

Quality at GE Energy



Table of Contents

• GE Energy and Quality Visions	2
• Our Customer Commitments	3-5
• The Quality Organization and Policy	6-8
• Quality Management System	9-11
• Key Business Processes	12-16
• Quality Control Mechanisms	17-18

Summary and Disclaimer

GE Energy is one of the world's leading suppliers of power generation and energy delivery technologies in all areas of the energy industry—including coal, oil, natural gas, and nuclear energy as well as renewable resources such as water, wind, solar, and alternative fuels.

This manual provides an overview of the Quality Management System (QMS) that GE Energy has established to meet our commitment to quality. It describes the organization's key business processes as well as the mechanisms that have been put in place for effectiveness and control of these processes. GE Energy audits, monitors, measures, and analyzes these processes to achieve results based on customer and regulatory requirements and continually improves the effectiveness of its Quality Management System based on feedback.

Scope: The GE Energy QMS applies across GE Energy and encompasses all of its products and services.

The content of this Quality Manual is represented in formal procedures within GE Energy's Quality Management System. All GE Energy employees must comply with these procedural requirements.

This Quality Manual is intended to provide general information regarding GE Energy's Quality Management System. Not all of the processes described will necessarily apply to all customers. This Manual does not constitute any offer, obligation, or representation. GE Energy's responsibilities to its customer will be as set out in the contract between them.

GE Energy and Quality Visions

GE Energy – Powering Potential

As one of the largest energy companies in the world, we are in the business of powering potential. Powering potential for our customers, whose problems we solve. Potential for their consumers, whose lives we enrich and whose dreams we help realize. Potential for our people, the men and women around the world who are our most important resource. Potential for our shareholders, who are invested in the success of our company. And above all, powering potential for the earth, because without responsible energy there can be no potential for the future.

Quality at GE Energy – The Vision

We are driven by a passion for delivering on every commitment. We are dedicated to providing our customers the highest quality offerings with unparalleled customer service and responsiveness. We are committed to working through any problem in an open and honest manner—always with unyielding integrity.



Our Customer Commitments

Customer Satisfaction – Our Passion, Our Commitment

GE Energy is passionately committed to driving customer satisfaction with all products and services we offer—and building long-term loyalty by working with our customers to help them be successful.

Growth Values

External Focus

- Defines success through the customer's eyes
- In tune with industry dynamics ... sees around corners

Clear Thinker

- Seeks simple solutions to complex problems ... decisive
- Focus ... communicates clear and consistent priorities

Imagination

- Generates new and creative ideas ... open to change
- Resourceful ... displays courage and tenacity

Inclusiveness

- Teamwork ... respects other's ideas and contributions
- Creates excitement and drives engagement

Expertise

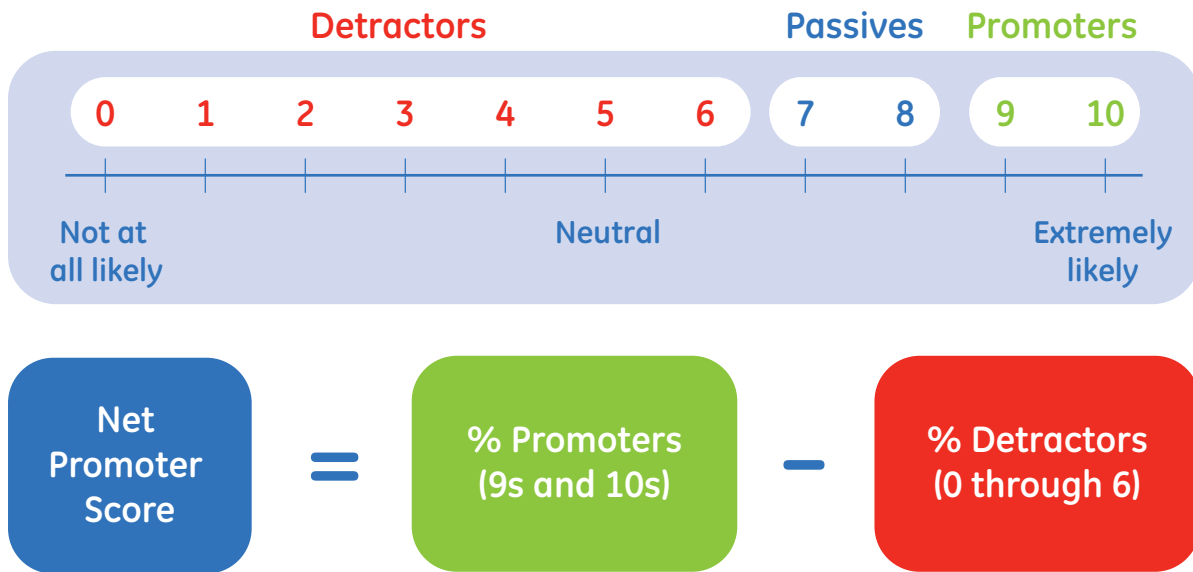
- Domain depth ... credibility built from experience
- Continuously develops self ... loves learning

Always with unyielding integrity!



Net Promoter® Score (NPS)

“On a scale of 0 to 10, how likely would you be to recommend GE Energy?”



- GE Energy conducts two types of NPS surveys:
 - **Relationship NPS** - Conducted periodically on a sample basis to gauge overall customer satisfaction with GE Energy
 - **Transactional NPS** – Ongoing surveys to gauge customer satisfaction on specific events or projects, such as an outage, part sale, or repair
- For each type of NPS survey, the Quality teams analyze the results (including comments) to identify key areas for improvement
- These teams work with regional, functional, and executive leadership teams to develop an integrated action plan to drive impactful improvement
- Action plans and subsequent results are reviewed routinely at all levels within the organization

Customer Requirements

- GE Energy understands customer requirements associated with its products and services including those associated with their delivery and ongoing support.
- This understanding will come from what is stated in the contract, defined by applicable statutory and regulatory authorities, and the customer's intended use of the product or service.
- GE Energy has established channels for effective communication of customer requirements as well as changes thereto throughout its organization.

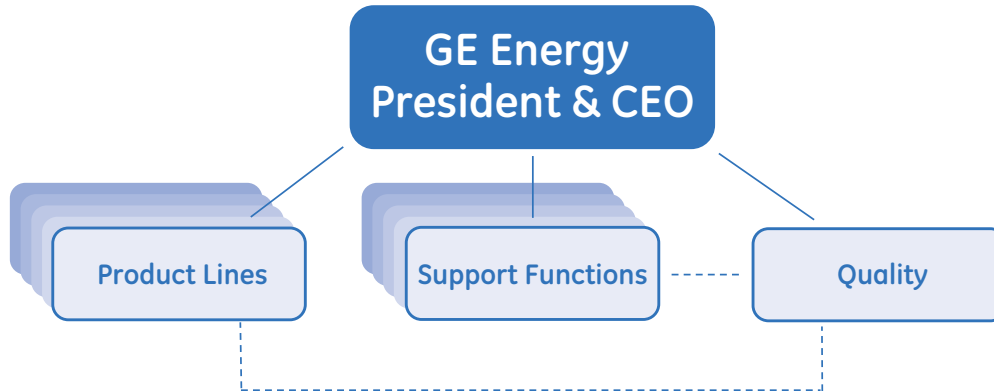
Regulations and Standards

- Ensuring compliance with the applicable Regulations and Standards for every region where its products and services are sold is of paramount importance to GE Energy.
- Management teams at all levels in the business are engaged in a continually improving process of reviewing the regulatory landscape, understanding technical applicability, training, auditing, and rigorous adherence to policies and procedures with the ultimate goal of ensuring that products and services are compliant with the applicable laws and regulations of the region where they are being sold.
- GE Energy understands that its customers count on GE to provide products that are compliant and is committed to meeting that expectation.

The Quality Organization and Policy

The Quality Organization

More detailed organization structure documentation is available upon request.



Quality Policy

- Every GE Energy employee must be committed to:
 - Passionately driving customer satisfaction with all products and services we provide, and building long-term loyalty by partnering with customers to help achieve their success.
 - Ensuring strict compliance with laws and regulations pertaining to the quality, safety and performance requirements in every country where GE Energy’s products and services are offered.
 - Sustaining continuous improvement in the effectiveness of GE Energy’s Quality Management System.
- These commitments will be met with the highest integrity, through clearly documented quality objectives, routine quality management reviews and an all-encompassing Quality culture that employs the Lean Six Sigma methodology.

Management's Commitment to Quality

Executive leadership at all levels of GE Energy deliver on their commitment to the successful development and implementation of the QMS and continually improve its effectiveness by:

- Deploying the Energy Quality Policy
- Establishing measurable quality objectives that enhance customer satisfaction
- Communicating to the business the importance of meeting customer and regulatory requirements
- Conducting management reviews at appropriate levels within the organization
- Ensuring the business has all of the resources it needs to achieve the goals of the QMS

Quality is everyone's responsibility!

CEO Metrics – The “Big Ys”

- What are the Big Ys?
 - Quality Systems and Documentation
 - Fulfillment
 - Issue Resolution
 - Billing Quality
 - New Product Introduction (NPI) Execution
- The Ys are determined through customer feedback and defect trends
- They have operational targets and Lean Six Sigma projects assigned to them
- They are tracked through weekly team reviews, monthly CEO reviews, quarterly operational reviews, and annual progress reports and validation

Review rhythm ... how we track ourselves

Customer quality and regional reviews

- Customer overview and regional outlook
- Customer issues
- 12-month outlook
 - Projected problem areas
 - Structural impediments to growth
- Receivables ... collections/past dues

NPI reviews

- Product line updates
- Financials: orders, sales, and costs
- Status of actions to improve cycle time, commercialization effectiveness, cost, and sourcing
- Standing leadership tollgate review

CEO metric reviews

- Reviewing the Big Ys
- Business deep dives
- Focused improvement areas
- Communicating data status and trends ... driving personal accountability

Process improvement reviews

- Financial accountability
- Quarterly review of all active projects



Quality Management System

Focusing on the Basics for a Strong QMS



Document Control

- With respect to controlled documents, GE Energy defines, establishes, and maintains document control methods to enable users to readily identify and access the current revision of all such documents. Document management systems store current versions of such documents by unique identifier and revision level.
- Controlled documents need to be:
 - Legible
 - Identifiable
 - Retrievable
- A documented procedure defines controls for both internal and externally supplied controlled documents that include:
 - Identification
 - Storage
 - Protection
 - Access authorization
 - Retrieval
 - Retention time
 - Archival and disposition

The requirements regarding Document Control have been defined in procedure GEEQMS 4.2.3 – Document Control.

Training and People

- GE Energy assigns resources to:
 - Plan, develop processes, and deliver products to meet or exceed customer requirements
 - Maintain and continually improve the quality management system, and
 - Enhance delivered quality and customer satisfaction
- GE Energy managers are committed to deploying personnel that are proficient in the procedures and technical capabilities required for the activities they are assigned.
- GE policies regarding Employee Health and Safety and Environmental Protection define implementation of requirements for adequate and safe facilities and plant activities.



Auditing

Focus for Internal Audits

- Compliance with GE Energy's Quality Management System requirements
- Test effectiveness of process: does the process work as intended and are results achieved?
- Planning based on status and importance of the process as well as results of previous audits
- Audit results, including timeliness and effectiveness of Corrective and Preventive Actions, are reviewed by management at all levels of the organization

Audit Mechanisms

- Local audits: for high frequency, detailed process assessments
- Independent internal audits: full-time and volunteer auditors driving cross-organizational learning
- Customer and registrar audits

Audits are performed to several applicable industry standards. Certification details are available upon request.

The requirements regarding Internal Audit have been defined in procedure GEEQMS 8.2.2 – Internal Audit.



Monitoring and Measurement

- Organizations within GE Energy define and implement monitoring and measurement needed to demonstrate conformity of product and the quality management system, and to identify opportunities for improvement by:
 - Setting specific and measurable quality objectives and verifying that these objectives are being achieved within the specified timeframes
 - Verifying that product requirements are met at the appropriate stages of production and/or service provision through in-process inspection and testing

Continuous Improvement

- GE Energy continually improves the effectiveness of its QMS through:
 - quality policy
 - quality objectives
 - collection and analysis of nonconformance data
 - determination of root cause
 - corrective and preventive actions
 - management reviews
- GE Energy utilizes Lean and Six Sigma methodologies and tools along with traditional quality management activities to drive sustainable improvements.

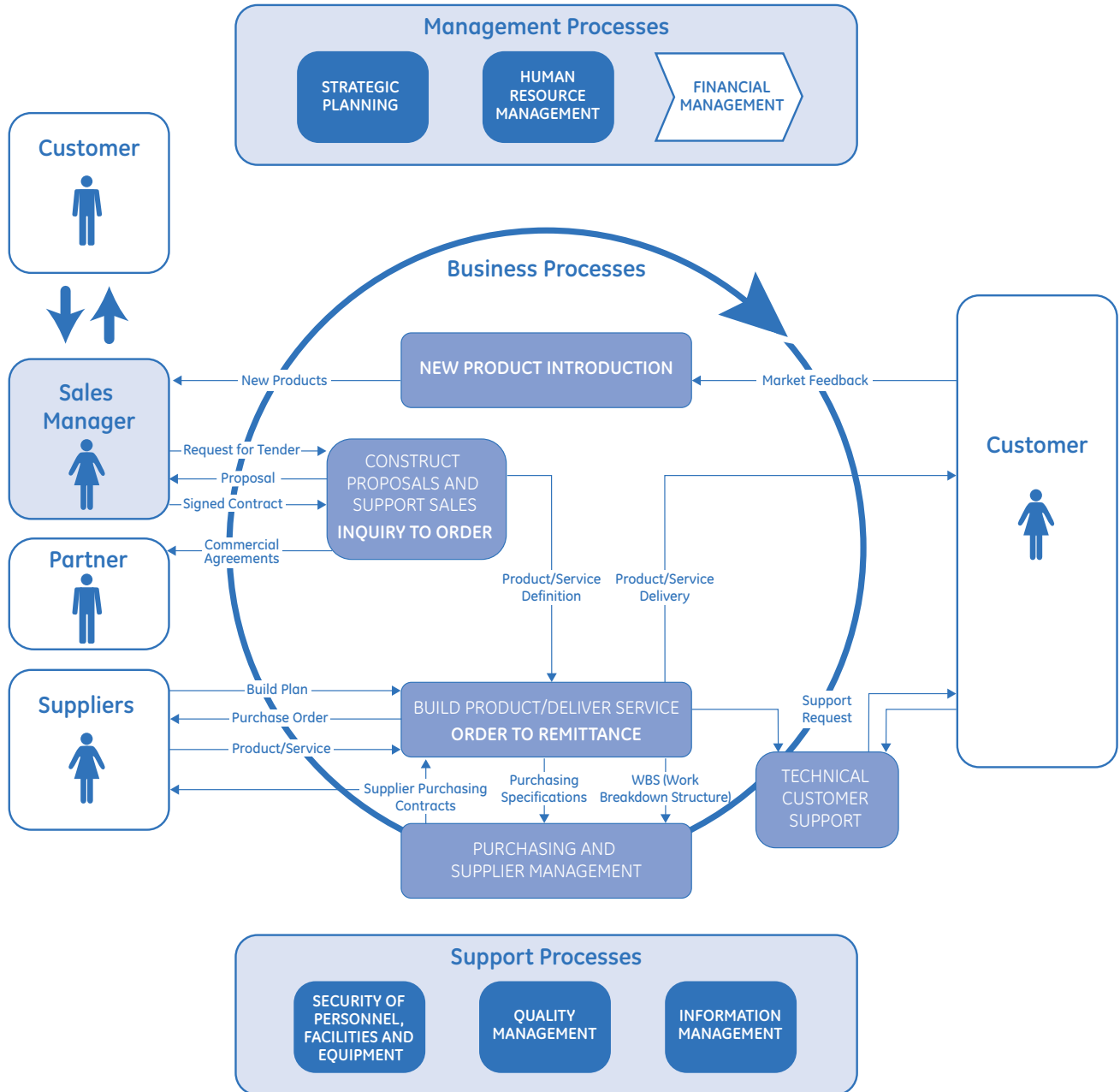


Corrective and Preventive Action

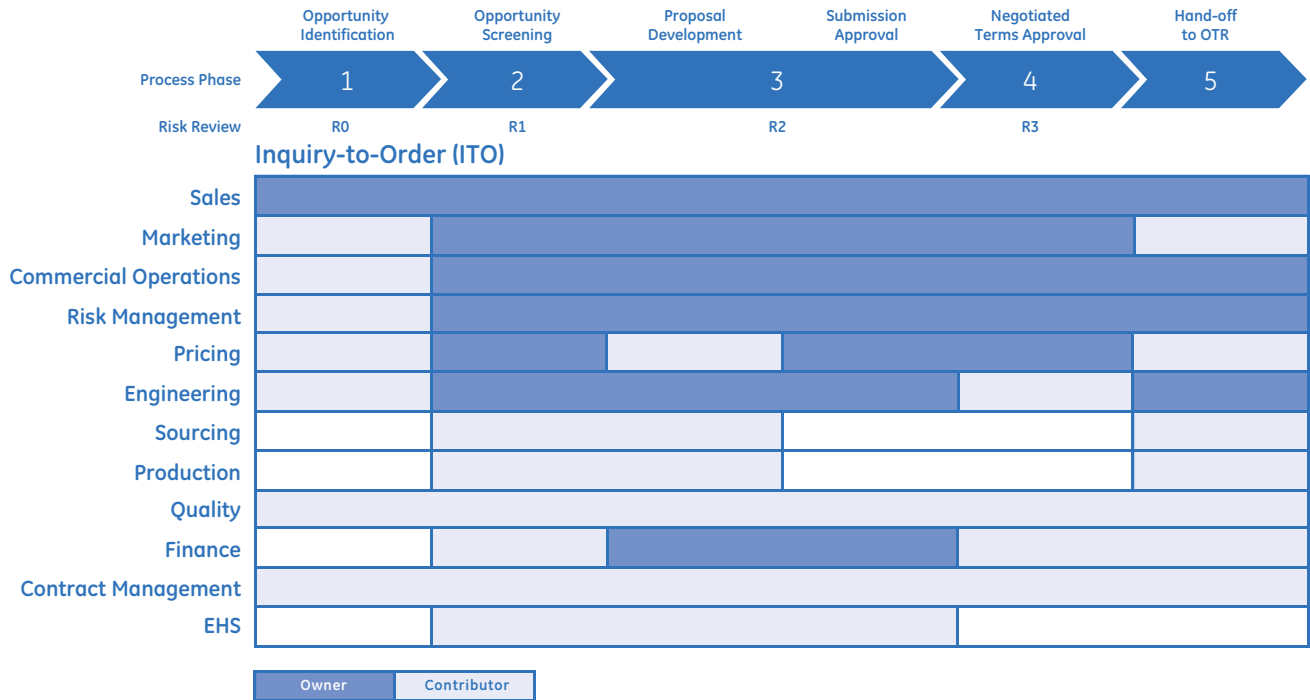
- In order to drive sustainable Corrective and Preventive Action, GE Energy has established and maintains a process for Continuous Improvement of its products, services, and processes. This process defines requirements for:
 - Screening nonconformances, including customer complaints, audit findings, and results of internal and external quality control mechanisms
 - Analyzing and determining the causes of the nonconformances
 - Evaluating the need for corrective and preventive action—to prevent recurrence of the nonconformances and to prevent occurrence in related areas
 - Determining and implementing the actions needed
 - Verifying the effectiveness of the actions taken

The requirements regarding Corrective Action and Preventive Action have been defined in procedure GEEQMS 8.5 - Continuous Improvement.

Key Business Processes



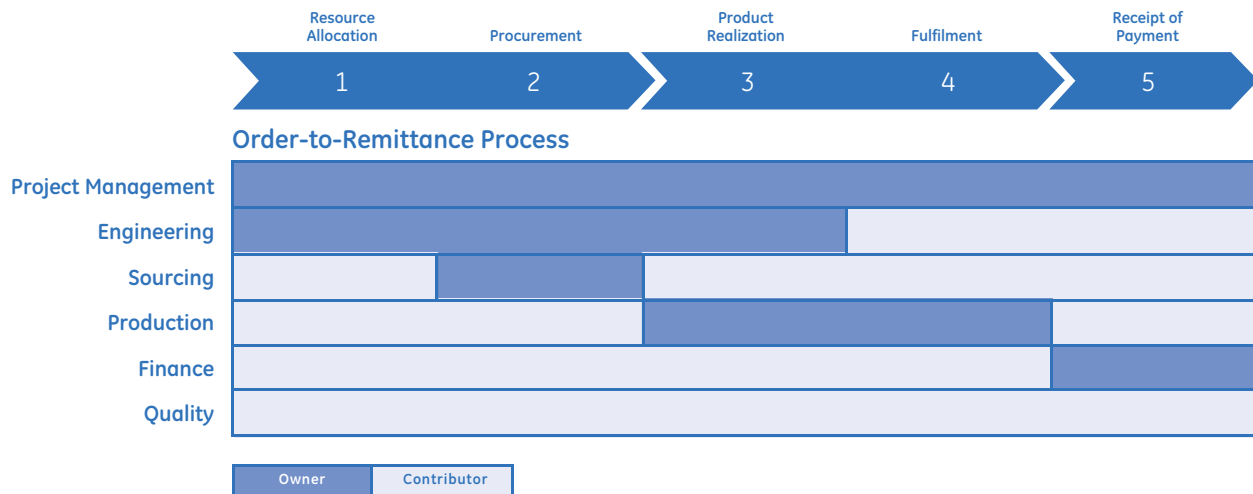
Inquiry-to-Order (ITO)



Inquiry-to-Order Process

- Inquiry-to-Order (ITO) at GE Energy provides a standard and consistent process for developing commercial opportunities. GE Energy follows a risk review process to balance customer requirements with GE capabilities and the ability to manage any identified risk.
- The ITO process is divided into 5 phases:
 - Opportunity identification and screening
 - Opportunity screening and bid/no bid decisions
 - Quote and proposal development, submission approval
 - Negotiated price and terms approval
 - Hand-off to the Order-to-Remittance process

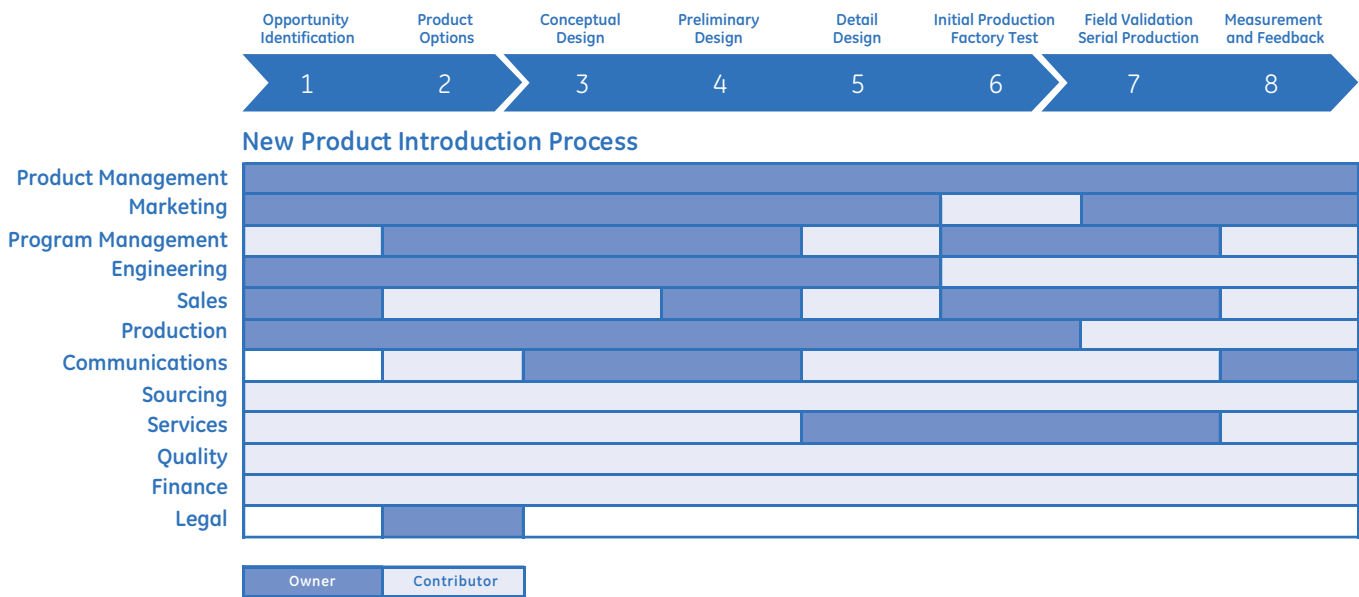
Order-to-Remittance (OTR)



Order-to-Remittance Process

- The Order-to-Remittance (OTR) process covers the execution of a sales contract from the time that the order is initiated to the time that final payment is received.
- The OTR process is divided into 5 phases:
 - **Resource allocation** - that includes detailed technical definition as well as planning and scheduling of equipment, material and human resources
 - **Procurement** - of material resources to complete the order
 - **Product realization** - where in acquired resources are transformed into final product
 - **Fulfilment** - where in the product is delivered to the customer specified location and the terms of the contract are fulfilled
 - **Receipt of Payment**
- Throughout the process, control points are in place to verify and validate whether customer and regulatory requirements are met.

New Product Introduction (NPI)



New Product Introduction Process

- New Product Introduction spans the entire product development cycle from the identification of a new business opportunity to the post commercial introduction of the new product.
- Execution teams exist for every defined program. Teams are responsible for achievement of all commercial and technical product objectives, including:
 - Meeting the product development and marketplace introduction schedules
 - Product performance, program cost, product cost, and financial objectives
 - Validation and verification performed throughout the process to confirm product meets requirements
- Management reviews are utilized to continuously assess if the program is fulfilling requirements.

Supplier Quality

GE Energy expects the same high quality standards from our external suppliers as we produce internally. GE Energy's Sourcing function has established rigorous processes around supplier quality and oversight to enable and verify this quality level for all sourced components and services.

Supplier Approval Process

Approved to do business with GE ...

- Quality
- EHS/Labor
- Finance
- Technical Capability

- Mutual Non-Disclosure Agreement
 - Protects proprietary information for both parties
- Integrity Acknowledgement
 - Supplier's commitment to comply with GE's requirements
- EHS (Environmental, Health, Safety) Questionnaire
 - Provides basic EHS data for evaluation of EHS practices
- General Supplier Profile
 - Basic data to support quality, financial viability, and overall risk

Qualification Process

Released for Production

- Product Compliance
- Process Capability

- Critical hardware requires
 - Characteristic accountability
 - Product quality plan, manufacturing process plan
 - Process risk (FMEA)
- Team approvals required
 - Supplier quality engineer, design engineer, materials engineer

Surveillance Process

Sustaining Quality ...

- Monitoring
- Auditing

- Periodical Surveillance Required
 - Quality systems assessment (if not ISO certified)
 - Product audit - compliance to technical requirements
 - Process audit - compliance to special processes
- Additional audit/inspection requirements defined by:
 - Customer requirements, risk, supplier performance, defects

Quality Control Mechanisms

Record Control

- GE Energy defines, establishes, and maintains records to provide evidence of conformity to requirements and the effectiveness of their QMS
- Records need to be:
 - Legible
 - Identifiable
 - Retrievable
- Documented procedures define controls for:
 - Identification
 - Storage
 - Protection
 - Retrieval
 - Retention time
 - Disposition of records



The requirements regarding Record Control have been defined in procedure GEEQMS 4.2.4 – Record Control.

Control of Monitoring and Measuring Devices

- GE Energy utilizes a wide variety of Measuring and Test Equipment (M&TE) to inspect and measure product quality in development, production, and service work. This includes measuring instruments, software, measurement standards, reference material, and auxiliary apparatus or combination thereof.
- The M&TE is calibrated at specified intervals or prior to use against measurement standards traceable to NIST or equivalent international or national standards. If no such standards exist, the basis used for calibration is recorded. The calibration status is visually identifiable and a register is maintained of all M&TE requiring calibration. MT&E is protected from damage and deterioration during handling, maintenance, and storage.
- When M&TE is found not to conform to requirements or an out of tolerance condition occurs, appropriate actions are taken.

Control of Nonconforming Product

- A product or service is considered nonconforming when it does not meet specified requirements. Once identified, nonconformances are recorded and dispositioned through GE Energy's quality systems.
- Recorded nonconformances are reviewed regularly for the purpose of understanding the defect and providing a basis for continuous improvement.

The requirements regarding Control of Nonconforming Product have been defined in procedure GEEQMS 8.3 – Control of Nonconforming Product.

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