measures taken to rectify conditions adverse to quality and to minimize or prevent recurrence.

DNV: Det Norske Veritas.

Documentation: Recorded information.

Exigent condition: A pandemic circumstance, national emergency or time of great weather risk or prolonged metrological event.

File: To place documents and records in a useful order; also, a collection of such documents or records.

Hold Point: A de facto stopping point in the manufacturing cycle where inspections and tests are performed by Quality Control.

IM&TE: Inspection, Measuring, and Test Equipment.

Inspection: An activity for determining conformance with specified requirements involving measuring, examining, testing, or gauging one or more characteristics and comparing them with the specified requirements.

ISO: International Standards Organization.

ISO 9001: International Standard ISO 9001 was prepared by Technical Committee ISO/TC 176, Quality Management and Quality Management, Subcommittee SC 2, Quality Systems. Effective November 15th, 2010, this fourth edition (amendment) of ISO 9001, cancels and replace the third edition (ISO 9001:2000) together with ISO 9002:1994, ISO 9003:1994, and ISO 9000: 2005. Those organizations which have used ISO 9002:1994 and ISO 9003:1994 in the past may use this International Standard by excluding certain requirements in accordance with Section 1.2 of ISO 9001:2008. We are currently operating and directing this QPM as ISO: 2015.

Manual: This Quality Policy Manual (QPM).

Material Manufacturer (Metallic): An organization which certifies that the material is in compliance with the requirements of the basic material specification. In addition, the Material Manufacturer (Metallic) performs or supervises and directly controls one or more of the operations required by the material specification which affect the mechanical properties of the material and verifies the satisfactory completion of all the requirements of the material specification performed prior to that certification.

Monitoring: An undocumented continuous activity involving spot-checking to ensure compliance with Stainless Foundry & Engineering, Inc. requirements.

Nonconformity: Any deviation from specified requirements.

NORSOK: The standard developed by NTS (Norwegian Technology Sector) for the competitive standing of the Norwegian offshore sector.

NCR: Nonconformity Report.

Outsourced Process: A process that SF&E chooses to have performed by external Providers.

Personal Pass Code: Unique code assigned to an individual which, when used, provides access to a computer for one or more of the following: viewing, data entry, data changing, or program revision.

Preventive action: Measures taken to rectify conditions that could be adverse to quality to prevent occurrence.

Procedure: a document that specifies, as applicable, the purpose and scope of an activity; what shall be done and by whom; when where and how it shall be done; what materials, equipment and documentation shall be used; and how it shall be controlled. (See CSA Special Publication CAN3-Z299.0, which describes different kinds of procedures.)

Product: The result of all processes established throughout the SF&E QM system, which are the goods and services sold to the customer. These goods include not only the cast and or machined component(s), but the services which are associated and required documentation required for fulfillment of the customer purchase order.

Production: all activities involved in fabrication, assembly, construction and erection of products to specified requirements.

QM: Quality Management.

QMP: Quality Management Procedures, which directly implement the Quality Policy.

QC: Quality Control.

QS: Quality Systems.

Quality: The totality of features and characteristics of a product that bear on its ability to satisfy stated or implied requirements.

Quality Assured: All those planned or systematic actions undertaken to provide adequate confidence that a product will satisfy given requirements for quality.

Quality Audit: a documented activity aimed at verifying by independent examination and

evaluation that the applicable elements of the quality assurance program have been established, documented and implemented effectively in accordance with specified requirements.

Quality Control: The operational techniques and activities used to fulfill requirements of quality.

Quality Improvement: Those actions, which result in products with improved quality.

Quality Management: Director of Quality Management and Quality Management Inspection Supervisor, or QM designer.

Quality Policy: The overall intentions and direction of an organization with regard to quality, as formally expressed by top management.

Quality System Audit: A documented activity to verify, by examination and evaluation of objective evidence, that applicable elements of the Quality System are suitable and have been developed, documented, and effectively implemented in accordance with specified requirements.

Repair: The process of restoring a nonconforming characteristic to a condition such that the capability of an item to function reliably and safely is unimpaired, even though that item still does not conform to the original requirement.

Rework: The process by which an item is made to conform to original requirements by completion or correction.

Retain: To keep or hold documents and records for a specified length of time.

Review: Checking for correctness and conformance to requirements, followed by signing and dating.

RIR: Receiving Inspection Record.

President: Also referred to as CEO.

SF&E: Stainless Foundry & Engineering, Inc.

SPC: Statistical Process Control.

Statistical Process Control: The application of statistical techniques to the control of processes.

Special production process: a production process where conformance is assured by using evidence generated during the process. A production process is a special process when subsequent inspections required to establish conformance are either impossible or undesirable.

Specified requirements: requirements prescribed by the customer in the contract and complementary requirements prescribed by the provider that are not directly prescribed by the customer.

Specification: The generic term for a document, which prescribes the requirements with which the material, product, process, or system has to conform.

Standard: A prescribed set of conditions and requirements in the form of a published document, such as an ASQC or ISO Standard.

Subcontract: a contract between a provider and sub provider.

Supplier: Any individual or organization that furnishes sub-contracted (outsourced) processes, materials, products, or services to Stainless Foundry & Engineering, Inc.

Surveillance: the continuing evaluation, analysis, and verification of a supplier's records, methods, procedures, products and services, to assure that requirements are met.

Survey: A documented evaluation of an organization's ability to provide a product or service as verified by a determination of the adequacy of the organization's manufacturing program and/or by a review of the implementation of that program at the manufacturing site.

Systems Coordinator: The job title assigned to an individual responsible for maintaining the SF&E Quality System. In the absence of a Systems Coordinator, all procedures, work instructions, and the Quality Manual -which may reference the Systems Coordinator - may be left maintained as-is. Designee for Systems Coordinator is the Director of Quality.

Testing: A means of determining the capability of an item to meet specified requirements by subjecting the item to a set of physical, chemical, environmental, or operating actions and conditions.

Traceability: The ability to trace the history, application, or location of a product by means of markings and records.

Verification: The act of reviewing, inspecting, monitoring, testing, checking, auditing, or otherwise establishing and documenting whether designs, products, processes, equipment, or documents conform to specified requirements.

UKCA – The United Kingdom's BREXIT movement brings the directive for the countries of Britain, Wales, Northern Ireland and Scotland. It is a pressure equipment directive similar to the PED but with more BS (British Standards) and less EN (Euro norms).

Work: any activity performed to provide products and services.

Work Instruction: the generic term for a step-by-step instruction on how to carry out an activity such as manufacturing, inspection, testing or an activity implementing the Quality System. Noted as WI in this Manual.

4.0 Context of the organization:

Responsible party: Executive Management Staff/Top Management and Quality Management.

4.1 Understanding the organization and its context –

SF&E identifies, analyses, monitors and reviews factors that may affect our ability to satisfy our customers, stakeholders and stability of manufacturing processes and applicable management system. To ensure that our QMS is aligned with ever changing strategy driven by internal and external factors Executive Management analyses pertinent information annually determining potential impact on our context. Internal and external factors taken into account are:

Internal Issues:	**External Issues:**
Market Share	Customers and Providers
Employees	Markets and Competition
Performance	Regulation
Capacity	Economic State
Values and Culture	Culture and Social
Innovation and Technology	Technological

4.2 Understanding the needs and expectations of interested parties –

SF&E recognizes that we have a unique set of interested parties whose needs and expectations change and develop over time. To ensure our products and processes continue to meet relevant needs we identify and assess expectations for possible input to our QMS. Interested parties including needs and expectations reviewed are listed below:

Interested Parties:	**Needs and Expectations:**
Customers	Price and Reliability
Owners / Shareholders	Profitability and Growth
Employees	Shared Values and Security
Providers	Beneficial Relationships
Regulatory	Compliance

4.3 Determining the scope of the quality management system –

The analysis of information identified in sections 4.1 and 4.2 allows SF&E to establish the scope of our QMS in order to implement our objectives and policies that are relevant to our organization, products and all interested parties. This scope is described throughout this QPM and outlines the relationship between our QMS and the sequence and interactions of our key processes.

4.4 Quality management systems and its processes –

SF&E has established and documented a QMS consistent with our statement of quality policy and the scope of our quality expectations as defined by this document. A full spectrum approach utilizing all processes outlined is applied to all requests put forth to the organization.

SF&E has implemented a quality QMS that has established, documents and implemented our processes, quality policy and objectives while satisfying the requirements of ISO 9001:2015. It is recognized that defining, implementing and documenting our quality management system is only the first step towards fully implementing its requirements. The effectiveness of each process and its subsequent output is measured and evaluated through regular internal audits and quality inspections. We use key performance indicators (KPI) that are linked to our objectives to control and monitor our processes. We use trends and indicators relating to nonconformities, corrective action as well as monitoring and measurement results, audit results and customer satisfaction data to evaluate process performance and overall conformity of our product.

SF&E ensures that documented information and retention times required to be maintained and retained by organizations that drive our QMS are meet.

5.0 Leadership:

Responsible party: Executive Management Staff/Top Management and Quality Management

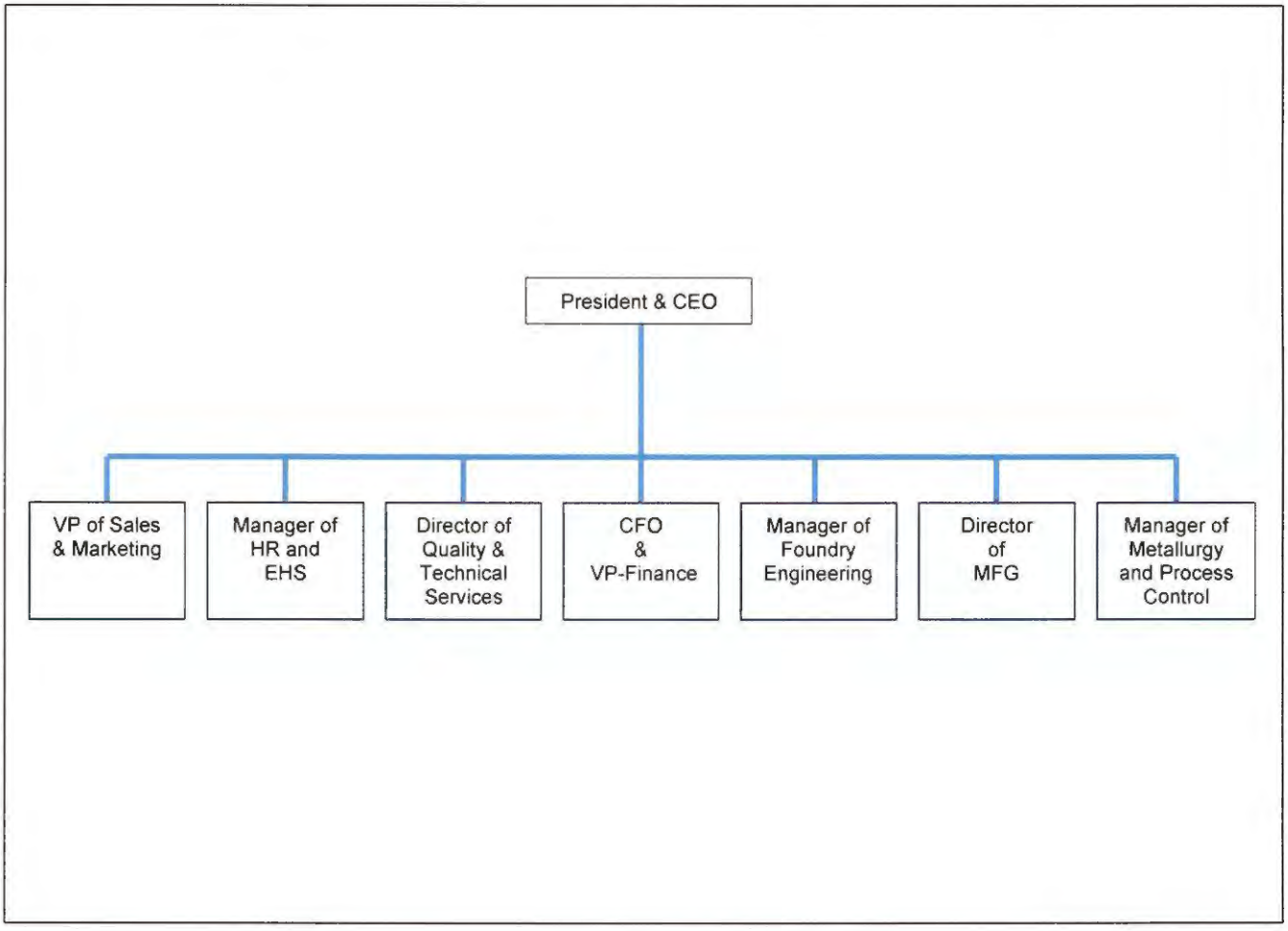
5.1 Leadership and commitment -

Executive, Top Management, Managers and Supervisors provide leadership and governance to all activities related to processes defining and fulfilling the strategic direction. Responsibility, authority and communication assures the safe, effective and quality outcome desired.

5.2 General –

SF&E's leadership structure provides necessary support to achieve and maintain our quality objectives and policies. Systematic verification steps have been put in place to regularly review the adequacy of applicable departments and implement adjustments as needed. The organizational structure and lines of communication pertaining to the Quality Systems of Stainless Foundry & Engineering, Inc. are shown in Figure 1

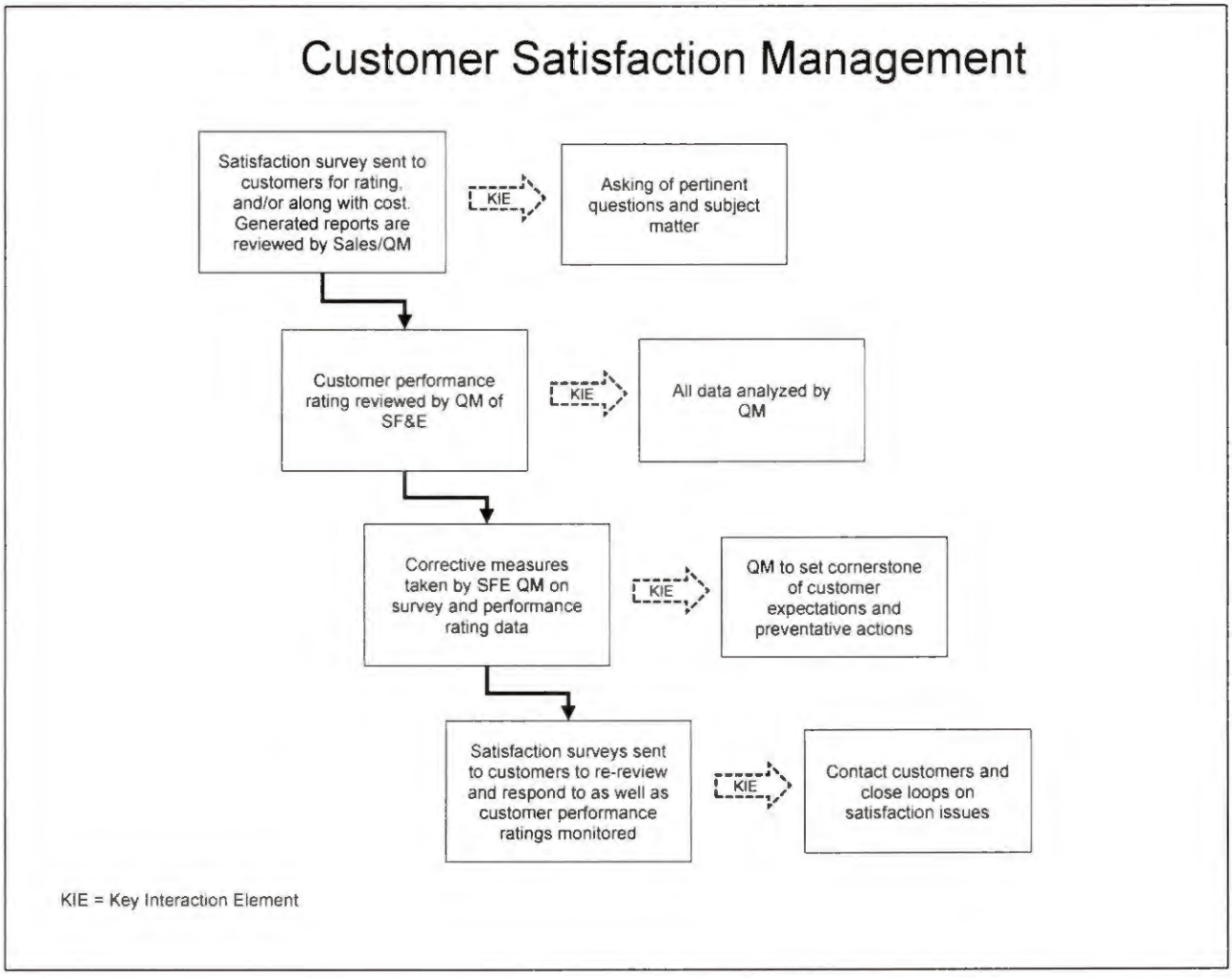
Figure 1. Organization Structure Chart



5.2.1 Customer focus –

SF&E strives to identify and meet or exceed customer expectations. Internal processes allow for review of all inquiries, requests for quotes and purchase orders verifying that regulatory and conformity of product requirements can be met. Customer complaints and other customer feedback are continually monitored and measured to identify opportunities for improvement.

Figure 2. Customer Satisfaction Management Chart



5.3 Policy -

5.3.1 Establishing the quality policy -

This QPM acts as a compass by providing the direction and framework for establishing key manufacturing and corporate level performance measures as well as associated targets and objectives. It has been written in accordance with ISO 9001:2015 Edition. Additional requirements may be imposed by customer purchase orders or contracts including requirements from quality standards and systems listed below:

- ASME BPVC Section III, Part I, NCA-3800/ NCA-4200
- ASME NQA-1
- DNV (Det Norske Veritas)
- European Communities Directive 97/23/EC Pressure Equipment Directive
- MIL-I-45208A, Amendment 2 (Obsolete as of November 3, 1995. Replaced by ISO / ANSI/ ASQ 9000 series) and MIL-Q-9858A Amendment 3
- NORSOK M-650
- Title 10 CFR Part 50, Appendix B and Title 10 CFR Part 21
- CAN3-Z299.1-85
- CAN3-Z299.2-85
- CAN3-Z299.3-85

This QPM includes all Appendixes and Sub-Appendixes set quality objectives, flame commitment to satisfy applicable requirements and drive continual improvement projects.

5.3.2 Communicating the quality policy -

This QPM is available to all employees and any interested parties via our website. In addition, the QPM is communicated to employees at all levels throughout the organization via training, regular internal communications and reinforced during department meetings and annual employee performance reviews. Overall employee understanding of our policies and objectives is determined during internal audits and other methods deemed appropriate.

5.4 Organizational roles, responsibilities and authorities -

The Director of Quality has been designated as SF&E's internal organizational management representative. Irrespective of other responsibilities they have the authority and responsibility for assuming that the requirements of ISO 9001:2015 and this QPM are implemented and maintained. Director of Quality designees have been selected as SF&E's Quality Assurance Engineer and Technical Director. These individuals have freedom to enforce and maintain the QMS and associate processes in the Directors absence.

Director of Quality, Quality Engineer and Technical Director are directly responsible for maintaining the integrity of the QMS, associated procedures and processes. Executive, Top Management, Managers and Supervisors have been assigned the responsibility of monitoring the overall processes to:

- Ensure that QMS processes are delivering intended outcomes
- Report on QMS identifying any opportunities for improvement
- Ensure customer focus is promoted throughout organization
- Ensure that changes to the QMS processes are reported and implemented properly so integrity of system can be maintained
- Ensure responsibilities and authorities relating to the QMS are communicated and understood by applicable departments

Ultimately all Executive, Top Management, Managers and Supervisors are responsible for execution of the business plan and the implementation of the policies, processes and systems described and put forth in this manual. They are responsible for planning and controlling the QMS within their area of responsibility, including the deployment of operational level objectives and providing the resources needed to implement these objectives.

All employees are responsible for the quality of their work and implementation of the policies and procedures applicable to the process they perform. Employees are motivated and empowered to identify and report any known potential problems and recommend related solutions to aid in the corrective and preventive action process.

6.0 Planning:

Responsible party: Executive Management Staff/Top Management and Quality Management

6.1 Actions to address risks and opportunities –

Actions to address corporate risks, opportunities and risk abatement actions are discussed and outlined in Appendix I of this QPM.

6.2 Quality objectives and planning to achieve them –

SF&E sets out its objectives and targets on a regular basis in annual and more frequent management review meetings. Improvements in quality and performance are incremental and are in keeping with the size and complexity of our organization. When setting these objectives and targets our organization ensures they are consistent with the needs and expectations of interested parties as defined in section 4.2 and our corporate policies.

In order to determine whether our objectives and targets are being met they are measured and reported through KPI's. This information is monitored and communicated internally which allows for data to be analyzed. From this information employees are responsible for the fulfilment of the objectives and targets. Managers of departments are invited to develop general objectives into smaller objectives applicable to their departments and employees.

6.3 Planning of changes -

The output of management system planning is documented and retained and all changes to the QMS are conducted in a controlled manner. Whenever QMS changes are planned Quality Management ensures that all applicable personnel are made aware of any changes that affect their processes and that subsequent monitoring is undertaken to ensure that the changes are effectively implemented.

7.0 Support:

Responsible party: Executive Management Staff/Top Management and Quality Management

7.1 Resources -

7.1.1 General –

Resources at SF&E include human, technology, work environment and financial resources. The resource requirements needed for the implementation, management, control and continual improvement of all activities necessary to enhance our QMS are defined in the Quality Management Procedures (QMP), Work Instructions Procedures (WIP) and this QPM.

7.1.2 People –

To ensure competence of our personnel job descriptions have been prepared identifying the qualifications, experience and responsibilities that are required for each position that affects product and system conformity. Qualifications are reviewed upon hire, when an employee changes positions or when the requirements for a position change.

Human Resources maintains records of employee qualifications related to general job requirements. If any differences between the employees' qualifications and the requirements for the job are found training could be recommended. All employees are made aware of the relevance and importance of their activities and how they contribute to the achievement of the company's policies and objectives. The company operates a formal system to ensure that all employees are adequately trained. Staff training records are maintained to demonstrate competency and experience.

Supporting Documents:

QMP:	Title and Description:
6.12	Job Descriptions

7.1.3 Infrastructure -

SF&E ensures that facilities, work areas, technical products (including software, process control tools/equipment, computer hardware & software) and the sub-contracted services utilized are all aligned to achieve product conformity to the customer ordered specifications. Consideration will be made to upgrade facilities and equipment required to satisfy contracted requirements and meet production demands when needed.

Executive Staff and Top Management via formal feedback mechanisms will assess the need to purchase, modify or obsolete any equipment or tools which do not meet the quality objectives for the operations being performed.

- **Computer access control** –Responsible party: Manager of Information Technology. The Management Information Systems Department assures that computer access control is maintained, including a list of authorized personnel and their access identification.

- **Maintenance of equipment** - Suitable maintenance and preventative maintenance of specified equipment is performed to ensure continued process capabilities.

Supporting Documentation:

QMP:	Title and description:
10.11	Infrastructure

7.1.4 Environment for the operating of processes -

SF&E ensures that our office and manufacturing areas comply with relevant health and safety regulations. The Environmental and Safety Director carries out regular compliance audits to ensure that applicable standards are maintained. Executive Staff, Top Management, Managers and Supervisors are committed to providing:

- A place of work that is safe, including all equipment and methods.

- Training, instruction, information and supervision for employees.

- A means of safe handling, storage, use and transportation of equipment, materials and chemicals.

- Working environment with good lighting, ventilation, safe passageways, stairs and corridors.

Supporting Documents:

QPM:	Title and Description:
6.13	Safety Management Procedures

7.1.5 Monitoring and measuring resources –

All production or product monitoring and measuring equipment is controlled through a gage calibration system. Monitoring and measurement equipment are calibrated and verified at specific intervals by audited calibration facilities that are certified to National Institute of Standards & Technology (NIST). All gages are identified traceable to calibration certifications issued and kept for record. Executive, Top Management, Managers and Supervisors are responsible for providing proper facilities for storage of monitoring and measuring devices to safeguard from adjustments, damage and or deterioration that may adversely affect measurement results.

Supporting Documents:

QMP:	Title and Description:
12.01	Control of Monitoring and Measuring Devices

7.1.6 Organizational knowledge –

Organizational knowledge is a valuable resource that supports our quality management activities and ensures continual product and service conformity. To ensure organizational knowledge is retained and transferred knowledge is documented, key personnel are assigned properly embedding knowledge into our processes, products and services. Examples of organizational knowledge include:

- Documented information regarding a process, product or service. This could include current procedures, work instructions, shop card routings and customer communication history.

- The experience of skilled people and their processes and operations including knowledge of technologies and infrastructure relevant to those processes.

7.2 Competence –

Executive Staff, Top Management, Managers and Supervisors identify emerging competency needs which are converted into job descriptions by Human Resources. Personnel hired are introduced to internal policies and objectives as well as being challenged to applicable job description requirements. If personnel fail to meet general requirements additional training or a development plan may be created. All relevant documents to this process are maintained for review.

Supporting Documents:

QMP:	Title and Description:
6.12	Job Descriptions

7.3 Awareness –

All employees are trained on the relevance and importance of their activities and how they contribute to the achievement of the company's quality policies and objectives. During this new employee indoctrination personnel are required to sign off on all elements that meet these sectional criteria. Established personnel will on at least an annual basis have the corporate quality policy discussed. This is usually discussed at one of the quarterly all-employee meetings by the Director of Quality or at individual performance evaluations.

Supporting Documentation:

QMP:	Title and Description:
19.01	Training and Training Needs

7.4 Communication –

SF&E has recognized the importance of communicating the elements of our QMS not only internally but externally. Employees are trained formally and informally to the requirements of this QPM when hired and at various times throughout careers via Top Management, Managers and supervisors in meetings, evaluations and everyday encounters. External customers, suppliers and other interested parties can access the QPM through our website where current revision is available. Upon request customers can also be placed on an external distribution list where a copy of the manual will be forwarded by Quality Assurance when revisions are made. External distribution is electronic unless requested otherwise by the recipient and is accompanied by a Manual Transmittal Letter showing acknowledgment of receipt.

Supporting Documents:

QMP:	Title and Description:
6.05	Procedure Control
6.09	External Document Control

7.5 Documented information –

7.5.1 General -

SF&E's QMS is supported by a system of documented and controlled manuals, procedures, work instructions and records. The structure for QMS is documented on four main levels:

- Level I - Quality Policy Manual
- Level 2 - Quality Management Procedures (QMP): Quality Management procedures detail the methods of control and the responsibilities for the various QMS elements.
- Level 3 - Work Instructions and Quality Plans: Work Instructions/Quality Plans are prepared for each activity where the absence of such detailed instructions would adversely affect quality.
- Level 4 - Quality Records

These various levels of quality related documents are necessary for the effectiveness of SF&E's QMS.

Supporting Documents:

QMP:	Title and Description:
4.01	Documenting the Quality System

7.5.2 Creating and updating -

The preparation, review for adequacy, and approval of controlled documents are described in Quality Management Procedures (QMP's). Each reviewer and approver have access to pertinent background information. Changes are reviewed and approved in the same manner as the original document. Changes from the previous revision are identified in revision history.

Supporting documentation:

QMP:	Title and Description:
QMP 6.01	Preparation of Quality Management Procedures
QMP 6.02	Preparation of Work Instructions

7.5.3 Control of documented information -

Quality Documents are prepared, maintained and distributed to demonstrate conformance to specific requirements and the effective operation of this QMS. All controlled information is maintained in a document control system which allows for:

- Appropriate and direct control providing updated distribution and availability of documents when needed.
- Proper control to prevent misplacement and improper use while maintaining confidentiality.
- Proper storage and preservation to maintain integrity and legibility.
- Proper structure for revision control retaining obsolete documents while dispositioning current documents in proper and accessible location.

Supporting Documents:

QMP:	Title and Description:
4.02	Control of the Quality Policy Manual
6.04	External Document Control – Customer Documents
6.05	Procedure Control
6.09	External Document Control – SF&E Documents
6.10	Drawing Control
17.01	Control of Quality Records

8.0 Operation:

Responsible Party: Executive Management Staff / Top Management and Quality Management

8.1 Operational planning and control –

SF&E establishes and implements documented plans and procedures that describe the processes and controls required to meet the requirements of products and services. offered. These four levels of our QMS (as described in 7.5.1) allow for:

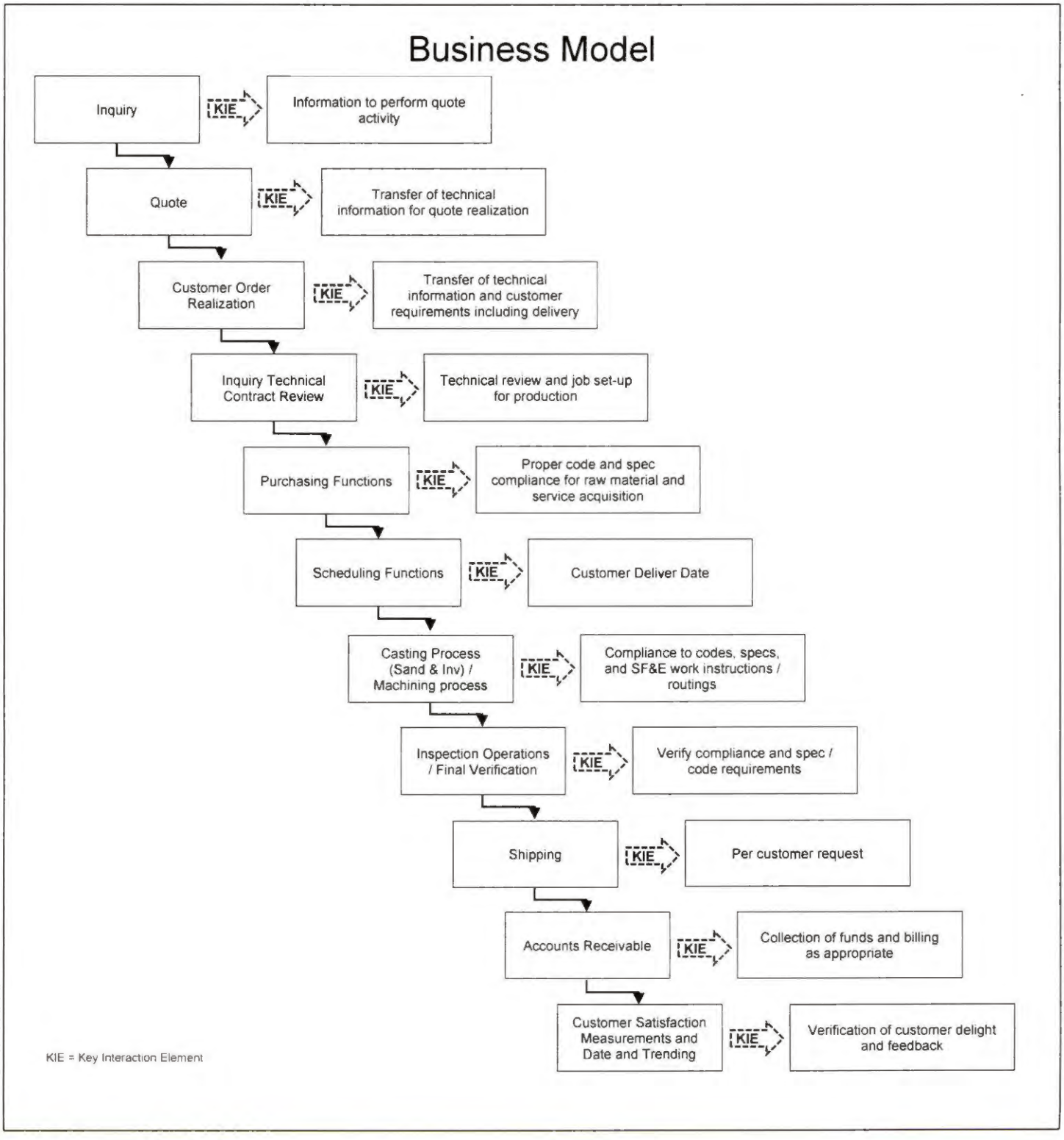
- Determination of objectives and requirements for the service or product to be provided.
- Creation of documented instructions to outline and relay process requirements including all resources to achieve conformity.
- In process monitoring and inspection to demonstrate and document conformity while implementing proper process changes when necessary.
- Final review revealing any unintended changes or abnormalities which would require corrective action before being released for shipment.

SF&E Business Model is shown in figure 2:

Supporting Documents:

QMP:	Title and Description:
5.03	Control of Quotations
5.01	Contract Review
11.02	In Process Inspection, Monitoring and Measurement of Product
11.03	Final Inspection, Monitoring and Measurement of Product
17.02	Material Test Reports / Certificates of Compliance

Figure 3. Business Model Chart



8.2 Requirements for products and services –

8.2.1 Customer communication -

In accordance with our commitment to meet and exceed our customer's expectations SF&E highlights effective communication as an essential element of delivering customer satisfaction. Customer communication occurs through the following formats, events and processes:

- Brochures, specifications and/ or technical data sheets related to our products and services.
- Enquiries, quotations, invoices and credit notes.
- Confirmation of authorized purchase orders and amended purchase orders.
- E-mails, letters and general correspondence concerning status of orders, customer correspondence and property as well as questions, concerns and approvals.
- Customer feedback and complaints with implementation of corrective actions when relevant.

Executive Staff, Top Management, Managers and Supervisors are responsible for establishing methods of communication with our customers to ensure the above-listed are handled expeditiously and professionally.

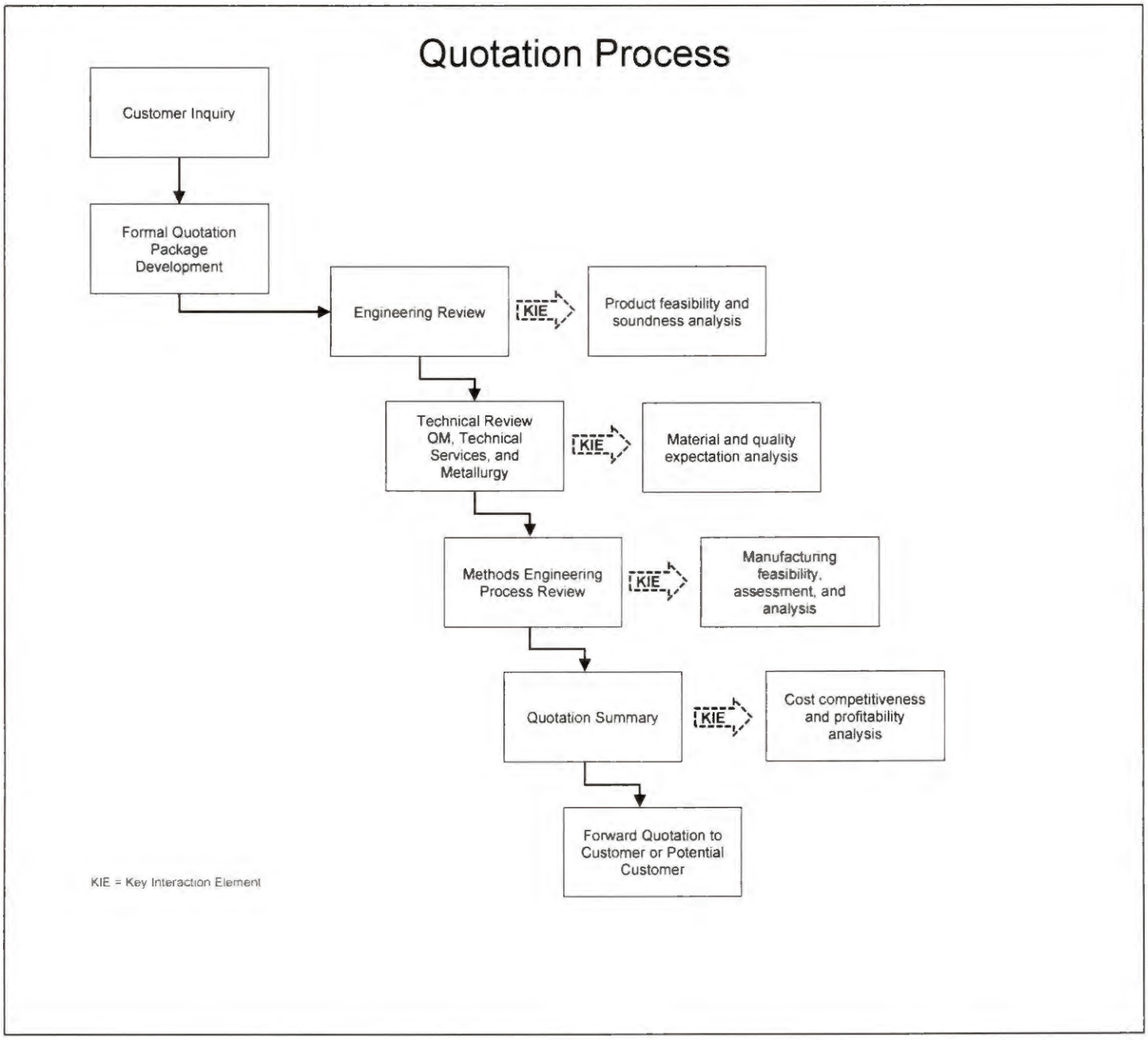
8.2.2 Determining the requirements for products and services -

SF&E develops company objectives to ensure that we satisfy the needs and expectations of our customers and relevant interested parties. Product Realization addresses all quotation requests from current or prospective customers to verify product and service can be provided in accordance with customer defined parameters and all internal processing limitations. This process is outlined in figure 3.

Supporting Documents:

QMP:	Title and Description:
5.03	Control of Quotations

Figure 4. Quotation Process Chart



8.2.3 Review of the requirements of products and services -

All purchase orders issued as a result of accepted quotations are reviewed before committing to supply products and services to the customer. Review includes and is not limited to the following:

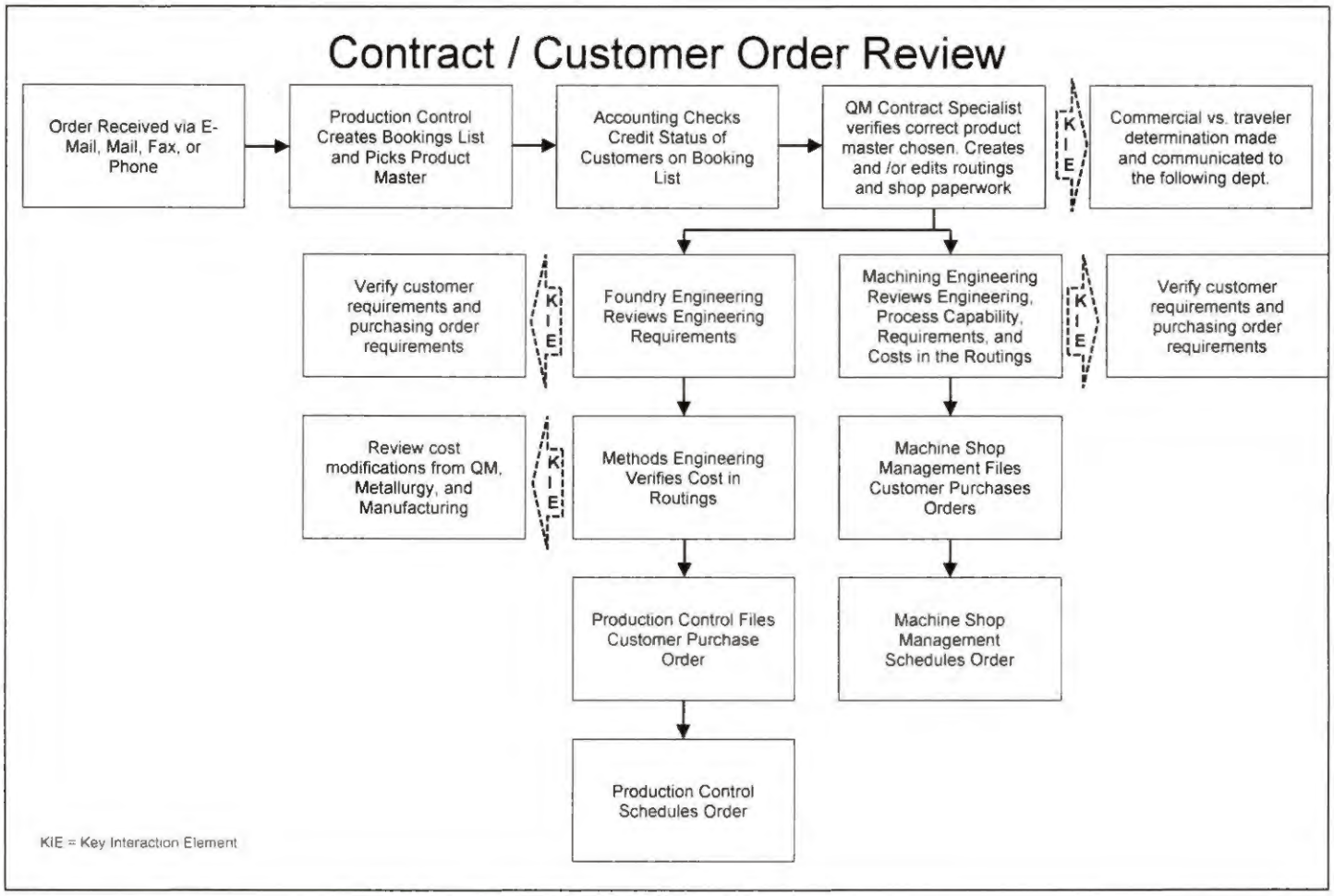
- Product requirements are defined, appropriate and accurate to quotation previously drafted.
- Any additional requirements determined necessary by SF&E to process are properly captured and passed down to all manufacturing cells.
- Purchase order requirements differing form those previously quoted are. resolved with all applicable departments.
- Documented information is retained and maintained showing results and approvals resulting from review.

Contract / customer order review process is outlined in figure 4.

Supporting Documents:

QMP:	Title and Description:
5.01	Contract Review

Figure: 5. Contract / Customer Order Review Chart



8.2.4 Changes to requirements for products and services -

SF&E ensures that all relevant documented information related to changes in product or service requirements is authorized and amended when necessary. All relevant personnel are made aware of the changes and applicable documents are filed in the proper location.

8.3 Design and development – N/A

8.3.1 General -

Design and development is not applicable. SF&E has all engineered products delivered in the form of patterns which have been designed by our customers. SF&E is not responsible for the design and development of our customer's products. SF&E is responsible to conform to statutory and regulatory requirements on accepted orders as dictated in customer supplied directives, laws, order requirements, standards, specifications and drawings.

8.4 Control of externally provided processes, products and services -

8.4.1 General –

The purchasing process is essential to our organization's ability to provide our customers with products and services that meet their requirements. SF&E ensures that all purchased products or services that are incorporated into our final products conform to specified requirements. We accomplish this by working closely with a network of external providers documented in an Approved Provider's List. The extent of control applied to these approved suppliers of products or services is dependent on the effect that the outsourced service may have on final product. The following considerations are taken into account:

- Ensuring that SF&E understands the capabilities and competencies of suppliers.
- Ensuring that SF&E clearly communicates the roles and responsibilities of all parties.
- Defining all quality, regulatory and processing requirements for the outsourced activity.
- Selecting appropriate providers or qualifying new providers if needed.

  It is the responsibility of the Purchasing Manager to evaluate and select providers based on their ability to supply services. Other internal resources may be called in to assist as required.

8.4.2 Type and extent of control –

Each provider is evaluated and approved based on their ability to meet SF&E's subcontract and quality program requirements. The approval of Provider is based on any one or combination of the following:

- Quality Systems Survey/Audit by qualified auditors assigned by Quality Management
- Provider supplied data such as ISO 9001, ASME Quality System Certificates or references as provided through the SF&E questionnaire.
- Satisfactory past history based on a documented review of the available receiving inspection data, nonconformity reports and provider history files related to the provider's product or service.

Material received from the above-described approved providers goes through verification assuring that material identification, quantity and all accompanying documents are in line with requirements applied on applicable purchase order. In the event non-conformities are found rejected product is processed in accordance with internal procedures and data logged for future analysis.

Supporting Documents:

QMP:	Title and Description:
7.01	Provider Qualification for Purchased Materials and Services
11.01	Receiving Inspection / Testing / Urgent Release

8.4.3 Information for external providers -

SF&E uses purchase orders to describe the service to be purchased. These purchasing documents issued by SF&E's Purchasing Department contain a clear description of the product or service ordered including, as applicable:

- Specification, type, class, grade, or other precise identification of material.
- Applicable issue of drawings, specifications, process requirements, inspection instructions, and other relevant technical data, including requirements for approval or qualification of product, procedures, process equipment, and personnel and quality program qualifications.
- The title, number, and issue of the quality system standard to be applied.

Purchasing reviews all purchase orders for adequacy of specified requirements and approves each prior to releasing.

Supporting Documents:

QMP:	Title & Description:
7.03	Purchase Order Requisition for Outside Services

8.5 Production and service provision -

8.5.1 Control of production and service provision -

SF&E ensures that production processes, which directly affect quality are carried out under controlled conditions. These controlled conditions include:

- The use of quality plans (shop orders) for each product or service which reference production, inspection, test steps and outputs expected.
- The use of suitable production equipment maintained and calibrated to ensure continued conformity to the process parameters outlined in quality plans.
- A suitable working environment and infrastructure for operation of processes.

- The placement and utilization of competent individuals to complete processes required.
- The monitoring and control of suitable process parameters at several levels of the quality plan to verify operations prior have been completed satisfactorily.
- The final review and certification of product and manufacturing process before release for shipment.
- The proper framework to field all customer correspondence that may be needed after completion of service or shipment of product to customer.

Sand foundry process is outlined in Figure 5, investment foundry process is outlined in figure 6 and machining service process is outlined in figure 7:

Supporting Documents:

QMP:	Title and Description:
10.01	Process Control
12.01	Control of Monitoring and Measuring Devices
10.11	Infrastructure
6.12	Job Descriptions
17.02	Material Test Reports / Certificates of Compliance
14.01	Control of Nonconformance

Figure 6. Sand Foundry Process Chart

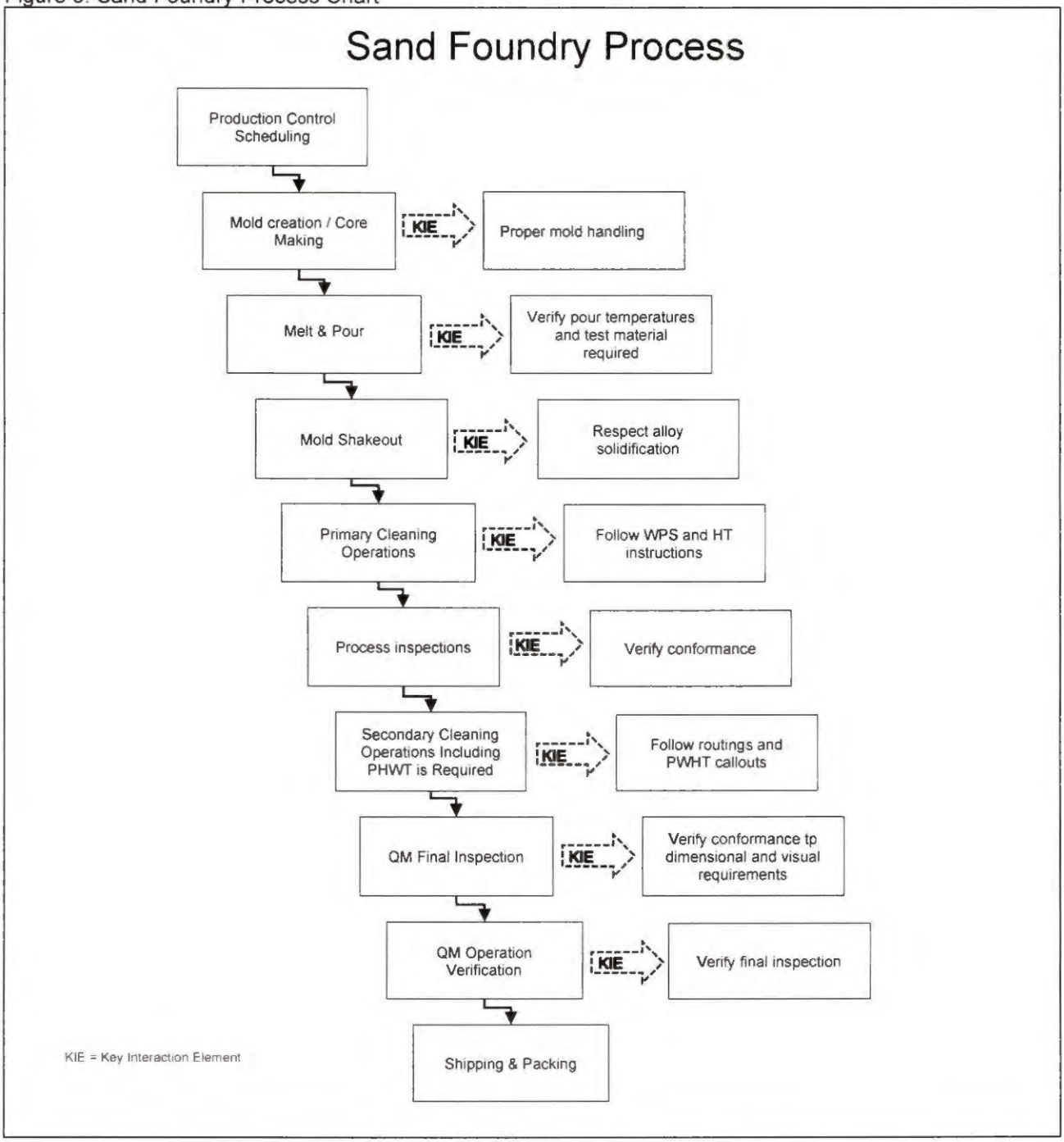
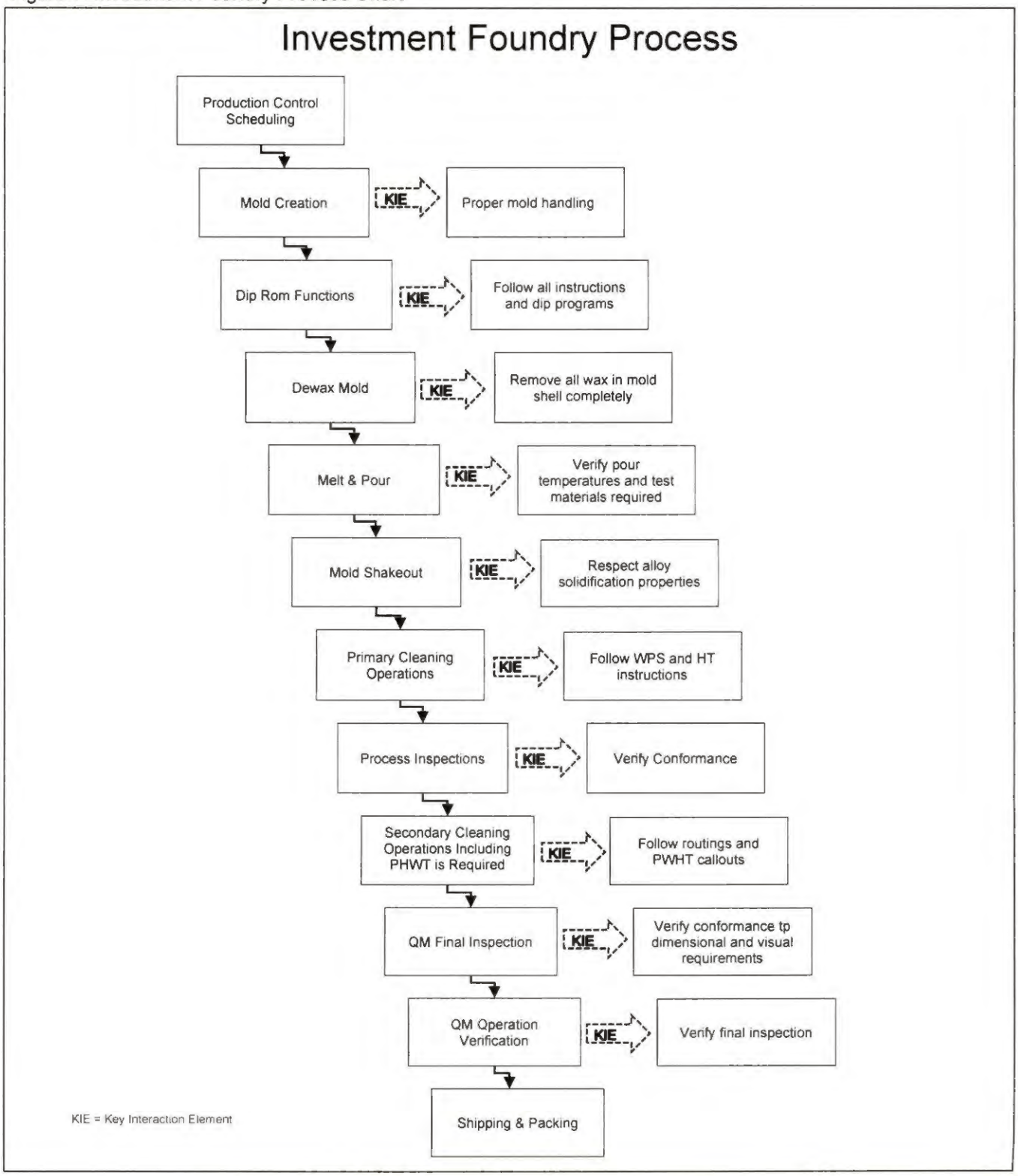


Figure 7. Investment Foundry Process Chart



stages with any special requirements being added to shop card routings making all interested parties aware. This encompasses the identification, handling, packaging, storage, preservation and protection throughout the manufacturing process and to the customer.

Supporting Documents:

QMP:	Title and Description:
16.01	Handling, Storage, Packaging, Preservation and Delivery

8.5.5 Post-delivery activities -

Post-delivery activities include open lines of communication for direct feedback to and from the customer. This often times includes reflection on applicable purchase order requirements. Protection to these purchase order requirements are extended through to final destination and if problems are encountered product can be returned for repair or replacement.

8.5.6 Control of changes -

SF&E ensures that all relevant documented information related to changes in product or service requirements are authorized and amended when necessary. All relevant personnel are made aware of the changes and applicable documents are filed in the proper location.

8.6 Release of products and services –

SF&E has implemented appropriate processes at numerous stages of the product realization, manufacturing and delivery process to ensure continuing conformity with all applicable customer requirements. This includes:

- Review and capture of all customer requirements stated on applicable purchase order through our quotation and contract review process before releasing for production.
- Process controls over scheduling and the manufacturing process assuring shop card routings are provided and utilized by applicable departments.
- Review, verification and certification by an authorized individual or customer representative showing compliance to all purchase order requirements.

The release of products or services will not proceed until the above items have been satisfactorily completed.

Supporting Documents:

QMP:	Title and Description:
5.01	Contract Review
10.01	Process Control
17.02	Material Test Reports/Certificates of Compliance

8.7 Control of nonconforming outputs –

It is SF&E's policy to detect, control and rectify any aspect of a product that does not conform as quickly and efficiently as possible. Any product that does not conform to the requirements is properly identified and contained to prevent further processing. The non-conformity is logged, analyzed and investigated. All applicable interested parties are made aware and proper steps are taken to modify the manufacturing process, secure proper deviation approvals or scrap out and re-make. The history of all actions is initiated and updated in the current ERP system providing history needed if further investigations are needed.

Supporting Documents:

QMP:	Title and Description:
14.01	Control of Nonconformance

9.0 Performance evaluation:

Responsible party: Executive Management Staff/Top Management and Quality Management

9.1 Monitoring, measurement, analysis and evaluation -

9.1.1 General

SF&E applies suitable methods for determining which aspects of the QMS and its processes are to be monitored, measured and evaluated. SF&E key process indicators (KPI's) are discussed weekly at Executive staff meetings as well as the weekly pulse meetings. The pulse meetings have interaction from Operations, Human Resources, Manufacturing, Production Control and Quality Control personnel. All performance measures are discussed and actions to remedy may be issued if deemed required by Quality Assurance. Evidence of results is kept on file and ultimately outline the effectiveness of current QMS.

9.1.2 Customer satisfaction

SF&E monitors the customer's perception as to whether we meet customers requirements and expectations. The monitoring tools may include, but are not limited to:

- Customer Complaints
- Customer Returns
- CARs requested and or initiated as a result of the above

This data forms part of the KPI's that are discussed weekly at the pulse meetings.

Supporting Documents:

QMP:	Title and Description:
15.06	Customer Returns / Complaints / Satisfaction / CAR's

9.1.3 Analysis and evaluation –

Executive Management, Operations, Human Resources, Manufacturing, Production Control and Quality Control collect and analyze data. Using appropriate statistical techniques to determine suitability and effectiveness of key QMS processes applicable to their areas of responsibility to identify opportunities for improvement. At a minimum data is analyzed to assess achievement of the corporate level objectives and customer requirements. Corrective action may be taken when the data shows a trend toward a defined control limit.

Supporting Documents:

QMP:	Title and Description:
21.01	Analysis of Data and Statistical Techniques

9.2 Internal audit

Responsible party: Quality Management

Internal audits are critical inputs that help assess the effectiveness of our QMS. QM is responsible for the establishment and administration of a comprehensive system of planned and documented audits that verify whether quality activities comply with specified program requirements and are effective. The system includes:

- Preparation of an audit schedule based on the status and importance of the activity to be audited.
- Issuance of audit plans whose scope ensures that all elements of the program are audited.
- Performance of audits by qualified auditors, who have no direct responsibility for the area being audited, utilizing written procedures, checklists, or equivalent
- Written audit reports detailing the activities audited and any quality system non-compliances.
- Distribution of the audit report to persons responsible for the areas audited and to appropriate executive management.
- Determination of root causes and corrective actions required to prevent recurrence.
- Follow up audits to verify implementation and effectiveness of corrective actions.
- Use of audit results by management to review the continued suitability and effectiveness of this quality system.

SF&E's internal audit program is based upon a strategy that considers the status and importance of each process that comprises our QMS. The audit frequency is based upon process performance trends, results from previous audits, non-conformity and corrective actions. This ensures that we focus on the aspects that affect product and process conformity the most.

Supporting Documents:

QMP:	Title and Description:
18.01	Training qualification and certification of Auditor Trainees, Auditors, Lead Auditors and Nuclear Lead Auditors

9.3 Management review -

9.3.1 General

Executive Staff and Top Management reviews the quality management system on an annual basis to ensure the continuing suitability, adequacy and effectiveness is aligned to organizations strategic direction.

9.3.2 Management review inputs

The primary inputs that are reviewed comprise data from conformance and performance measurements that are gathered at key quality data points. Quality Management is responsible for gathering and reporting this information in report form. Primary inputs and applicable report include:

- Current Quality Policy Manual updates including status of actions from previous management reviews.
- Internal, External and customer audit reports and statistics.
- Nonconformity Reports, Corrective/Preventive Action Reports and MRB data, status and statistics.
- Changes in Quality Management Procedures and Work Instructions.
- Customer returns, customer complaints and customer satisfaction.
- Provider returns, provider complaints and overall provider satisfaction with review of current and approved provider list.
- Summary trend analysis reports of process performance, conformity of products and services.
- Status of organization quality objectives and corporate goals including the effectiveness of risk management program and recommendations for corrective and preventive actions to be taken.
- Evidence of management commitment to quality excellence including infrastructure and resource change, opportunities and current Level III status.
- Opportunity recommendations through continuous improvement program.

9.3.3 Management review outputs –

The primary outputs of management review meetings are the actions necessary to make changes or improvements to the QMS. During management review process Executive Staff and Top Management will identify appropriate actions to be taken regarding the following issues:

- Improvement of effectiveness of the QMS and its processes.
- Improvement of product and service-related customer requirements.
- Opportunities and risks.
- Maintenance, removal and addition of appropriate resources.

Responsibilities for required actions are assigned to members of the management review team. Any decisions made during a meeting, assigned actions and their due dates are recorded in management review minutes. Acceptance of these items as well as overall management review is captured by signature and date on finalized report by all attendees.

Supporting Documents:

QMP:	Title and Description:
1.01	Management Review of Quality System

10.0 Improvement:

Responsible party: Quality Management

10.1 General –

In order to determine and select opportunities for improvement in continued effort to meet or exceed the changing requirements of customers and relevant interested parties SF&E drives improvement via analysis of relevant key performance indicators. This process aids in correcting, preventing or reducing undesired defects as well as improving the performance and effectiveness of our QMS.

10.2 Nonconformity and corrective action –

Evidence of internal non-conformance or customer dissatisfaction is used to drive our continual improvement system. Individuals with responsibility and authority for implementing corrective action /preventive actions are made aware promptly of product or process nonconformities. Corrective / Preventive actions are appropriate to the effects of the non-conformities encountered. General outline for this process includes:

- Review, analyze and control internal processes and product non-conformities. Understand scope and take proper steps to contain like product with possible non-conformities or similar processes with possible deficiencies.
- Determine the causes of product and process non-conformities and deficiencies.
- Evaluate the need for action and formulate plans to eliminate the causes for future operations or product. Risk assessment is taken into consideration at this phase and reviewed throughout the remainder of the process.
- Implement the action plan.
- Follow up to make sure action plan worked and how effective it was in relation to final product or service and risk assessment completed.
- File all documented results and make changes needed to QMS.

QM is responsible for implementing and maintaining the corrective action system to eliminate causes of nonconforming product, processes and prevent recurrence. The corrective actions are considered effective if the specific problem was corrected and data indicates that same or similar problems have not recurred.

Supporting Documents:

QMP:	Title and Description:
14.01	Control of Nonconformance
15.01	Corrective and Preventive Action

10.3 Continual Improvement –

SF&E continually improves the effectiveness of its QMS through the effective application and review of the corporate policies, objectives, auditing, data analysis, corrective / preventative actions and management review.

Appendix A
ASME BPVC, Section III, Part 1, Subsection NCA-3800/NCA-4200 and Code of Federal Regulations, Section 10, Part 50, Appendix B and Canadian Standards Association CAN3-Z299.1-85 (2006)

Scope	This appendix applies only to Nuclear and safety related orders when required by contract. It addresses those additional requirements of sub-section NCA-3800/ NCA-4200 and 10CFR Part 50, Appendix B and/or not covered by SF&E's ISO 9001:2015 Quality System.
Reference	The requirements of SF&E QPM Sub Appendix 1 Contract Compliance and Malpractice Awareness Prevention applies to activities pertaining to system administration, manufacturing process, inspection, and certification for all orders processed at SF&E when this Appendix is applicable. Sub-section NCA referenced sections have origins to the ASME BPVC, Section III, Part 1.

NCA-3810/NCA-4251.2 Scope and Applicability	SF&E is an ASME Section III, Part 1, compliant organization meeting and exceeding the requirements of sub-section NCA-3800/ NCA-4200
NCA-**3811** Limitations	**NCA-3811(a)** - SF&E does not approve providers of other providers. Verification is performed at the time of auditing at SF&E's provider's by SF&E's QM department reviewing pertinent records. **NCA-3811(b)** - SF&E does define the scope of activities that its provider must conform to. All deviations from scope are addressed by SF&E's QM department.
NCA-3812 Exclusions	**NCA-3812** - Material falling within the small products exclusion of sub-section, NB/NC/ND-2610 or material, which is allowed by this section to be furnished with a certificate of compliance (COC) is exempted from the requirements of sub-section NCA-3800/ NCA-4200 except: **NCA-3812(a)** – Certified Material Test Reports (CMTR's) for casting produced at Stainless Foundry & Engineering comply with the requirements of sub-section NCA-3862-1. **NCA-3812(b)** – This section is applicable to Stainless Foundry & Engineering in accordance with sub-section NCA-4256.3

CAN3-Z299.1-85 (2006) Para. 3.5.2 **Title 10 CFR Part 50, Appendix B, Criterion III** Design Control **ASME NQA-1-1994** Design Control	SF&E does not design or develop customer product specification. SF&E works to the customer specifications, purchasing, and drawing requirements to produce castings and machined components
NCA-3820 Certification or Qualification of Material Organizations	**NCA-3820(a)** - Stainless Foundry & Engineering does not have a Quality System certificate from ASME. **NCA-3820(b)** - Stainless Foundry & Engineering is frequently surveyed and audited to verify that the Quality System is in compliance to sub-section NCA-3800/ NCA-4200. Provider used for manufacturing operations and special processes on Nuclear and safety related work is held to the requirements of sub-section NCA-3800/ NCA-4200. **NCA-3820(c)** - Verification of the quality systems via auditing and surveying providers used for work described as Nuclear or safety related.

NCA-3830 Responsibilities of Material Organizations	**NCA-3830(a)** -Traceability is maintained for material per section 8.5.2 of this QPM, QMP 9.01 and associated work instructions. **NCA-3830(b)** - Control of quality during manufacturing is accomplished by detailed QMP's as follows: QMP 10.01 Process Control QMP 10.06 Preventive Maintenance - Manufacturing Equipment QMP 10.08 Travelers QMP 11.01 Receiving Inspection/Testing/Urgent Release QMP 11.02 In-Process Inspection & Testing QMP 11.03 Final Inspection & Testing QMP 11.04 Inspection Non-Destructive Testing Additional work instructions supplement the above QMP's to control quality during and after manufacturing. **NCA-3830(c)** - All providers who perform service on Nuclear and safety related parts are audited per the requirements of sub-section NCA-3842. **NCA-3830(d)** - All functions and controlling operations performed by Stainless Foundry's manufacturing and providers on Nuclear and safety related type work are monitored for compliance to customer order requirements and this QP Manual. **NCA-3830(e)** - All CMTR's comply with the requirements of sub-section NCA-3860, general documentation issues are controlled per the requirements of QMP 17.01 and QMP 17.02. Customers specific contract needs and requirements are documented and certified as specified on the customer's order when the requirements of QMP 17.01 and QMP 17.02 are exceeded. **NCA-3830(f)** - See sub-section NCA-4257.4.
NCA-3841 Evaluation by the Society	**NCA-3841** - Stainless Foundry has not been audited or surveyed by ASME although it does host numerous ASME sub-section NCA-3800/ NCA-4200 and/or 10CFR Part 50, Appendix B and/or CAN3-7299.1-85 compliant type audits and surveys every year. Any customer may audit Stainless Foundry as long as a 72-hour notice in writing has been received by Stainless Foundry's QM department.

NCA-3842 Evaluation by Parties Other Than the Society	**NCA-3842.1 Qualification of Material Organizations –** All providers who currently hold an ASME Quality System Certificate are surveyed and audited. These certificates from mentioned providers are kept on file by Stainless Foundry. **NCA-3842.1(a)** - Stainless Foundry deals with numerous providers who are certified, some to ASME quality systems requirements and also to other systems. All providers for nuclear or safety related work are surveyed or audited to sub-section NCA-3800/ NCA-4200 and 10CFR Part 50 and Appendix B CAN-Z299. 1-85 requirements. **NCA-3842.1(b)** - Compliance by Stainless Foundry on this item.
NCA-3842.2 Evaluation of the Qualified Material Organization's Program by Certified Material Organizations of Certificate Holders	**NCA-3842.2(a)** - The quality system is audited annually per QMP 18.01. Stainless Foundry is evaluated by our customers and their agencies at their discretion. Providers providing service and provides to Stainless Foundry are audited on a set annual to tri-annual basis. Calibration services may be excluded from this requirement if they meet the requirements of sub-section NCA-3855.3(c). As required, performance samples are submitted to our customers as requested, corrosion samples, weld coupons, etc. **NCA-3842.2(b)** - The QP Manual is audited numerous times per year by our customers. The QP Manual's Appendix A intent is to comply with the requirements of ASME BPVC Section III, Part I, sub-section NCA-3800/ NCA-4200 and 10CFR Part 50, Appendix B and CAN3-Z299.1-85. **NCA-3842.2(c)** - The SF&E QM Department shall make available to customers a copy of the current Quality Policy Manual and Quality Management Procedures, drawings, and process sheets as necessary during surveys and audits by customers. **NCA-3842.2(d)** - QM shall notify customers of any proposed changes to this Quality Policy Manual for their acceptance prior to implementation to that particular customer's product to that customer's product. **NCA-3842.2(e)** - Unqualified source material shall not be used. **NCA-3842.2(f)** - SF&E includes in its scope of activities the approval and control of providers. **NCA-3842.2(g)** - Suitable procedures are in place to allow for drop shipment of

product to approved third party(s) for further processing.

NCA-3842.2(h) - QM shall assure that audits are being performed for those Material Organizations including ASME Quality Systems Certificate Performance assessments shall be conducted by either the QM Director or QM Department Designee at least annually during the interval in which source materials are being provided. These assessments shall include a documented review of the qualified Material Organization's or services subcontractor's history of conditions adverse to quality, nonconformance's, and corrective actions. Assessments of Material Organization shall include a documented review of periodic testing established by QM performed since the last assessment to demonstrate conformance of sample material to selected requirements of the material specification.

Note: Under the Nuclear Regulatory Commission's policy Oversight of the Supply Chain Under Exigent Conditions for Supplier Audits /Surveys and Remote Source Verification exigent conditions, form the July 28, 2020, policy document, the audit and/or survey interval may be extended up to 25%. This unique grace period can be applied exigent conditions exist including, but not limited to;

A) declaration of a national emergency,

B) sever localized on national weather conditions, or

C) Localized outbreak of a sever health concern.

Under these exigent conditions the audit clock resets when the audit and/or when the audit/survey is performed. The 25% grace period extension is applicable to domestic and international supplier.

During the use of the 25% extension, a supplier evaluation shall be performed and results documented, including any necessary qualification adjustments. Suppliers in the 25% extension can be maintained on the SF&E Approved Provider List (APL) provided the following actions (a-c) are taken and the results
satisfactory:

a. Verification that:

(1) The supplier is still implementing a quality assurance program that meets Appendix B to 10 CFR Part 50 OR

	(2) Commercial suppliers surveyed are still maintaining adequate documented programmatic controls for the activities affecting quality. b. Monitoring ongoing and previous supplier performance promptly considering impacts of these following types of information: 1. Results of receipt inspection activities or other operating experience. 2. Review of supplier-furnished documents and records such as certificates of conformance, nonconformance notices, and corrective actions 3. Results of audits and inspections from other sources (e.g., customer, ASME, NIAC audits or NRC inspections). c. In the case of a new procurement activity or changes to existing procurements that significantly enlarges the scope or changes the method/controls for activities performed by the supplier, the evaluation shall document the justification that the change(s) are adequately addressed by the supplier's quality assurance program or mitigating actions are being taken by SF&E.
NCA-4251 Responsibility and Organization **NCA-4251.1** General	**NCA-4251.1 General** **NCA-4251.1(a)** - The Quality System Program is outlined in the QP Manual and this Appendix A. **NCA-4251.1(b)** - Additional process control for special processes are contained in QMP 10.01,10.06,10.08, and 11.04.

NCA-4151.2 Scope and Availability **Title 10 CFR Part 50, Appendix B, Criterion I** Organization **ASME NQA-1-1994** I Organization	**NCA-4251.2(a)** - Specific activities are defined in the QPM Manual and QMP's for activities performed as follows: 1. Melting, test of base material, dimensional inspection, and applicable certification activities are found in QMP 11.02, 11.03 and 17.02 respectfully. 2. All testing is conducted per customer documents and supported by QMP 11.02 and 11.04 for inspection and repair. 3. Receiving inspection is discussed in QMP 11.01. 4. Qualification of material organizations is the responsibility of Stainless Foundry's customers. 5. Approval of providers and sub-contracted services is handled by scheduled audits and placing of providers on the Approved Providers List (APL). 6. The utilization of unqualified source material is not applicable to Stainless Foundry. All providers must be qualified as previously specified. Special processes performed on castings produced at Stainless Foundry & Engineering are performed as identified per WIP QA3008. **NCA-4251.2(b)** Measures of Stainless Foundry and its sub-contracted providers are held to the requirements of ASME sub-section NCA-3800/ NCA-4200 and 10CFR Part 50, Appendix B and CAN3-Z299.1-85 (2006).

NCA-3851.3 Organization **Title 10 CFR Part 50, Appendix B, Criterion I,** **CAN3-Z299.1 (2006), Para. 3.2.1** Organization **ASME NQA-1-1994** I Organization	**NCA-3851.3** - Section 4 of the QP Manual addresses all required components of this section.
NCA-4252 Personnel **NCA-4252.1** **CAN3-Z299.1 (2006) Para. 3.2.6** Indoctrination, Training, and Qualification of Personnel	**NCA-4252.1** - All training of employees including QM/QC/QA employees are in accordance to QMP 19.01.

NCA-4252.2 Personnel Records **Title 10 CFR Part 50, Appendix B, Criterion XVII,** **CAN-Z299.1 (2006) , Para 3.2.6** Audits **ASME NQA-1-1994** Audits	**NCA-4252.2 (a) -** Training matrixes for special processes and other manufacturing or inspection activities are kept by the appropriate department. **NCA-4252.2 (b) -** All non-destructive testing records and training are in possession of QM. **NCA-4252.2 (c) -** All auditing and training records are maintained and filed by QM.
NCA-4253 Program Documentation **NCA-3853.1** Quality System Manual **Title 10 CFR Part 50, Appendix B, Criterion I** **CAN-Z299.1 (2006), Para. 3.3** Organization **ASME NQA-1-1994** Organization	**NCA-4253.1(a)** - The quality system is described and summarized in the QPM Manual. Additional requirements of ASME BPVC Section III, Part I, sub-section NCA-3800/ NCA-4200 and 10CFR Part 50, Appendix B and CAN3-Z299.1-85 are discussed and referenced in this appendix. **NCA-4253.1 (b) -** More specific instances and examples of levels of compliance are contained in the QP Manual. **NCA-4253.1 (c)** - Detailed technical procedures for special processes and applicable manufacturing operations are contained in the work instruction inventory. **NCA-4253.1 (d)** – Electronic controlled copies of the QPM are maintained by QM on the company controlled documents folder as well as SF&E's web page.

NCA-4253.2 Procedures, Instructions, and Drawings **CAN-Z299.1 (2006), Para. 3.4**	**NCA-4253.2(a)** - Activities affecting quality are performed in compliance to written procedures assigned at contract review QMP 10.08, and distributed via the Document Control system specified in QMP 6.04, 6.05, 6.09, and 6.10. When procedures are to be submitted to be used on customer contracts, SF&E form Procedure Approval Request Form shall be used for this activity. **NCA-4253.2 (b)** - All acceptance criteria to measure performance of cast parts is supplied to Stainless Foundry via customer documents; drawings and required specifications. Acceptance criteria are assigned at contract review as specified in QMP 10.08.
NCA-4253.3 Document Control **Title 10 CFR Part 50, Appendix B, Criterion V and VI** **CAN-Z299.1 (2006), Para. 3.5.3** Instructions, Procedures/ Drawings and Document Control **ASME NQA-1-1994** Organization	**NCA-4253.3** - Document Control is administered per QMP 6.03, 6.04, 6.05, 6.09, and 6.10.

NCA-4253.4 Quality Assurance Records **Title 10 CFR Part 50, Appendix B, Criterion XVII** **CAN3-Z299.1(2006), Para 3.5.16** Quality Assurance Records **ASME NQA-1-1994 XVII** Quality Assurance Records	**NCA-4253.4** - Quality Assurance records are maintained per QMP's 17.01 and 17.02.
NCA-4253.5 Records of Examinations and Tests	**NCA-4253.5** - Records of excavations and tests are evaluated per customer specifications and drawings specified per QMP 10.08. They are stored per the requirements of QMP's 17.01 and 17.02.
NCA-4255 Control of Purchased Materials, Source Materials, and Services **NCA-3855.1** General **CAN-Z299.1 (2006) Para. 3.5.5**	**NCA-4253.1 (a)** - Purchased materials, source materials, and services comply with the requirements of QMP sections 7.01, All purchased documents for items and services for Nuclear and safety related work carry statements of compliance to the requirements of 10CFR Part 21. **NCA-4253.1 (b)** - Welding materials comply with section (a) above. Additional work instructions on control of weld material are enforced on all Nuclear and safety related parts. **NCA-4253.1(c)** Measures for prevention of use of incorrect or defective materials is handled via QMP 11.04. Incoming material is inspected per QMP11.01. Any non-compliant source material is documented via QMP 14.01.

NCA-4255.2 Sources of Material, Source Material, and Services **CAN-Z299.1 (2006), Para, 3.5.5** Sources of Material, Source Material, and Services	**NCA-4255.2 (a)**- Material to be used in melting furnaces shall be sampled and tested periodically as required. The results of examinations and test shall be produced to Stainless Foundry for all nuclear and safety related work or repair performed. When materials or subcontracted services are for nuclear and safety related items, the procurement document shall include a statement that 10CFR21 applies to all providers and sub-tier providers. **NCA-4255.2 (b)** – Materials used for welding activities are approved and qualified source materials. All welding control of fillers and their security is maintained by QM/QA. Purchased weld fillers are only purchased from audited and qualified sources. **NCA-4255.2 (c)** – All source materials are used only if from approved materials that have been qualified and testing verified or at least validated.
NCA-4255.3 Approval and Control of Suppliers of Source Material and Services **Title 10 CFR Part 50, Appendix B, Criterion IV and VII,** **CAN3-Z299.1 (2006) Para, 3.55** Procurement Document Control and Control of Purchased material, Equipment and Services **ASME NQA-1-1994** Procurement	**NCA-4255.3 (a)** - All services from sub-contracted operations are from providers on the APL in accordance to QMP 7.01. Vendor activity on Nuclear and safety related parts are approved by Stainless Foundry's QM Department by a formalized audit system. **NCA-4255.3 (b)** - Providers used for services performed on Stainless Foundry's castings are audited on a scheduled basis. Formal Provider Quality Surveys are also sent out to pre-qualify any providers which are under evaluation by Stainless Foundry's QM department. All current audits, surveys, and performance assessments are on file for review. Providers not in compliance to the formalized audit system and/or on SFE's APL must perform other activities in accordance to SFE's Quality System. This conformity to customer and regulatory requirements is maintained by SFE's QM departmental verification through purchase order documents, witnessing of all required operations performed by the non-approved vendor, review of final product, verification of traceability, review of final documentation, and customer approval prior to these non-approved vendor operations. **NCA-4255.3(c)** – SF&E does not officially recognize the accreditation to ISO/IEC 17025 for calibration or material testing laboratories as a sole means of acceptance and approval for use. ISO/IEC 17025 for these types of laboratories is used as a minimal criterion for use with the promise that all aspects of the applicable sections of ASMR B&PVC, Section III, Part 1, NCA-3800/NCA4200, 10CFR Part 50, Appendix B and relevant sections of ASME NQA-1.

Document Control and Control of Purchased material, Equipment and Services **NCA-4255.3** Approval and Control of Providers of Source Material and Services **Title 10 CFR Part 50, Appendix B, Criterion IV and VII** Procurement Document Control and Control of Purchased material, Equipment and Services **(cont.)** **ASME NQA-1-1994 IV and VII** Procurement Document Control and Control of Purchased material, Equipment and Services	The full assessment of our Providers facilities, practices and other areas of SF&E's concern will be audited and approved the appropriate criteria. When there is concurrence between al of the relevant Nuclear Energy codes (ASME B&PVC, Section III, Part 1, NCA-3800/NCA4200, 10CFR Part 50, Appendix B and ASME NQA - 1). SF&E will rethink its approval via commercial level declaration in the use of ISO/IEC 17025 for a means of approval in the Nuclear Energy Institute (NEI) Technical Document Number NEI 14-05A. **NCA-4255.3(d) -** SF&E shall be responsible for assuring that all material and activities conform to all applicable requirements.

NCA-4255.4 Procurement Document Control **Title 10 CFR Part 50, Appendix B, Criterion IV and VII** Procurement Document Control and Control of Purchased material, Equipment and Services **ASME NQA-1-1994 IV and VII** Procurement Document Control and Control of Purchased material, Equipment and Services	**NCA-4255.4(a) -** All SF&E procured materials and services include the required code compliance and material compliance meeting the elements of sub-section NCA-3855.4. All procurement documents shall specify that approved providers of material and subcontracted services, other than those that possess an ASME Quality System Certificate or an "N" certification, reference the accepted quality systems or controls established by SF&E on supplied documentation. Procurement documents for weld material shall specify the weld material testing and documentation requirements of the customer and ASME Code Section III, NX-2400, as applicable. **NCA-4255.4 (b) -** With exceptions to procured materials per NCA-4255.5 all material, source material, sub-contracted services, and procurement documents follow essential elements as addressed by this QPM Appendix A, as well as all applicable elements of sub-article sub-section NCA-4255.4. **NCA-4255.4 (c)** - All procured services and procurement documents that are applicable to QPM Appendix A are obtained by using providers that are specified on SF&E's APL and nuclear APL as appropriate, except as noted per sub-section NCA-3855.3(b) For non-nuclear vendors. All special process activities and service activities supporting quality of manufactured nuclear code materials are surveyed, audited, assessed, or witnessed by SF&E's QM department. **NCA-4255.4 (d) -** All procured activities and services performed on castings or on purchased materials are reviewed by SF&E's QM department.
NCA-4255.5 Utilization of Unqualified Source Material **Title 10 CFR Part 50, Appendix B, IV and VII** Procurement Document Control and Control of Purchased	**NCA-4255.5 (sections 1 through 5) -** Stainless Foundry does not use any unqualified sources for any Nuclear or safety related materials.

material, Equipment and Services **ASME NQA-1-1994** **IV and VII** Procurement Document Control and Control of Purchased material, Equipment and Services	
NCA-4256.2 Marking Method **Title 10 CFR Part 50, Appendix B Criterion VIII** Identification and Control of Materials, Parts and Components **ASME NQA-1-1994** **VIII** Identification and Control of Materials, Parts and Components	**NCA-4256.2** Materials are marked for traceability with only low stress steel stamps in locations noted by customer documents and/or per material specifications. All items requiring additional traceability will be specified by customer contracts or purchasing documents and notes added to shop orders at contract review.

NCA-4256.3 Identification of Completed Material **Title 10 CFR Part 50, Appendix B. Criterion VIII** **CAN3-Z299.1 (2006) Para. 3.5.11** Identification and Control of Materials, Parts and Components **ASME NQA-1-1994 VIII** Identification and Control of Materials, Parts and Components	**NCA-4256.3 (a)** - Materials are identified by permanent stamps or cast on lettering. All heat traceability is in accordance with QP Manual section 9.0 and QMP section 9.01. **NCA-4256.3 (b)** - All vendor activities for Nuclear and safety related products are in all instances traceable per section (a) above. **NCA-4256.3 (c)** - At times when the size of the parts are too small or offer no permanent location for full heat numbers or traceability, code symbols may be stamped on a part. These would be in accordance with section (a) of this paragraph and all symbols would be approved and/or provided by the customer. **NCA-4256.3 (d)** - As required, if a specification is to conflict with special requirements of this section it would be notated on the Certified Material Test Report with an asterisk (*) after the material specification and grade. **NCA-4256.3 (e)** - Non-Ferrous materials will be handled in the same fashion as Ferrous materials in regard to this section by Stainless Foundry. **NCA-4256.3 (f)** - This section is not applicable to Stainless Foundry.
NCA-4256.4 Welding and Brazing Materials Identification **Title 10 CFR Part 50, Appendix B, Criterion VIII** Identification and Control of Materials, Parts and Components	**NCA-4256.3** - All welding material containers are controlled in locked storage only to be accessed by the: Receiving Inspector, Welding Program Coordinator, or QM Management. All containers are clearly marked to identify heat numbers, lot numbers, manufacturer, and grade. Other appropriate information may also be on containers as approved by QM.

ASME NQA-1-1994 **VIII** Identification and Control of Materials, Parts and Components	
NCA-4257 Process Control **NCA-4257.1** General **NCA-4257.2** Manufacturing Process Control **NCA-4257.3** **Welding**	**NCA-4257.1** - Process control in all areas which affect quality are monitored in accordance with QP Manual section 9.0 and QMP section 10.1. For other specific processes general work instructions cover many aspects of manufacturing. **NCA-4257.2** – All Process controls meet the requirements of the base QPM section 8.0. **NCA-4257.3** - All welders who perform repair and upgrade welding are qualified per the requirements of ASME BPV code, Section IX. All weld procedures used for welding operations are certified and performed in accordance with ASME BPV Code, Section IX. All welding procedures are qualified per the requirements of WIP QA 2001. Welder performance is monitored per the requirements of WIP QA2003. All weld repairs are performed in accordance to WIP QA3006. Welding material is controlled and ordered per the requirements of WIP QA5001.
Title 10 CFR Part 50, Appendix B, Criterion IX Control of Special Processes **ASME NQA-1-1994** **IX** Control of Special Processes	

NCA-4257.4 Handling, Storage, Shipping and Preservation **Title 10 CFR Part 50, Appendix B, Criterion XIII** **CAN3-Z299.1 (2006) Para. 3.5.12** **CAN3-Z299.1 (2006) Para 3.5.15** Identification and Control of Materials, Parts and Components **ASME NQA-1-1994 VIII** Identification and Control of Materials, Parts and Components	**NCA-4257.4 -** All handling, storage, shipping, and preservation are performed in accordance to QP 8.0 Manual section and QMP 16.01.
NCA-4258 Control of Examinations, Tests, and Nonconforming	**NCA-4258.1 -** Inspection, examinations, and tests are controlled by QPM Manual sections 10.0 and QMP 11.01, 11.02, and 11.03. All NDT special processes are performed by employees or providers who meet the requirements of WIP QA1001.

Material **NCA-4258.1** Inspection, Examination, and Test Control **Title 10 CFR Part 50, Appendix B, Criterion X and XI** **CAN3-Z299.1 (2006) Para. 3.5.6** **CAN3-Z299.1 (2006) 3.5.7** **CAN3-Z299.1 (2006) Para. 3.5.8** **CAN3-Z299.1 (2006) Para. 3.5.9** Inspection and test Control **ASME NQA-1-1994** Inspection and test Control	**NCA-4258.1(a)** - Inspection, examination, and tests shall be established to assure conformance with the requirements of the material specification. **NCA-4258.1(b)** - Inspections or examinations required to verify conformance of material, source material, or an activity to specified requirements shall be planned. Characteristics to be inspected or examined, and inspection or examination methods to be employed, shall be specified. Inspection or examination results shall be documented. **NCA-4258.1(c)** - Tests required to verify conformance to specified requirements shall be planned. Test results shall be documented and their conformance with acceptance criteria shall be evaluated.
NCA-4258.2 Control of Measuring and Test Equipment **Title 10 CFR Part 50, Appendix B, Criterion XII**	**NCA-4258.2** - Control of measuring and test equipment are controlled by QPM Manual section 9.0 and QMP 12.01. All calibration and associated operations are performed on a set frequency as specified per WIP QA2002. **NCA-4258.2(a)** - Procedures shall be in effect to assure that tools, gages, instruments, and other measuring and testing devices are used to verify compliance with the material specification. Equipment shall be calibrated and properly adjusted at specific periods to maintain accuracy within necessary limits. **NCA-4258.2(b)** - Calibration shall be against certified equipment having valid relationship and documented traceability to nationally recognized standards.

CAN3-Z299.1 Para 3.54 Control of Purchased material, Equipment, and Services **ASME NQA-1-1994 XII** Control of Purchased material, Equipment, and Services	**NCA-4258.2(c)** - Control measures shall include provisions for measuring and test equipment identification and calibration status.
NCA-4258.3 Discrepancies in Measuring or Testing Equipment **Title 10 CFR Part 50, Appendix B, Criterion XII** **CAN3-Z299.1 (2006) Para. 3.5.4** Control of Purchased material, Equipment, and Services **ASME NQA-1-1994 XII** Control of Purchased material, Equipment, and Services	**NCA-4258.3** - Discrepancies in inspection, measuring and test equipment (IM & TE) are handled in accordance with QMP 12.01. **NCA-4258.3(a)** - Discrepancies in excess of tolerances for measuring or test equipment are found at calibration, appropriate correction action shall be taken. **NCA-4258.3(b)** - Periodic checks on equipment shall be performed to determine that calibration is maintained. **NCA-4258.3(b-1)** - Methods used and frequency of period checking shall be described in the calibration procedure. **NCA-4258.3 (b-2)** - Document calibration discrepancy found during periodic check.

NCA-4258.4 Inspection and Test Status **Title 10 CFR Part 50, Appendix B, Criterion XIV** **CAN3-Z299.1 (2006) Para. 3.5.10** Inspection, Test and Operating Status **ASME NQA-1-1994 XIV** Inspection, Test and Operating Status	**NCA-4258.4 -** Inspection and test status is described in QP Manual section 9.0 and QMP 13.01. There are also other work instructions, which supplement inspection and test status.

NCA-4258.5 Control of Nonconforming Material **Title 10 CFR Part 50, Appendix B, Criterion XV** **CAN3-Z299.1 (2006) Para. 3.5.17.1** **CAN3-Z299.1 (2006) Para 3.5.17.2** **CAN3-Z299.1 (2006) Para. 3.5.17.3** Nonconforming Materials, Parts and Components **ASME NQA-1-1994 XV** Non-conforming Materials, Parts and Components **NCA-3858.5** Control of Non-conformances and Nonconforming Material **Title 10 CFR Part 50, Appendix B, Criterion XV** Nonconforming Materials, Parts and Components	**NCA-4258.5(a)** - Handling of all non-conforming products is performed in accordance with QP Manual section 9.0 and QMP 14.01. When a request for deviation from customer contracts exists, a Deviation Request Form shall be filled out and submitted to the customer for disposition. **NCA-4258.5(b)** - Each foundry division; sand, investment, and machine shop; has a designated non-conforming products area. There is also a non-conforming product hold area in the metal stores area. **NCA-4258.5(c)** - All repaired non-conforming product is then reevaluated for acceptance by the same inspection method used to identify the nonconformity. All defects on Nuclear and safety related products are evaluated by ASME code applicability and customers purchasing documents. **NCA-4258.5 (d)** - of 10CFR Part 21. All suppliers and Initial departments at Stainless Foundry, which encounter issues of non-conformity, alert Stainless Foundry's Material Review Board for disposition. QM may involve other departments, technical representation, or outside agencies guidance to determine if the non-conformity is a violation of contracted services for parts produced.

NCA-4259 Audits and Corrective Action **NCA-3859.1/NCA-4259.1** Audits **Title 10 CFR Part 50, Appendix B, Criterion XVIII** **CAN3-Z299.1 (2006) Para. 3.5.2.1** **CAN3-Z299.1 (2006), Para. 3.5.2.2** Audits **ASME NQA-1-1994** **XVIII Audits**	**NCA- 4259.1(a)** - All internal quality audits are performed in accordance with QP Manual section 9.0 and QMP 18.01. Audits are performed by auditors who have been trained and are qualified to perform these functions. **NCA-4259.1(b)** – All audit results are discussed with the department Manager who has the responsibility of the area, which was audited. **NCA-4259.1(c)** – All Audit Reports for internal and external vendor audits have areas for issuance of corrective actions. Re-audits are performed as required if serious deficiencies to quality exist. It is at QM's discretion to define serious quality deficiencies. **NCA-4259.1(d)** - All internal audits are scheduled to be audited on a rotating annual basis. The schedule is set by QM. All records for audit schedules for initial audits are kept by QM. **NCA-4259.1(e)** - All internal audits are coordinated in accordance to the issues stated in sections (a) through (c) above.
NCA-NCA-4259.2 Corrective Action **Title 10 CFR Part 50, Appendix B, Criterion XVI** **CAN3-Z299.1 (2006) Para. 3.5.18** Corrective Action **ASME NQA-1-1994** **XVI** Corrective Action	**NCA-4259.2(a)** - All corrective actions for manufacturing and systematic issues which affect the quality of products produced at Stainless Foundry are handled by QP Manual section 10.0 and QMP 15.06. **NCA-4259.2 (b)** - On a periodic basis all corrective actions are compiled, and data analysis is performed to identify significant trends. If an area or process is the recipient of too many non-conformance reports, corrective action will be initiated at the discretion of QM. The CAR data is compiled and submitted in the manual management review. **NCA-4259.2(c)** - If an individual vendor is the recipient of too many corrective actions; quality set at the discretion of QM; that aforementioned vendor would be removed from the APL or placed upon a probationary status.

NCA-3861 Certification Requirements for Material Organizations	**NCA-3861** - (a) Quality Management shall certify the Certified Material Test Report or Certificate of Compliance, as applicable: (1) The certification affirms that contents of the report are correct and accurate and that all test results and operations performed by SF&E or its subcontractors are in compliance with the material specification the specific applicable material requirements of ASME NCA-3800/ NCA-4200, 10CFR Part 50, Appendix B; CAN3-Z299.18-5. (2) Chemical analyses, tests, examinations, and heat treatments required by the material specification that we're not performed shall be listed on the Certified Material Test Report or Certificate of Compliance, as applicable, or may be listed on an identified attachment. (b) SF&E shall transmit all certifications received from other Material Organizations or approved providers in accordance with (a) above, to the purchaser at time of shipment. (c) This section is not applicable to SFE.

NCA-3862 Certification of Material **NCA-3862.1** Material Certification	**NCA-3862.1 –** (a) The Certified Material Test Report shall include the actual results of all required chemical analyses, tests, and examinations. (b) The approved provider's certification for chemical analyses (including melting mill heat analysis), heat treatment, tests, examinations, or repairs that are subcontracted, shall be furnished and identified as an attachment on the Certified Material Test Report. (c) The Certified Material Test Report shall also include a report of all weld repairs performed on the material as required by ASME Boiler & Pressure Vessel Code, Section III, NX-2573.8. Radiographic film required for the examination of material repair welds shall be included as a part of the Certified Material Test Report, except for those radiographs required for the testing of welding or brazing materials. (d) When specific times or temperatures (or temperature ranges) of heat treatments are required by material specifications; they shall be reported. For austenitic steels and high nickel alloys, a statement of the minimum solution annealing temperature is a sufficient statement of heat treatment. When specific times and temperatures (or temperature ranges) are not required by the material specification, a statement of the type of heat-treated condition shall be reported. Additionally, the times and temperatures of post weld heat treatments of weld repaired materials as required by the fabrication requirements of Section III, NX-4600 shall be reported. (e) Reporting of actual dimensions and visual examination results will be performed in accordance to the applicable ASME Section III and/or Section II material code in addition with customer contractual requirements. (f) Notarization of the Certified Material Test Report is not required. (g) A Certificate of Compliance with the material specification, grade, class, and heat treated condition, as applicable, may be provided in lieu of a Certified Material Test Report for material 3/4-inch nominal pipe size and less (pipe, fittings, flanges, materials for valves and tubes except heat exchanger tubes), bolting 1 inch and less, as applicable. (h) Material identification shall be described in the Certified Material Test Report or Certificate of Compliance, as applicable. Heat or lot traceability to the Certificate of Compliance is not required.

NCA-3862.2 Quality System Program Statement	**NCA-3862.2** - (a) SFE does not hold a Quality System Certificate. (b) The Certified Material Test or Certificate of Compliance, as applicable, shall contain the statement that the material was manufactured in accordance with the SF&E Quality System Program Revision ____, and date _____as accepted by ___*(customer name)*___. (c) SFE does not hold a Quality System Certificate.
NCA-4251.3 Quality System Program	Management Review of the Quality Management System is contained in section 1.5 of the QPM.
NCA-4251.3 Organization	The appointed management representative has been assigned as the Director of Quality.
NCA-3861 Material Certification	The organizational authority of freedom of implementation of the QPM is specified in section 3.3 of the QPM.
Title 10 CFR Part 50, Appendix B, Criterion X Inspection **ASME NQA-1-1994 X** Inspection	Source inspections and other inspection functions are coordinated by any personnel within the ranks of the QM department.
Title 10 CFR Part 50, Appendix B, Criterion III Design Control **ASME NQA-1-1994 III** Design Control	This section is not applicable to SF&E.

NCA-4255 Responsibility to the Organization	As specified in section 5.0, contract review of the QPM all aspects of this production section. QMP 5.01 details the proper techniques and department interfaces are performed to meet the customer's technical and purchasing document requirements.
NCA-4258.1 Indoctrination, Training, and Qualification of Personnel	Special processes are defined by SF&E as NDE/NDT, welding, heat treatment, or other surface processing techniques. There are special programs, training, and required education and proficiencies required to hold these positions. Individual job descriptions are available and detail these positions.
CAN3-Z299.1-85 (2006), Paragraph 3.2.2 Management Review	Management Review of the Quality Management System is contained in section 1.5 of the QPM.
CAN3-Z299.1-85 (2006), Paragraph 3.2.3 Management Representation **CAN3-Z299.1-85 (2006), Paragraph 3.2.4** Organizational Authority	The appointed management representative has been assigned as the Director of Quality Management. The organizational authority of freedom of implementation of the QPM I specified in section 3.3 of the QPM.
CAN3-Z299.1-85 (2006), Paragraph 3.2.25 Independent Inspection, Witnessing, and Monitoring	Source inspections and other inspection functions are coordinated by any personnel within the ranks of the QM department.
CAN3-Z299.1-85 (2006), Paragraph 3.5.1 Tender and Contract	Tender and contract id described in section 5.0 of the QPM referencing contract review.
CAN3-Z299.1-85 (2006), Paragraph 3.5.2 Design	This section is not applicable to SF&E.

CAN3-Z299.1-85 (2006), Paragraph 3.5.13 Production	As specified in section 5.0, contract review of the QPM all aspects of this production section. QMP 5.01 details the proper techniques and department interfaces are performed to meet the customer's technical and purchasing document requirements.
CAN3-Z299.1-85 (2006), Paragraph 3.5.14 Special Processes	Special processes are defined by SF&E as NDE/NDT, welding, heat treatment, or other surface processing techniques. There are special programs, training, and required education and proficiencies required to hold these positions. Individual job descriptions are available and detail these positions.

NAVSEA Requirements – General Dynamics/Electric Boat Specification EB Specification 2678N

LEVEL 1- MATERIAL QUALITY ASSURANCE REQUIREMENTS

1.0 GENERAL

1.1 The requirements listed below shall be used for Level I material in conjunction with the requirements in the body of this specification, MIL-I- 45208, MIL-Q-9858, or one of the ISO Quality System Modules, as specified by the applicable contract or purchase order. When more stringent material Quality Assurance requirements are provided in the Purchaser's purchase order or component specification, they shall take precedence.

Supporting Documents:

Applicable Procedure	Title and Description
Quality Policy Manual	Quality Policy Manual and Applicable Appendix's

1.2 Suppliers shall have an effective quality program and a material control/ identification system which comply with this specification and the requirements of the applicable procurement specifications or drawings, and which will permit the collection and issuance of Objective Quality Evidence required to allow purchaser acceptance of materials and components.

Supporting Documents:

Applicable Procedure	Title and Description
Quality Policy Manual	Quality Policy Manual and Applicable Appendix's
QMP 4.01	Documenting the Quality System

1.3 Objective Quality Evidence (OQE) will be required for the material (separately furnished or within assemblies) identified as "Level I" in the list of materials in the basic design document or purchase order.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 5.01	Contract Review
QMP 10.08	Product Master Travelers

1.4 The manner in which required OQE is developed by the Supplier shall be controlled by a written procedure or procedures. These instructions shall be clear and concise. The OQE foi: the actual item being shipped shall be representative of the individual heat, batch, or lot as defined. in the applicable specification and shall be in compliance with the: invoked acceptance criteria. However, for continuous melt or continuous pour processes, the OQE shall be representative of the time period (as determined by the invoked specifications) during which the material was poured.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 11.03	Final Inspection of Products
QMP 11.04	Inspection – Non-Destructive Testing
QMP 17.02	Material Test Reports / Certifications of Compliance

2.0 QUALITY SYSTEM FLOWDOWN REQUIREMENTS

Suppliers of Level I material shall have an effective quality system that complies with this specification and the requirements of the purchase order. Quality system requirements shall be established and maintained to assure that sub-tier Suppliers also have effective systems for controlling Level I material including traceability to OQE. The system shall ensure that OQE is established and controlled in accordance with the requirements of this document. Special quality provisions, along with the applicable specifications and/or drawing requirements, shall be included in the purchase order to the sub-tier Supplier.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 4.01	Documenting the Quality System
QMP 5.01	Contract Review
QMP 10.08	Product Master Travelers

3.0 MATERIAL CONTROL AND IDENTIFICATION

3.1 Procurement Control

The supplier shall pass on the applicable requirements of this specification to their sub-tiers if the invoked drawings/specifications do not reflect the requirements contained herein.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 6.09	External Document Control – SF&E Documents

3.2 Purchase Order Review

The Supplier's quality representative shall review Level I material purchase orders to sub-tier suppliers prior to placement to ensure that the applicable purchaser's requirements are included. The preparer of a purchase order shall not review his/her own work. The purchase documents which include Level I material shall contain readily recognizable Level I identification.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 5.01	Contract Review

3.3 Receiving Inspection

The supplier shall inspect Level I material at time of receipt from their sub-tier Suppliers, Processors, or Inspection Organizations to assure conformance to purchase order requirements and shall document the results.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 11.01	Receiving Inspection and Testing / Urgent Release

3.4 Certifications from Sub-Tier Suppliers

a.) The supplier shall obtain from sub-tier Suppliers a certification of quality conformance for all Level I material in addition to the required rest reports. Unless otherwise specified, the certification as a minimum shall state that the material meets specification requirements.

b.) Each test report and/or inspection report provided by the sub-tier Supplier shall be reviewed by the Supplier's Quality personnel prior to releasing the material to inventory. The following minimum requirements shall be verified during the review:

(1) Test reports are legible.

(2) Material is not from a prohibited source (certain foreign countries).

(3) The country of origin is readily identified or has been annotated by the Supplier.

(4) Test results are compared with and comply with the specification and purchase order requirements.

(5) The type of tests and number of tests meet specification and purchase order requirements.

(6) Reports are identified with a unique traceability code that agrees with the material marking.

(7) Test Reports provide the location of the test specimens, when applicable.

(8) Reports are duly authorized/ signed by the testing facility Representative, and that the data is recorded on an official copy with the testing facilities' letter head (see Paragraph 8.2).

(9) Reports are reviewed to ensure no unauthorized changes, obliterations, corrections, and evidence of falsification.

(10) The quantity given on the reports is consistent wit the quantity of material actually received.

(11) Material that has been heat treated is uniquely re-identified.

(12) Dates of reports and signatures thereon agree with the sequence of processing by sub-tier suppliers(s).

Supporting Documents:

Applicable Procedure	Title and Description
QMP 11.01	Receiving Inspection and Testing / Urgent Release

4.0 MATERIAL HANDLING/STORAGE

4.1 Material handling and storage procedures shall provide methods for controlling Level I material from receipt though issue, fabrication and installation.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 10.08	Product Master Travelers

4.2 Level I material that is awaiting or undergoing inspection or is in storage shall be physically segregated from non-Level I material as soon as possible to prevent comingling and unauthorized use. The method of segregation shall ensure that similar appearing material of different alloys and/ or material conditions, grades or condition be segregated through physical separation unless readily differentiated by attributes such as size, or physical appearance.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 10.08	Product Master Travelers

4.3 Segregation may be accomplished by use of separate cages, racks, bins, shelves, boxes, or roped off areas. Storage areas for Level I material shall be distinctly identified and marked.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 10.08	Product Master Travelers

4.4 Material control tags and/or travelers marked "Level I" shall be used to positively identify material in transit to avoid unauthorized movement, comingling and improper use.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 10.08	Product Master Travelers

4.5 Staging of Level I material with other material is acceptable for a specific job or fabrication process, provided the Level I material is clearly marked as required and the material for the specific job or fabrication process is grouped together, identified by the job or process number, and segregated from material grouped for other processes or jobs.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 10.08	Product Master Travelers

4.6 Level I nonconforming material must be marked as "Level I" and be segregated from non- Level I nonconforming material Separate pallets, boxes, or other containers are acceptable.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 14.01	Control of Non-Conformances

4.7 The following provisions shall be made for Level I weld wire.

4.7.1 A separate cabinet shall be maintained for Level I weld wire.

4.7.2 Cabinets containing Level I weld wire must be marked "Level I" in clear, discernible letters.

4.7.3 The weld wire cabinet must be solid on all sides.

4.7.4 Each tube/container must be marked "Level I" if it is stored in a Level I cabinet.

4.7.5 Weld wire cabinets are to be locked.

4.7.6 Welders must not have the key to the cabinet.

4.7.7 Usable weld wire must be returned to locked cabinet nightly.

4.7.8 Scrap short pieces/ stubs of weld wire must be disposed of in a way that they cannot be retrieved and used.

Supporting Documents:

Applicable Procedure	Title and Description
QA3006	Weld Repair, Mapping of Welds, Filler Material Usage, and Weld Classifications

5.0 MATERIAL TRACEABILITY

5.1 The Supplier shall establish a Level I material traceability system that provides positive identity of the item throughout the manufacturing process including heat treatment, storage, and assembly operations. Each piece shall be physically marked or identified (i.e., bagged and/or tagged) with the traceability code. The method of marking used shall be at the discretion of the Supplier, provided it does not violate the requirements of MIL-STD-792. The marking shall be legible throughout the manufacturing process, including outsourced operations. Unless otherwise specified male fasteners are to be marked on the top of the head.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 9.01	Product Identification, Traceability, Documentation, and Product Marking

5.2 When material is worked or heat-treated, resulting in changes to its mechanical properties, the mechanical properties shall be re-determined, and the material shall be uniquely re-identified to provide traceability to the final heat treatment and mechanical properties of material in its final condition.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 9.01	Product Identification, Traceability, Documentation, and Product Marking

5.3 Material Traceability Marking

a.) The traceability marking may consist of raw material heat number and a heat treat lot number (if applicable) or a unique trace code number that provides, through documentation, traceability back to the raw material heat number and heat treat lot number (when applicable). In all cases, the traceability marking utilized shall be unique in that given only the traceability marking, the supplier shall be able to provide all Objective Quality Evidence associated with the processing of that item, including heat treat.

b.) When the marking on a part or piece of material will be removed by the manufacturing process, the marking shall be transferred to another location on the piece. If marking cannot be transferred to another location, it shall be restored after the completion of the operation. Items too small to mark or items that continually have the marking removed by the various manufacturing operations making it impractical to maintain, can be controlled by the use of totes, bags, and/or boxes identified with the proper traceability information provided the identity is maintained at all times.

c.) In all cases, the accompanying paperwork (route sheet, traveler, etc.) shall indicate the proper traceability code and shall be identified "Level I" in letters that are legible and of sufficient size to be easily recognized. This paperwork shall also provide accountability throughout the manufacturing process (i.e., number of pieces cut, rejected, scrapped, tested, etc.).

Supporting Documents:

Applicable Procedure	Title and Description
QMP 9.01	Product Identification, Traceability, Documentation, and Product Marking

Note:

The above requirements for traceability of Level I material are also applicable to sub-tier suppliers.

5.4 **Loss of Traceability marking**

a.) Items where the traceability marking is lost shall be considered nonconforming material until appropriate tests have been performed that can absolutely identify the heat from which the item was produced. This requirement is not applicable to items that are uniquely identifiable by their size, configuration and uniqueness of material.

b.) The method of re-establishing traceability shall be approved by the purchaser for each incident where traceability is lost. This information shall be submitted on a VIR.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 9.01	Product Identification, Traceability, Documentation, and Product Marking

6.0 RECORDS

6.1 Permanent records shall be maintained that provide a clear and concise documentation trail from the starting material to the finished product and all intermediate process operations.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 17.01	Control of corporate records

6.2 Each record shall identify the traceability code for the specific item to which it applies. The records shall include or refer to permanent records, which contain the actual processing parameters the product received during manufacturing or inspection. The records shall also show the results of all material testing, the identity of all material samples selected for testing (including retest samples when required), and the parent material from which the selection was made.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 17.01	Control of corporate records

6.3 Component assembly records shall include the material traceability code of each part for which traceability is required.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 17.02	Material Test Reports/ Certifications of Compliance

7.0 HEAT TREATMENT

Furnace charts shall identify the heat treater, the time of heat treatment, the heat treatment lot number, furnace identification, operation (e.g. temper, anneal, etc.) date, quantity, heat numbers, and item description. In addition, the autographic recorder rate (i.e., inches/hour) shall be annotated. Furnace charts shall be retained by the supplier, unless otherwise specified, as OQE for audit purposes. The material shall be uniquely re-identified to provide traceability to the final heat treatment and mechanical properties certified for the heat-treated material.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 9.01	Product Identification, Traceability, Documentation, and Registration Marking
WIP HT2002	Quality Control Specification for Heat Treatment

8.0 FINISHED PRODUCT REQUIREMENT

8.1 Generic Alloy Identity Testing

a.) When generic alloy identity testing is specifically required by the purchase order or invoked specifications, the selected sample of parts shall be verified by a suitable nondestructive test to assure that material being provided or installed is of the specified metallurgical group. This test shall be performed by the first-tier Supplier or the Supplier who assembles the finished product in accordance with a procedure that is approved by the Purchaser.

b.) Parts shall be verified at the time of final inspection, prior to shipment. However, Level I parts that are inaccessible after assembly shall be verified just prior to installation.

c.) The procedure utilized shall be capable of verifying all generic metallurgical groups of materials used in the Supplier's facility. Generic metallurgical groups are identified as follows:

1. Steel
2. 300 Series Stainless Steel
3. 400 Series or 17-7PH or 17-4PH Stainless Steel
4. Monel (NiCu)
5. K-Monel (NiCuAl)
6. Copper Nickel (CuNi)
7. Inconel (NiCrFe), (NiCrMoCb)
8. Nickel Aluminum Bronze
9. Bronze
10. Brass
11. Copper
12. Bi-Metallic Weld
13. Cobalt Base Alloy
14. Silver Brazing Alloy
15. Titanium

d.) A record of the tests and results shall be provided with the certification package.

Supporting Documents:

Applicable Procedure	Title and Description
WIP QA4007	CuNi 70/30 (C96400) NAVSEA Casting Requirement for Products
WIP MET3001	Chemical Analysis Identification
WIP QA3018	Positive Material Identification (PMI) Material Identification using XRF

8.2 Test Records and Certifications provided to Purchaser

a.) Suppliers shall provide total and complete traceability for all Level I material supplied, including Level I parts of assemblies and Level I parts of components. This traceability requires certified material test reports from the producer of the raw material (mill) which contains quantitative mechanical and chemical data (OQE).

b.) Where the mechanical properties of the material have been altered by heat treatment or metal working processes, the material shall be uniquely re-identified, and the mechanical properties re-determined. The mill certification shall be accompanied by supplemental certification from the heat treatment or metal working facility. This

supplemental certification shall contain quantitative data for the process performed.

Additionally, the original mill certification shall be over stamped and/ or annotated to contain the following information:

Traceability Number/Code _____is fabricated from raw material material Heat No. / Heat-Treat No _
Date, Name and Signature of the Authorized Company Representative

Note:

When applying over stamp or annotation to the certification report, no pertinent data shall be obliterated or rendered illegible. Certifications, or Test Reports for Level I materials where the Mechanical Properties have been altered, and are dated after September 1, 2014, will not be accepted by the Procuring Shipyard without the appropriate over stamping.

c.) All chemical and mechanical test reports shall be supplied with a certification statement that indicates that the test reports represent the actual attributes of the items furnished for the Purchaser's purchase order, and that the test results are in full compliance with all applicable specification and order requirements.

d.) In cases of foreign certifications, conversion of foreign language units of measure into U.S. units of measure shall be annotated on the furnished foreign certifications if space permits or placed on an addendum in the same format as the foreign certification data. Such translation/ conversion shall be identified as to origin with name, title, and signature of the authorized representative of the company making the translation/ conversion.

e.) In cases where the material was not produced by a domestic mill, or melt source, the country of origin shall be identified on the test report or annotated by the Supplier. If the producer or melt source is a domestic source, the test report shall be clearly indicated as such, or annotated on the test report by the supplier as produced or melted by a domestic source (United States of America or it's outlying areas).

f.) In addition to the above requirements, other test reports required by the contract shall also comply in all respects with the ordering data and the invoked specification.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 17.02	Material Test Material Reports

8.3 Marking Requirements (Finished Product)

a.) Permanent marking is required on all Level I material, separately furnished or in assemblies. The supplier shall verify marking 100%. The permanent marking must provide the following information, listed in the order of precedence. Additional marking to that required below is permitted where required by the purchase order or specifications therein.

(1) The Kind of Material: the specific material designator in accordance with the purchase order.

(2) Supplier Traceability Code - A code that provides positive traceability to the unique OQE of the piece of material including homogeneous heat, melt, or batch and inspection information. For continuous process material, the specific traceability provisions of applicable procurement specifications apply. Where specific traceability provisions are not contained in applicable procurement specifications for continuous process material, traceability to OQE representative of material supplied is required.

(3) The Supplier's Name, Trademark or Symbol

Note:

If all the marking cannot be applied due to space limitations, the Supplier shall request permission of the purchaser via a VIR of the marking that will be applied using the order of precedence above and state the reason why all the markings cannot be applied.

b.) Those items that cannot have markings physically applied shall be packaged and the package labeled with all marking required. All items in the package must be in the same homogeneous lot. When removing any material from the package, all material must be labeled or tagged with all the markings on the package, unless being removed from the package for immediate installation.

c.) Permanent marking is not required for small items included as part of the pressure boundary of a completed assembly (Level 1 fasteners excluded). However, certification statements relating these small items to objective quality evidence shall be provided.

d.) All markings shall be legible. Marking shall be located as not to affect form, fit, or function of the item.

e.) Marking shall be accessible to permit identification without disassembly, except for justifiable situations when alternative methods (e.g., tagging, assembly records, etc.) of identification shall be used to identify these materials.

f.) Marking of fasteners manufactured from hardened material by vibro-etching or integral marking is permitted provided the marking' is in an unstressed area.

g.) All Level 1 fasteners shall be marked with the kind of material, Supplier traceability code and manufacturer's name, trademark or symbol. In those cases where the fastener specification does not provide a kind of material, or material type, the material shall be marked either with the grade, as specified in the ordering data, or specification, or with the applicable Material Designator per Electric Boat Specification 3952, material Designators, Marking Requirements.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 9.01	Product Identification, Traceability, Documentation, and Registration Marking
WIP ICL3023	Stamping Heat Numbers – Investment Foundry

9.0 EXTERNAL AUDITS

9.1 Suppliers of Level I Material

a.) If a sub-tier supplier is an approved Level I supplier by the Purchaser, an on-site audit is not required for that sub-tier supplier. (Also see Para 5.3).

b.) The Level 1 supplier shall establish and maintain an external quality audit program for sub-tier suppliers. This program shall be designed and implemented to determine compliance to purchase order requirements.

c.) All external audits will be pre-planned using a checklist of audit elements that are capable of determining if contract requirements can or are being satisfied. An audit report will document the level of compliance found during the audit. Non-conformances will be clearly documented with a supplier corrective action report and required follow-up actions sufficient to determine satisfactory resolution. Records of audits and corrective and preventive actions shall be maintained by the supplier and made available for review by the Purchaser upon request.

Supporting Documents:

Applicable Procedure	Title and Description
QMP 7.01	Provider Qualification Evaluation and Utilization for Purchased Materials and Service

Appendix C
DNV (Det Norske Veritas) Manufacturer's Approval

This appendix section of the Quality Policy Manual follows the guidelines in all aspects of the body of this manual. The below technical parameters are specified when required by contract in the product master shop order routings by the QM Department.

Reference: The requirements of SF&E QPM Sub Appendix 1 Contract Compliance and Malpractice Awareness Prevention applies to activities pertaining to system administration, manufacturing process, inspection, and certification for all orders processes at SF&E when this Appendix is applicable.

General Delivery and Technical Requirements:
Compliance to ISO 4990 is followed for all orders. Technical delivery conditions for steel castings with pressure boundaries follow the requirements of EN 10213-2, ISO/IEC 10213-3, and ISO/IEC 10213-4 dependent upon material grade.

Procedure Approval:
When procedures are to be submitted to be used on customer contracts, SF&E form Procedure Approval Request Form shall be used for this activity.

Heat Treatment:
Furnace calibration and surveys are performed in accordance with ISO14023, Appendix H. Control charts and thermocouples on each heat treat load run as specified.

Non-Destructive Testing:
Procedures and practices in accordance with contractual EN, DIN, ASTM, ASME, or other agreed upon recognized industry practices. Personnel are qualified by SF&E and/or our approved providers to work to the most current revision requirements of ASNT SNT-TC-1A. The practices and guidelines of EN 473 are followed, but due to the foundry repairing castings and not performing fabrications, certification is not mandatory for SF&E.

Metallurgical Testing:
Performed by laboratories holding at a minimum compliance and/or certification to the requirements of ISO/IEC 17025, and/or A2LA status.

Inspection Reports and Certification Documentation:
Compliance to the requirements of EN 10204.

Deviation Request:
When a request for deviation from customer contracts exists, a Deviation Request Form shall be filled out and submitted to the customer for disposition.

Welding:
Procedures and practices are compliant to the requirements and parameters to EN 288-2, replaced by EN 15609-1 and EN 288-3, replaced by EN 15614-1.

Calibration:
Performed by laboratories holding at a minimum compliance and/or certification to the requirements of ISO/IEC 17025, and/or A2LA status.

Traceability:
In accordance with source material specifications as well as customer contract/order requirements.

Dimensional Tolerance Standard:
Per the requirements of ISO 8062.

Record Retention:
10 year minimum.

Appendix D

Pressure Equipment Directives – EU Directive 2014/68/EU PED and UK Regulation PESR 2016 / 1105

This appendix section of the Quality Policy Manual follows the guidelines in all aspects of the body of this manual. The below technical parameters are specified when required by contract in the product master shop order routings by the QM Department.

Reference: The requirements of SF&E QPM Sub Appendix 1 Contract Compliance and Malpractice Awareness Prevention applies to activities pertaining to system administration, manufacturing process, inspection, and certification for all orders processes at SF&E when this Appendix is applicable.

General Delivery and Technical Requirements:
Compliance to ISO 4990 is followed for all orders. Technical delivery conditions for steel castings with pressure boundaries follow the requirements of EN 10213-2, EN 10213-3, and EN 10213-4 dependent upon material grade.

Procedure Approval:
When procedures are to be submitted to be used on customer contracts, SF&E form Procedure Approval Request Form shall be used for this activity.

Heat Treatment:

Furnace calibration and surveys are performed in accordance with ISO 14023, Appendix H. Control charts and thermocouples on each heat treat load run as specified.

Non-Destructive Testing:
Procedures and practices in accordance with contractual EN, DIN, ASME, or other agreed upon recognized industry practices. Personnel are qualified by SF&E and/or our approved providers to work to the most current revision requirements of ASNT SNT-TC-1A. The practices and guidelines of EN 473 are followed, but due to the foundry repairing castings and not performing fabrications, certification is not mandatory for SF&E.

Metallurgical Testing:
Performed by laboratories holding at a minimum compliance and/or certification to the requirements of ISO/IEC 17025.

Inspection Reports and Certification Documentation:
Compliance to the requirements of EN 10204.

Deviation Request:
When a request for deviation from customer contracts exists, a Deviation Request Form shall

be filled out and submitted to customer for disposition.

Welding:
Procedures and practices are compliant to the requirements and parameters to EN 288-2, replaced by EN 05609-1 and EN 288-3, replaced by EN 15614-1.

Calibration:
Performed by laboratories holding at a minimum compliance and/or certification to the requirements of ISO/IEC 17025, and/or A2LA status.

Traceability:
In accordance with source material specifications as well as customer contract/order requirements.

Dimensional Tolerance Standard:
Per the requirements of ISO 8062.

Record Retention:
5 year minimum.

Appendix E
MIL-I-45208A, Amendment 2; MIL-Q-9858A, Amendment 3 and CAN3-Z299.2-85

This appendix section of the Quality Policy Manual follows the guidelines in all aspects of the body of this manual. The below technical parameters are specified when required by contract in the product master shop order routings by the QM Department.

Reference: The requirements of SF&E QPM Sub Appendix 1 Contract Compliance and Malpractice Awareness Prevention applies to activities pertaining to system administration, manufacturing process, inspection, and certification for all orders processes at SF&E when this Appendix is applicable.

Management Responsibilities

Management Policies and Organization –

a) SF&E establishes policies, objectives, and responsibilities for quality per QPM Section 1.0.

b) SF&E defines the responsibility and authority for quality of those positions which manage and perform the work and of those positions which verify conformance to specified requirements per QPM Section 1.0.

c) The interrelationship of the positions mentioned in item (b) are shown in the organizational chart in the QPM Section 3.0.

Management Review

Not required by this standard, but SF&E performs an annual management review per QPM Section 1.5.

Management Representative

a) A representative is appointed who reports to executive management, which ensures that quality assurance requirements are not subordinated to design, procurement, production, or delivery as stated in QPM Section 3.3.

b) The representative's authority and responsibility to resolve quality matters per QPM Section 3.2.

c) Record the appointment in the Quality Policy Manual or notify the customer in writing.

Organizational Authority
Define the responsibility and authority of personnel primarily responsible for quality assurance to:

a) identify and record quality problems;

b) initiate or recommend or provide solutions through designated channels;

c) verify implementation of solutions; and

d) control further processing, delivery, or installation of a nonconforming product or service until a disposition has been obtained.

These requirements are met through QPM Section 1.4.

Independent Inspection, Witnessing, and Monitoring
Final inspection are performed by personnel who are other than those who have performed the work or directly supervising the work being accepted. Personnel who perform the final inspection do not report directly to the immediate supervisors who are responsible for producing the work unless it is permitted in the Inspection and Test Plan and agreed upon in writing by the customer before the contract is accepted. In-process inspections may be carried out by anyone. The requirements of QMP's 11.01, 11.02, 11.03, and 11.04 are followed to meet these requirements.

Indoctrination and Training
a) Training is identified and performed on personnel to make them aware of required job requirements and the quality system.

b) Job descriptions are maintained with the minimum amount of criteria required to perform each job. Personnel are evaluated prior to employment.

c) Training records are maintained in the training software program and/or on paper training forms. These requirements are met through QMP 19.01.

QM System
SF&E shall provide and maintain a quality assurance program that ensures that the product meets the contract requirements and that is acceptable to customer and government. The organization shall notify the customer in writing of any change, other than editorial, to the quality manual policy, if required.

Quality Policy Manual
A quality policy manual has been prepared by SF&E and is approved by senior management. Both controlled and uncontrolled copies are given to customers as requested. The Quality System is implemented through this manual. SF&E's manual includes as a minimum the program application, management responsibilities and organization, procedures, and each section of the manual is audited/reviewed on at least an annual basis.

Quality Assurance Program Procedures

a) SF&E documents, implements, and maintains procedures for planning and controlling program elements through our Quality Management Procedures (QMP's). A list of all QMP's can be found in the Quick Reference Guide 1 of this manual.

b) As applicable each QMP contains the purpose and scope; who is responsible for what; how, when, and where all steps are performed; what materials, equipment, and documentation shall be used; how it is all controlled.

c) As applicable the forms used are attachments to the QMP's.

d) QMP's are revised as needed and made available to the customers as requested.

When procedures are to be submitted to be used on customer contracts, SF&E form Procedure Approval Request Form shall be used for this activity.

Quality Assurance Program Elements

Tender and Contract
All customer contracts (PO's) are reviewed per QMP 5.01 before acceptance to detect and resolve and issues and/or differences.

Design
SF&E does not perform and design. This section does not apply to SF&E.

Documentation

a) All documentation that affects quality is reviewed for adequacy and approved by authorized personnel before release.

b) Documentation is available at the work areas where the work is being performed and is readily accessible.

c) Incomplete, ambiguous, and conflicting documentation is resolved and agreed to with the organizations responsible for generating the requirements.

d) Revision to documentations are reviewed and approved by the same level of authority as the original. Revision levels and changes are maintained. Written notes on or temporary changes to documentation are acceptable provided that they are made according to established procedures such as initialing and dating any changes or notes.

e) Obsolete documentation are removed from all work stations and all points of use.

f) When required, changes to the customer's documentation is submitted.

Quality Planning and Product Realization

Where not otherwise contractually invoked, all specified limits for machining services and for dimensional control of deliverable parts and assemblies shall be interpreted as absolute limits as defined by ASTM E29, Standard Practice for Using Significant Digits in Test Data to Determine Compliance with Specifications. Unless otherwise specified in the contract, for all other observed, measured, or calculated product characteristics (e.g. for material suppliers, material distributors, services other than machining) specified limits shall be interpreted using rounding conventions as defined by ASTM E29.

Measuring and Test Equipment

a) SF&E maintains a system for selecting, using, calibrating, and controlling inspection, measuring, and test equipment, that includes physical standards and devices used for controlling and verifying product or service quality. SF&E subcontracts its calibrations functions to an approved supplier, but is not relieved of the responsibility for meeting the requirements of this Standard. These requirements are met through QMP 12.01 and WIP QA2002.

b) Review the technical requirements for the product or service to ensure that applicable measuring and testing equipment is available. Ensure that the equipment has measurement and testing capability, stability, and range compatible with the intended application.

c) All newly acquired measuring and test equipment is calibrated prior to use.

d) A calibration interval has been established per WIP QA2002 for each piece of equipment.

e) WIP QA2002 defines equipment description, identification number, location, calibration interval, calibration method, acceptance criteria, and action to take when results are out of tolerance.

f) Measuring and test equipment is calibrated in a controlled environment as needed.

g) Measuring and test equipment is calibrated using reference standards

h) All calibrated measuring and test equipment is identified with a sticker or tag that indicates date of calibration and due date for its next calibration.

i) Adjustable devices are safeguarded to deter tampering.

j) A calibration record is maintained for each piece of calibrated equipment.

k) Equipment is handled and stored per the requirements of QMP 12.01 and WIP QA2002.

l) Out of tolerance equipment is tagged and removed from the work area to prevent use.

m) The requirements of QMP 12.01 and WIP QA2002 are followed to ensure the validity of previous inspection and test results when measuring and test equipment is found to be out of tolerance.

Procurement
The requirements of QMP 7.01 are followed when selecting a provider. These procedures follow all the requirements of this section.

Inspection and Test Plan(s)
SF&E creates routings and travelers to identify the required inspections and tests to be performed. These inspections and tests are documented via the BLIS system. These routings and travelers may be submitted to the customer as needed for acceptance. Changes are made to the routings and travelers as needed. The routing and travelers list each operation in sequential order. The requirements of QMP's 10.08, 11.01, 11.02, 11.03, 11.04, and 13.01 are followed to meet all the requirements of this section.

Incoming/Receiving Inspection
Incoming inspection is performed per the requirements of QMP 11.01. This QMP meets all the requirements of this section. SF&E shall make available to the government representative reports of any nonconformance found on government source inspected supplies and shall (when requested) require the supplier to coordinate with his
government representative on corrective action.

In-Process Inspection
In-process inspections are performed per the requirements of QMP 11.02 and meets all the requirements of this section. When required, SF&E's inspection, measuring, and testing equipment shall be made available for use by the government representative to determine conformance of product with contract requirements. In addition, if conditions warrant, organization's personnel shall be made available for operation of such devices and for verification of their accuracy and condition.

Final Inspection
Final inspection is performed per the requirements of QMP 11.03 and meets all the

requirements of this section. Final inspection reports are available to the customer as required. When required, SF&E's inspection, measuring, and testing equipment shall be made available for use by the government representative to determine conformance of product with contract requirements. In addition, if conditions warrant, organization's personnel shall be made available for operation of such devices and for verification of their accuracy and condition.

Inspection Status
Inspection status is maintained per the requirements of QMP 13.01. After completion of inspections and tests the results are documented via the routing. Tags are used for final inspection showing acceptance.

Identification and Traceability
Identification and traceability is maintained per the requirements of QMP 9.01. As required per the customer a unique melt number is assigned to each lot of castings. Each customer purchase order also carries a SF&E product number, shop order number, and customer order number. When Level 1 material is heat treated where heat treatment changes mechanical properties, these mechanical properties shall be re-determined and uniquely identified providing traceability to the final heat treat cycle and mechanical properties themselves.

If traceability of a product may be lost due to a machining operation and/or processing operation, prior to the operation being performed the part traceability marking will be transferred and remarked with the heat number and/or traceability number in an acceptable location. In all cases, the accompanying paperwork (route sheet, traveler, etc.) along with the electronic router/data collection system, shall indicate the proper traceability code and shall provide accountability throughout the manufacturing process (i.e., number of pieces cut, rejected, scrapped, tested, etc.).

Handling and Storing
Handling, Storage, Packaging, and Preservation are all maintained per the requirements of QMP 16.01. Products are periodically inspected for condition as required per QMP 16.01.

Production
All work is planned by personnel who are in possession of or have access to applicable inspection and test criteria, process parameters, characteristics, contractual requirements, codes, regulations, standards, specifications, and drawings. Routings and travelers are developed to define all processes to be performed. The requirements of QMP's 5.01, 6.10, 6.14, 10.01, 10.08, are all followed to meet the requirements of this section.

Special Processes
Special processes are performed by qualified personnel using qualified procedures. Qualification records are maintained for these personnel by Quality Management. These special processes are listed in the process control QMP's and WIP's.

Packaging and Shipping
Handling, Storage, Packaging, and Preservation are all maintained per the requirements of QMP 16.01.

Quality Records
Quality records are maintained per the requirements of QMP 17.01, which meets or exceeds all the requirements of this section. Quality records are defined in QMP 17.01. Quality records are available for review to the customer.

Permanent records shall be maintained that provide a clear and concise documentation trail from the finished product to the starting material and all intermediate process operations.

Each record shall identify the traceability code for the specific item to which it applies. The records shall include, or refer to other permanent records, which contain the actual processing parameters the product received during manufacturing or inspection. The records shall also show the results of all material testing, the identity of all material samples selected for testing(including retest samples when required), and the parent material from which the selection was made.

Records shall include the material traceability code of each part for which traceability is required.

Nonconformance
All nonconformance are identified and held until disposition. Nonconforming material is reviewed by SF&E's MRB. QMP 14.01 meets all the requirements of this section.

When a request for deviation from customer contracts exists, a Deviation Request Form shall be filled out and submitted to customer for disposition.

Corrective Action
All corrective actions are reviewed and analyzed. After implementation corrective actions are verified and a follow up is performed to verify effectiveness. Nonconformance and corrective actions are reported to appropriate levels of management. The requirements of QMP 15.01 is followed to meet all the requirements of this section.

Customer Supplied Products of Services
The requirements of QMP 8.01 are followed and meet the requirements of this section.

Statistical Techniques
Statistical techniques and used for process control. They are reviewed for adequacy and monitored to ensure that the specified requirements are met. The requirements of QMP 21.01 are followed and meet the requirements of this section.

Quality Audits
Internal quality audits are not required by this standard. SF&E performs internal and external quality audits per the requirements of QMP 18.01.

Purchasing
When, under authorization of the government representative, copies of the purchasing document are to be furnished directly by SF&E or organization to the government representative at his facility rather than through government channels, the organization shall add to his purchasing document a statement substantially as follows:

"On receipt of this order, promptly furnish a copy to the government representative who normally services your plant. In the event the representative or office cannot be located, our purchasing agent should be notified immediately."

All documents and referenced data for purchases applying to a government contract shall be for review by the government representative to determine compliance with the requirements for control of such purchases. Copies of purchasing documents required for government inspection purposes shall be furnished in accordance with the instructions of the government representative.

For Level 1 orders purchasing documents issued to providers shall be reviewed and approved by QM prior to disbursement.

Control of Records
When signatures are required by contract and will be provided electronically, protection from unauthorized changes of recorded data shall be provided.

General Delivery and Technical Requirements:
Compliance to the requirements as specified on the contract, drawing, and/or specified purchasing documents. When unspecified by contract general practice of the requirements of ASTM A703 and ASTM A781 will be followed as well as any base material specification called out.

Heat Treatment:
Furnace calibration and surveys are performed in accordance with MIL-H- 6875, AMS 2750, and ISO 14023, Appendix H. Control charts and thermocouples on each heat treat load run as specified.

For Level 1 material processing furnace charts shall identify the heat treater, the time of heat treatment, the heat treatment lot number, furnace identification, operation, date, quantity, heat numbers, and item description. In addition, the autographic recorder rate (i.e., inches/hour) shall be annotated. The material shall be uniquely re-identified to provide traceability to the final heat treatment and mechanical properties certified for the heat treated material.

Non-Destructive Testing:
Procedures and practices in accordance with NAVSEA T9074-AS-GIB-010/271 or other agreed upon contractual standards. Personnel are qualified by SF&E and/or our approved providers to work to the most current revision requirements of ASNT SNT-TC-1A.

Metallurgical Testing:
Performed by laboratories holding at a minimum compliance and/or certification to the requirements of EN17025, and/or A2LA status.

Inspection Reports and Certification Documentation:
Actual chemical, physical, or other material attributes are certified as actual results unless specified via contract.

Welding:
Procedures, practices, and qualifications are qualified to the requirements and parameters to NAVSEA G9074-AQ-GIB-010/248.

Calibration:
Performed by laboratories holding at a minimum compliance and/or certification to the requirements of ISO/IEC 17025.

Traceability:
In accordance with source material specifications as well as customer contract/order requirements.

Dimensional Tolerance Standard:
Per the requirements of SFSA Technical Guide for sand foundry tolerances, SF&E's default level is CT-12 for sand castings. The requirements of ICI dimensional tolerancing practices and positions is followed for investment castings. CT-6 is the default tolerancing level for investment castings.

Record Retention:
Quality records are maintained for a defined period of time or as to satisfy the customer's contract if specified.

At the end of the record retention period, SF&E will request in writing to its customer permission to destroy records. If no response is received within 90 days, SF&E will destroy records at our discretion. Records will be made available to SF&E's customer within 48 hours upon written request.

Appendix F
NORSOK M-650 – Qualification of manufacturers of special material.

This appendix section of the Quality Policy Manual follows the guidelines in all aspects of the body of this manual. The below technical parameters are specified when required by contract in the product routings by the QM Department.

Reference: The requirements of SF&E QPM Sub Appendix 1 Contract Compliance and Malpractice Awareness Prevention applies to activities pertaining to system administration, manufacturing process, inspection, and certification for all orders processes at SF&E when this Appendix is applicable.

Program Note: The current NORSOK program stance is that SF&E does not have current QTR's (Quality Test Records) for the alloys that we have poured in compliance to meeting the requirements of NORSOK M-650. SF&E when approached by a customer in the NORSOK community will renew the alloys requested or develop an original QTR as needed. In accordance with NORSOK M-650 we will need an industry representative to partner with us for the qualification good of both. Our internal controls from manufacturing (including supplier requirements) to inspection and certification of product remain compliant to NORSOK M-630 and M-650.

General Delivery and Technical Requirements:
Compliance to ISO 4990 is followed for all orders, as well as M-650. All materials are produced in accordance with the technical guidelines as specified in M-630 for all grades contained within. Technical delivery conditions for steel castings with pressure boundaries follow the requirements of EN 10213-2, EN 10213-3, and EN 10213-4 dependent upon material grade.

Procedure Approval:
When procedures are to be submitted to be used on customer contracts, SF&E form Procedure Approval Request Form shall be used for this activity.

Heat Treatment:
Furnace calibration and surveys are performed in accordance with ISO 14023, Appendix H. Control charts and thermocouples on each heat treat load run as specified.

Non-Destructive Testing:
Procedures and practices in accordance with contractual EN, DIN, ASME, or other agreed upon recognized industry practices.

Personnel are qualified by SF&E and/or our approved suppliers to work to the most current revision requirements of ASNT SNT-TC-1A. The practices and guidelines of EN 473 are followed, but due to the foundry repairing castings and not performing fabrications, certification is not mandatory for SF&E.

Metallurgical Testing:
Performed by laboratories holding at a minimum compliance and/or certification to the requirements of ISO/IEC 17025.

Inspection Reports and Certification Documentation:
Compliance to the requirements of EN 10204.

Deviation Request:
When a request for deviation from customer contracts exists, a Deviation Request Form shall be filled out and submitted to customer for disposition.

Welding:
Procedures and practices are qualified to the requirements and parameters to ASTM A488, and/or ASME Section IX. Procedures and practices are compliant to the requirements and parameters to EN 288-2, replaced by EN 15609-1 and EN 288-3, replaced by EN15614-1.

Calibration:
Performed by laboratories holding at a minimum compliance and/or certification to the requirements of ISO/IEC 17025.

Traceability:
In accordance with source material specifications as well as customer contract/order requirements.

Dimensional Tolerance Standard:
Per the requirements of ISO 8062.

Record Retention:
5 year minimum

Appendix G

ISO/IEC 17025 – General requirements for the competence of testing and calibration laboratories.

SF&E has general compliance to ISO/IEC 17025. At present there is no intention of SF&E to become certified or registered to the ISO/IEC17025 standard. The intention of this section is to show an active list of sections that are in current compliance to ISO/IEC 17025 and to have a prepared stance for certification and registration if required by industry trends or customer requirements.

Reference: The requirements of SF&E QPM Sub Appendix 1 Contract Compliance and Malpractice Awareness Prevention applies to activities pertaining to system administration, manufacturing process, inspection, and certification for all orders processes at SF&E when this Appendix becomes applicable.

The following sections are currently in compliance to the ISO/IEC17025 by SF&E's Quality Metallurgy department and inspection areas. Areas noted as non-compliant are not fully compliant at the required level of the systems standard. All of the below are referenced in SF&E's Laboratory Technical Control Manual Reference (TCM)

ISO/IEC 17025:2017	Name	Laboratory Technical Control Manual Reference (TCM)

Appendix H

ANSI/ISO 14001 – Environmental management systems-Requirements with guidance for use.

SF&E continues to establish compliance to ANSI/ISO 14001. At present there is no intention of SF&E to become certified or registered to the ANSI/ISO 14001 standard. There is compliance to many sections of the ANSI/ISO 14001 standard currently including safety, environmental, and management commitment to all aspects of the full scope in its entirety.

Reference: The requirements of SF&E QPM Sub Appendix 1 Contract Compliance and Malpractice Awareness Prevention applies to activities pertaining to system administration, manufacturing process, inspection, and certification for all orders processes at SF&E when this appendix is applicable.

The following are some of the compliance programs that are active at Stainless Foundry & Engineering, Inc.:

- DNR / EPA – Compliance to all applicable laws to the environment.
- Lower raw material usage – We recycle our metals, sand, and wax materials. Some of our materials are recycled 100%.
- Energy Savings – Energy peak usage times are balanced within our melting schedules . We work in partnership with Wisconsin Electric Power Company to level load our energy consumption.
- Minimal land fill solutions – Corporate environmental limitations are to reduce solid wastes in support of ISO 14001 by utilizing the Sorbit system.

Appendix I
ISO 9001:2015, para. 6.1 and ISO 31000:2018 – Quality management systems-Requirements.

Scope	This appendix applies to risk management as it applies to actions that our organization takes to address risks and opportunities as they apply to our sustainability and profitability. The tenants of risk management specifically from ISO 31000:2018 are used for higher order action planning through the analytical tools that we apply.
NOTE	This appendix discusses and explains the stance that SF&E has taken since 1995 to current state on the topic of risk assessment and the tools used for corporate decision making.
Reference	The requirements of SFE WIP QA3014 and ISO 31000:2018.

For the concepts of risk management and abatement SFE follows the following tenants:

- Support from executive management
- Implement risk management in the organization
- Define the risk criteria
- Risk identification
- Risk analysis
- Risk treatment
- Monitoring and review

The specifics as risk and risk abatement are contained in SFE WIP QA3014

All of the above tenants both in this appendix and as contained in SFE WIP QA3014 are the framework of how risk is handled at SFE. The management of risk has been included as our standard best practices since ISO 31000 was introduced at SFE in 2000. Below are a list of analytic tools and concepts that are used to protect the sustainability, profitability, integrity and namesake of SF&E from internal and external inputs and outputs. Analytical tools and personnel techniques are; but not limited to the following:

- Business
- Market
- Products
- Certification

SF&E remains vigilant to the concept of risk related identification and the evolution of ISO 31000

Appendix J
CAN3-Z299.3-85 (2007) Quality Assurance Program – Category 3 A National Standard of Canada.

1.0 Scope

1.1 General

1.1.1 Stainless Foundry & Engineering, Inc. has planned and developed programs as dictated in QMP 11.03 for inspection and test verifications which:

a. Assure that products or services conform to specified requirements; and

b. Readily detect and control the disposition of nonconformance

1.1.2 SF&E QMP 11.01, 11.02 and 11.03 identifies and provides or updates the special controls, measuring and test equipment and skills required to assure product or service quality.

1.1.3 SF&E QMP 5.01 and 10.08 to deal with the planning and descriptions are essential for stating what has to be done to complete the activities, listed in Clause 3.4. SFE QMP 11.02 and 11.03 verify that products or services meet the specified requirements.

1.1.4 Inventoried materials are treated the same as production castings and the controls that affect them.

1.1.5 (a) The requirements of this Standard shall apply to the control of the use of computer software employed in design analysis and in the operation of process, production, inspection and test equipment. SF&E QMP 6.08 and WIP QA3013 manage and control items as required.

(b) This section does not apply to SF&F

Note: this Standard does not apply, however, to the design, development, coding and configuration management of computer software. Where this is required, the CSA Q396 Series of Standards on Software Quality Assurance Programs is recommended.

1.2 SF&E Responsibilities

SF&E's responsibilities are

a) To evaluate and select providers based on their ability to meet specified requirements by the work starts, which shall include an evaluation of

- the Quality Assurance manual and the quality assurance program implementation;

Note: Evidence of registration by a recognized authority should be considered to fulfill this responsibility.

- the inspection and Test Plan (s)
- other required facilities, Plan (s), and resources

b) Contract review is performed in accordance with (IAW) SFE QMP 5.01 to review an process specify in the tender and contract:

- the scope of and requirements for the work;
- the quality assurance program standards SFE follows is ISO 9001:2015. This is passed down to providers as QMP 9.01
- the quality assurance program standards applied to customer supplied product will be retained IAW QMP 8..01
- the regulatory requirements that apply to the products or services will be applied;
- documentation to be delivered to the customer as required or retained IAW QMP 17.01

c) SFE carries out surveillance and audits as and when required to ensure that the provider is conforming to the Standard, such audits being conducted according to CAN3-Q395 or equivalent;

d) to certify that SFE's customer supplied products or services as applicable comply with specified requirements and that they are consistent with the quality requirements of the final products or services or to advise the provider that nonconformance's have been suitably dispositioned; and

e) to evaluate the provider's quality assurance program as it relates to products produced for inventory (stock) or current production and to resolve with the provider at the time of the initial evaluation those standard requirements where document submittal is required before start of the work.

Note: When a recognized authority has registered a quality assurance program for products produced to inventory, submittal requirements to customers before the work starts may not be included in the registration. The customer should resolve this with the supplier.

1.3 Provider's Responsibilities

SFE's responsibilities are

a) to satisfy the requirements specified in the contract;

b) to develop, implement and maintain the quality assurance program specified herein;

c) to submit, update, and resubmit the quality assurance program documents required by Clauses 3.3 and 3.4

d) to provide SFE and/or its customer access to the applicable premises or working area for the purpose of quality surveillance and audit; and

e) to identify for the customer before the award of the contract which products will be supplied from inventory and to demonstrate that the quality assurance program was implemented for the products at the time they were produced if applicable.

1.4 **Regulatory Authority Requirements-** The requirements of all Federal, Provincial. Territorial and Municipal Acts, Regulation, Bylaws and their referenced Codes that apply to the product or service shall be met.

2.0 Definitions

Batch (volume, heat or lot): an identifiable collection of products, or quantity of material, of a single type, grade, class, size or composition produced by SFE or an approved provider under essentially the same conditions and at essentially the same time.

Calibration: Comparing two instruments, measuring devices or standards, one of which is of known accuracy. It is done to detect, correlate, report or eliminate by adjustment any variation in accuracy of the instrument or measuring device of unknown accuracy.

Procedure: a document that specifies, as applicable, the purpose and scope of an activity; what shall be done and by whom; when, where, and how it shall be done; what materials, equipment and documentation shall be used; and how it shall be controlled.

Production: all activities involved in the manufacturing or castings or services at SFE.

Quality: the totality of features and characteristics of products or services that bear on their ability to meet specified requirements.

Quality Assurance: all those planned and systematic actions needed to provide Adequate confidence that products or services will satisfy specified requirements.

Quality Audit: a documented activity aimed at verifying by independent examination and evaluation that the applicable elements of the quality assurance program have been established, documented and implemented effectively in accordance with specified requirements.

Repair: processing nonconforming products so that they can function reliably and safely although the products still do not conform to the originally specified requirement.

Rework: reprocessing products to conform to the originally specified requirements.

Special production process: a production process where conformance is assured by using evidence generated during the process. A production process is a special process when subsequent inspections required to establish conformance are either impossible or undesirable.

Special inspection processes: an inspection requiring either specialized inspector skills or inspection techniques, or both.

Subcontract: a contract between a provider and a sub provider.

Supplier: (for reference only. SFE uses "provider" per ISO 9001:2015) the party responsible for the performance of the work specified in the contract.

Surveillance: the continuing evaluation, analysis and verification of a provider's records, methods, procedures, products and services, to assure that requirements are met.

Verification: independently reviewing, inspecting, examining, measuring, testing, checking, witnessing , monitoring or otherwise establishing and documenting that products, processes, services and documents conform to specified requirements.

Work: any activity performed to provide products and services.

3.0 Quality Assurance Program Requirements

3.1 General - SFE shall plan, establish implement, and maintain a quality assurance program according to the requirements of this Standard.

3.2 Management Responsibilities

3.2.1 SFE's Management Polices and Organization

a) Establish management policies, objectives and responsibilities for quality as defined in the QPM.

b) Define the responsibility and authority for quality of those organizational positions which manage and perform the work and of those organizational positions which verify conformance to specified requirements. These responsibilities are defined in the QPM's organizational chart

c) Section 1.0 of the QPM show the interrelationship of the positions mentioned in item (b) on organizational charts.

3.2.2 Management Review- Not required by this Standard.

3.2.3 Management Representative

a) The Director of Quality has been appointed as representative who reports to executive management at a level which ensures that quality assurance requirements are not subordinated to procurement, production or writing.

b) Define the representative's authority and responsibility to resolve quality matters.

c) The Director of Quality, for the record has the appointment in the Quality Assurance Manual, as responsible for matters of quality

3.2.4 Organizational Authority- Authority of personnel primarily responsible for quality assurance as identified in section 1.0 of the QPM.

a) QM has identified and record nonconforming products and services;

b) QM will initiate or recommend disposition of nonconforming products and services;

c) QM verifies correction of nonconforming products and service; and

d) QM controls further processing, deliver or installation of a nonconforming product or service until a disposition has been obtained.

3.2.5 SFE's QA and QC departments perform independent inspection, Witnessing and Monitoring- Assign personnel to perform the inspection, witnessing or monitoring of characteristics for acceptance who shall be other than those performing or directly supervising the work being accepted. Such personnel shall not report directly to immediate supervisors responsible for producing the work being accepted unless it is specifically permitted otherwise in the Inspection and Test Plan and agreed in writing by the customer before the contract is let. However, additional in- process inspections, as allowed by Clause 3.5.6.2 (c), may be carried out by anyone.

3.2.6 Indoctrination and Training

a) SFE's Human Resources and the Technical Director ensure that personnel are aware of their specified responsibilities in the quality assurance program.

b) SFE's Human Resources and the Technical Director ensure that personnel are capable of performing their work.

3.3 Quality Assurance Manual

a) Prepare a Quality Assurance Manual approved and signed by the President/CEO of SFE before the work starts and;

- The QPM is submitted to the customer for acceptance; or
- refer to QPM submitted under a previous contract tendering document; or
- The QPM will provide if acceptable to the customer, provide evidence of registration to this Standard or other recognized approval (ISO 9001:2015) by a notified body.

b) Implement the program according to the QPM

c) The QPM will provide the following as a minimum:

- Quality Program, Identify in the Manual the organization, facility and products or services covered by the Quality program.
- Management Responsibilities and Organization. Address in the Manual, the requirements specified in Clause 3.2. Include the responsibilities of and interfaces between each division involved with the product or service within a multidivisional organization as specified in SFE's Quality program.

Note: For the purpose of this Standard. "division' is and organizational unit conduction essentially an autonomous business. The head of the division has responsibility for design, procurement, production, accounting, quality assurance, etc.

- Descriptions. Address and include or outline and cross-reference all descriptions specified in Clause 3.4. We offer that all design considerations are not applicable to SFE.

- Document Control as specified in QMP 4.01 includes a statement for reviewing, updating and controlling the QPM and other procedures.

3.4 Quality Assurance Program Descriptions

Note - The balance of this appendix has been reduced to a functional cross reference table which gives direction as to standard reference demonstration. Compliance to the CAN-3Z299.3-85 standard can be found in the SGE QMP reference. Additional work instructions are available if required to satisfy compliance. Documented, implemented and maintained descriptions for planning and controlling can be found as referenced below.

Program Element	CAN3-Z299.3-85 (2007) Clause	SFE QMP Reference
Tender and Contract	3.5.1	5.01
Documentation	3.5.3	4.01, 6.01, 6.02, 6.03, 6.04 and 6.05
Measuring and Testing Equipment	3.5.4	12.01
Procurement	3.5.5	7.01
Inspection and Test Plan(s)	3.5.6	10.08
Incoming Inspection	3.5.7	11.01
In-Process Inspection	3.5.8	11.02
Final Inspection	3.5.9	11.03
Inspection Status	3.5.10	13.01
Identification and Traceability	3.5.11	9.01
Special Processes	3.5.14	10.01 and 11.04
Packaging and Shipping	3.5.15	16.01
Quality Records	3.5.16	17.01
Nonconformance	3.5.17	14.01
Corrective Action	3.5.18	15.01
Customer-Supplied Products and Services	3.5.19	8.01
Statistical Techniques	3.5.20	21.01
Quality Audits	3.5.21	18.01

Sub Appendix 1
Customer Contract Compliance and Awareness of Malpractice Prevention

NOTE: This practice applies to orders processed at SF&E on all levels from commercial grade product to higher specification work.

1.0 SCOPE

1.1 The purpose of this specification is to clarify the required business ethics and standards of conduct. These requirements apply to all aspects of work performed by direct providers, including manufacturing, inspection, and services.

1.2 All Providers providing product or services to SF&E acceptable code and standard requirements.

2.0 GENERAL

2.1 Providers (management and employees) are contractually obligated and expected to meet all purchase order requirements. Providers are required to inform sub-tier providers hired by the Provider that they are likewise contractually obligated and expected to meet all purchase order standards.

2.2 Providers and sub-tier Providers shall be aware and vigilant for Malpractice and Fraud & Falsification (F&F), as it affects contract compliance. All parties associated with product and services destined for ultimate delivery to the Purchaser must be aware that Malpractice and Fraud & Falsification are grave and serious matters. The act of Malpractice or Fraud & Falsification has the potential for severe and costly damages.

2.3 It is the responsibility of all parties to avoid the slightest possibility or appearance of impropriety or malpractice and to report known or suspected occurrences to SF&E's Director of Quality (See 2.5). All personnel working within the program must be aware of malpractice and fraud & falsification, methods to eliminate potential situations, and Purchaser expectations of provider's, their employees, and subcontractors.

2.4 Providers must ensure that employees and sub-tier Providers are provided documentation and information necessary to perform assigned and contracted work correctly. Employees and sub-tier Providers must follow established work procedures and contract documents to perform best possible effort within the program.

2.5 Any party aware of, or having reason to suspect, malpractice and/or fraud & falsification is obligated to report this violation (see SFE QA3002, latest revision) anonymously or in person to SF&E's Director of Quality. Subsequently, once verified accurate, notice will also be given to the Department of Defense.

2.6 False allegations of malpractice and fraud & falsification are likewise serious matters and subject to federal investigation and prosecution. It is imperative that persons making allegations be knowledgeable and truthful with the facts and not be with vindictive or spiteful intent.

3.0 CONTRACT COMPLIANCE

3.1 To demonstrate contract compliance with this specification, SF&E is required to perform, and maintain records for, the following:

a) Alert all employees to this (Contract Compliance and Awareness of Malpractice Prevention) Appendix during new hire indoctrination.

b) Annually provide refresher training to this (Contract Compliance and Awareness of Malpractice Prevention) Appendix for all employees.

c) Include verification and diligence during internal quality audits that malpractice and fraud & falsification training is performed and reminder notices are posted.

d) Include an awareness in audit requirements that auditors be alert for malpractice and fraud & falsification during internal and external quality audits.

e) Perform periodic and independent over-checks of final inspections and testing.

f) Alert all sub-tier Providers of malpractice and fraud & falsification by pass-down of this specification in provider purchase order requirements.

g) While performing on-site quality audits at Provider's facilities, confirm and verify sub-tier awareness of malpractice prevention.

4.0 EXAMPLES OF MALPRACTICE AND FRAUD & FALSIFICATION

- Issuing a procedure or instructions known to contain unauthorized deviation(s) to contractual requirements.
- Knowingly waiving or eliminating a contractual requirement without authority to do so.
- Deliberately accepting unsatisfactory work.
- Intentionally performing unacceptable work.
- Failing to report problems or unsatisfactory conditions in one's own workmanship.

- Verifying by signature that an action was taken, knowing in fact the action was not taken, or not performing the required checks or verifications to assure the action was taken.
- Verifying performance of action based on hearsay, not personal observation.
- Tampering with calibrated instruments to avoid rejection of work.
- Falsifying dates on records to comply with frequency or deadline requirements.
- Falsifying data to cover-up a procedure or drawing deviation.
- Falsifying data to have work accepted, thereby avoiding further work or rework.
- Concealing or not reporting information on malpractice, fraud, or falsification known to have been committed by others.

Quick Reference Guide 1

Quality Management Procedure Index

QMP Number	Title
1.01	Management Review
4.01	Documenting the Quality System
5.01	Contract Review
5.02	Holds – General
5.03	Control of Quotations
6.01	Preparation and Control of Quality Management Procedures (QMP's)
6.02	Preparation of Work Instructions
6.03	Standards and Codes Document Control
6.04	External Document Control - Customer Documents
6.05	Procedure Control
6.08	SF&E Local Area Network (LAN) and ERP System Access Control
6.09	External Document Control - SF&E Documents
6.10	Drawing Control
6.11	Numbering of Procedures
6.12	Job Descriptions
6.13	Safety Management Procedures
6.14	Product Master Control
7.01	Provider Qualification Evaluation and Utilization for Purchased Materials and Services

QMP Number	Title
8.01	Customer Supplied Product
9.01	Product Identification, Traceability, Documentation and Registration Marking
10.01	Process Control - Scheduling
10.02	Process Control – Production - Melting
10.04	Process Control – Production - Welding
10.05	Process Control – Sand Castings - General
10.06	Preventive Maintenance Inspection of Manufacturing Equipment (PMI)
10.07	Process Control – Investment Castings - General
10.08	Product Master Travelers
10.11	Infrastructure
10.12	Work Environment
11.01	Receiving Inspection/Testing/Urgent Release
11.02	In-Process Inspection, Monitoring and Measurement of Product
11.03	Final Inspection, Monitoring, and Measurement of Product
11.04	Inspection - Non-Destructive Testing
12.01	Control of Inspection, Measuring and Test Equipment
13.01	Inspection and Test Status
14.01	Control of Nonconformance
15.01	Corrective Action and Preventive Action/CAR
15.03	Continual Improvement
15.06	Customer Returns
15.07	SF&E Material Review Boards (MRB) practices Conducted at SF&E

QMP Number	Title
16.01	Handling, Storage, Packaging, Preservation and Delivery
17.01	Control of Corporate Records
17.02	Material Test Reports/Certification of Compliance
18.01	Training, Qualification and Certification of Auditor Trainees, Auditors, Lead Auditors and Nuclear Lead Auditors
19.01	Training and Training Needs
21.01	Analysis of Data and Statistical Techniques

Quick Reference Guide 2

Third Party Accreditation / Certification Listing for Stainless Foundry & Engineering, Inc.

Standard Obtained	Certificate Number	Registrar	Original Certification Date	Renewal/ Surveillance Frequency
ISO 9001:2015	951 03 1997	TUV-SUD	May 2000	Annual
2014/68/EU PED	01 202 USA/ Q-007393	TUV-SUD	April 2000	Annual
Pressure Equipment (Safety) Regulation 2016/1105, Schedule 2, Part. 4, Para. 31 (8) as well as EN 764-5, Para. 4.2	PER-0168-QS-M 3183398/2022/M UC-01	TUV-SUD	February 2022	Annual
American Society of Mechanical Enghineers (ASME) Quality Systems Certificate (QSC)	To be determined	American Society of Mechanical Enghineers (ASME)	December 2023 - Expected	Annual

Quick Reference Guide 3

ISO 9001:2015 Cross reference table

SF&E QPM Section Number	SF&E QMP Section Number	ISO 9001:2015 Edition Reference Paragraph
Management Responsibilities 9.3	**Management Review** 1.01	**Management Responsibilities** 9.3, 9.3.1, 9.3.2, 9.3.3, 5.6
Terms and Definitions 3.0	N/A	**Terms and Definitions** 3.0
Management Responsibilities 5.0, 7.0	N/A	**Management Responsibilities** 5.1.1, 5.1.2, 5.2, 5.3
Controlled Documentation 4.0	**Documenting the Quality System** 4.01	**Controlled Documentation** 7.5.3
Contract Review 5.0	**Contract Review** 5.01, 10.01	**Contract Review** 5.0
Documented Information 7.5	**Preparation of Quality Management Procedures** 6.01, 6.02, 6.03, 6.04,6.05, 6.09, 6.10, 6.11, 6.14	**Documented Information** 7.5.3
Operation 8.0	**Supplier Qualification for Purchased Materials and Services** 7.01	**Operation** 8.1, 8.2, 8.2.3, 8.2.4
Operation 8.0	**Customer Supplied Product** 8.01	**Operation** 8.2.2, 8.2.3, 8.2.4

Identification and Traceability 8.5.2	**Product Identification and Traceability** 9.01	**Identification and Traceability** 7.5, 8.5.2
Control of Changes 8.5	**Process Control** 10.01	**Control of Changes** 8.4, 8.5.6
Performance Evaluation 9.0	**Receiving Inspection/ Testing/Urgent Release** 11.01, 11.02, 11.03	**Performance Evaluation** 9.1, 9.1.3
Monitoring and Measuring Resources 7.1.5	**Control of Inspection, Measuring and Test Equipment (IM&TE)** 12.01	**Monitoring and Measuring Resources** 7.1.5, 9.1
Performance 9.0	**Inspection and Test Status** 13.01	**Performance** 9.1, 9.1.3
Improvement 8.7	**Control of Nonconformance** 14.01	**Improvement** 10.2, 10.3, 8.7
Planning 6.0	**Corrective and Preventive Action** 15.01, 15.02	**Planning** 6.1, 6.2, 6.3, 10.2
Handling/ Storage/ Packaging/ Preservation and Delivery 8.5.4	**Handling/ Storage/ Packaging/ Preservation and Delivery** 16.01	**Handling/Storage/ Packaging/ Preservation and Delivery** 8.5.4

Control of Documented Records 7.5	**Control of Corporate Records** 17.01, 17.02	**Control of Documented Records** 7.5, 7.5.3
Internal Auditing 9.2	**Training, Qualification and Certification for Auditing** 18.01	**Internal Auditing** 9.2
Resources 7.1	**Training and Training needs** 19.01	**Resources** 7.1.6, 7.2, 7.3, 7.4
Production Servicing Provisions 8.5	N/A	**Production Servicing Provisions** 9.1.3
Analysis and Evaluation 9.1	**Analysis of Data and Statistical Techniques** 21.01	**Analysis and Evaluation** 9.1.3

Quick Reference Guide 4

NUCLEAR CROSS REFERENCE TABLE

SF&E QPM Section Number	SF&E QMP Section Number	ASME B&PV Code, Section III, Division 1, NCA-3800/ NCA-4200	Title 10 CFR Part 50, App. B	CAN3-Z299.1-85 (2006)
1.0	1.01	3851.3	I, II	3.2.1, 3.2.2 3.2.3, 3.2.4
2.0	N/A	N/A	N/A	
3.0	N/A	3851.3	I	3.2.5
4.0	4.01	3851.2, 3853.1	II	3.3, 3.4, 3.5.3, 3.5.6.1, 3.5.6.2
5.0	5.01, 10.08	N/A	N/A	3.5.1
6.0	6.01,6.02,6.03 6.04, 6.05,6.09, 6.10, 6.11, 6.14	3853.3	V, VI	3.5.3
7.0	7.01	3855.3, 3855.4, 3855.5	IV, VII	3.5.5
8.0	8.01	N/A	N/A	3.5.19
9.0	9.01	3856.1, 3856.2, 3856.3, 3856.4	VIII	3.5.11
10.0	10.01, 10.06	857.1, 3857.2, 3857.3	IX	3.5.13, 3.5.14
11.0	11.01, 11.02, 11.03	3858.1	X, XI	3.5.7, 3.5.8, 3.5.9

SF&E QPM Section Number	SF&E QMP Section Number	ASME B&PV Code, Section III, Division 1, NCA-3800/ NCA-4200	Title 10 CFR Part 50, App. B	CAN3-Z299.1-85 (2006)
12.0	12.01	3858.2, 3858.3	XII	3.5.4
13.0	13.01	3858.4	XIV	3.5.10
14.0	14.01	3858.5	XV	3.5.17
15.0	15.03	3859.2	XVI	3.5.18
16.0	16.01	3857.4	XIII	3.5.12, 3.5.15
17.0	17.01	3852.2, 3853.4, 3853.5,	XVII	3.5.16
18.0	18.01	3859.1	XVIII	3.5.21
19.0	19.01	3852.1	II	3.2.6
20.0	N/A	N/A	N/A	N/A
21.0	21.01	N/A	N/A	3.5.20

Quick Reference Guide 5

MILITARY CROSS REFERENCE TABLE

SF&E QPM Section Number	SF&E QMP Section Number	MIL-I-45208	MIL-Q-9858A
4.0	1.01	N/A	3.1
4.0	N/A	N/A	3.1
4.0	N/A	N/A	3.1
9.0	4.01	N/A	3.1
5.0, 7.5	5.01, 10.08	2.2	3.2, 2.2, 5.6
7.5	6.01, 6.02, 6.03, 6.04, 6.05, 6.09, 6.10, 6.11, 6.14	N/A	3.3
8.0	7.01	3.11.2	5.1, 5.2
8.0	8.01	3.6	7.2
9.0	9.01	N/A	N/A
8.5	10.01, 10.06	3.4	6.1, 6.2
9.0	11.01, 11.02, 11.03	3.5, 3.12	6.3, 6.7
9.1	12.01	3.3	4.2, 4.3, 4.4, 4.5
9.0	13.01	N/A	N/A
8.7	14.01	3.7	6.5

SF&E QPM Section Number	SF&E QMP Section Number	MIL-I-45208	MIL-Q-9858A
6.0	15.06	3.2.3	3.5
8.5.4	16.01	N/A	6.4
7.5	17.01	3.2.2	3.4
9.2	18.01	N/A	N/A
7.1	19.01	N/A	N/A
9.1	21.01	6.2	N/A