



Renewable Energy – Hydro Quality Management System

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HG-MB-1-G-M-001

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SUPPLIER QUALITY REQUIREMENT MANUAL



PURPOSE

Strive excellence in Quality by driving more Quality Assurance, less Quality Control and more supplier ownership/accountability of quality at the source.

This document is to be shared with Suppliers for their reference.

RANGE OF VALIDITY

This document is applicable for:

- Direct suppliers, all chapters.
- GE2GE Suppliers, all chapters excluding chapter 2 i.e. supplier approval



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1. INTRODUCTION

1.1. GE Commitment and Policies

Hydro Power Quality Policy



At Hydro Power, **we all own quality!**

Our objective is to create lifecycle value for our customers by safely and predictably delivering quality products and services on time with **zero** defects.

To accomplish this, we must:

- Understand and meet external and internal customer expectations.
- Follow our processes focusing on safety and quality in **All** activities.
- Identify and raise issues immediately to prevent passing defects along.
- Continuously improve our products, processes and systems.

We succeed by empowering our employees to share, learn and work together as **ONE** team.

Pascal Radue
Hydro Power CEO

Neville Dacie
Hydro Power Quality Leader

May 2023

Note: refer supplier portal (<https://supplierportal.ren.apps.ge.com>) for latest quality policy.



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1.2. Scope & Objective

The purpose of this manual is to inform GE Hydro's Suppliers about our core requirements regarding Suppliers' quality management systems, design requirements, quality planning, manufacturing process controls and services required for doing business with GE Hydro.

This manual provides the overall quality requirements for all external Suppliers (and their Sub-Suppliers where required by contract) providing direct material, products, processing, and services to GE Hydro. It is structured in accordance with our 3 main processes:

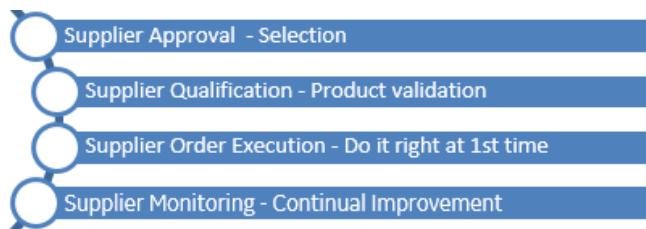
- Compliance: Panel entrance and management to qualify Supplier
- Execution: quality assurance and quality control expectation
- Monitoring & Improvement: Supplier monitoring and performance improvement

The general requirements outlined herein do not supersede any conflicting requirements contained in:

- the contract or the Purchase Order
- drawings, including applicable engineering and process specifications
- or any other applicable long-term agreement(s).

1.3. Workflow

Move from Quality Control to Quality Assurance, key steps.



1.4. Supplier classification level

GE Hydro products are classified per their level of criticality and risk. Supplier classification follows product classification. The levels of criticality relating to GE's expectations and the requirements defined in the current manual are as follows:

Type	Description
A	High Critical product and / or High-Risk product
B	Medium Critical product and / or Medium Risk product
C	Non-Critical and / or Low Risk product
G	Catalog products
R	Repaired & Refurbished product
L	Laboratory, Control & Test
S	Service provider / Contractor & Logistic Service Provider (LSP)

Type A: Metallurgical or chemically intense processes or products with significant potential impact on the safe operation, performance or reliability of the machine or system.

Examples: castings, forgings, complex welded structures, metallic raw material, and safety bolting, etc.

Type B: Moderately complex components or assemblies which have no or limited special processes. These components may be designed by GE Hydro per detail drawings or designed by the Supplier to a GE functional specification. Simple assemblies or components with limited machining and some standard measuring devices.

Examples: simple welded structures & machined components, mechanical system, electrical & mechanical components.



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Type C: Less complex components or Controlled parts with negligible impact on safe operation, performance or reliability or components controlled on the industry level. Simple assemblies or components with limited machining and some standard measuring devices.

Type G: Components which are all other general items which do not require a Type A, B, or C Qualification and require no qualification activity. These are simple components with limited impact on the overall operation of the GE final assemblies, and where the overall cost for GE Hydro to qualify the part is deemed greater than the overall impact risk of failure of the part, or the overall value of the part. Examples include, components available to other companies to purchase (i.e. "off the shelf") which require little or no customization to meet GE Hydro' drawing or specification requirements, Supplier catalog items, simple machine parts, standard measuring devices and parts and materials.

Type R: Components Repaired & Refurbished for Service and Refurbishments projects.

Type L: Laboratory, Control & Test Supplier.

Examples: water analysis, air emission analysis, mechanicals tests, NDT control, etc.

Type S: Service provider / contractor working at GE factory or GE Suppliers or Site activity, for manufacturing & control operations, and Logistic Service Providers (LSP).

Examples: quality control & surveillance, welding, machining, lifting, assembly, coating, transports, warehouse, packaging, etc.

Note: refer HG-LS-2-G-P-003 to see that which component belongs to which class i.e. A,B,C etc. Link to get these documents <https://supplierportal.ren.apps.ge.com/ge-confidential-documents> , check under heading "Hydro Documents"

Note:

GECC list and criticality class are valid for all Hydro segment -including Service Projects-, as per HG-LS-2-G-P-003

However, Technical and GECC Qualification checklist may vary for new and refurbish/repair components, as the capabilities needed and assessed at suppliers are different.

Therefore, if a supplier is only qualified for one specific checklist such as new OR refurb/repair, it shall be clearly mentioned in qualification status such as "Qualified only for Repair"

All downstream processes dependent on Qualification Status shall consider the specific restricted scope for which the supplier has been qualified, i.e No PO for new bearing parts to a supplier only qualified for a refurbishment of bearings.

1.5. Supplier's Responsibility and Acceptance

- The Supplier is fully responsible for the fulfillment of all contractual obligations and for the deployment of this manual and its Appendices. The Supplier should ensure that the products and services they will deliver meet all the GE Hydro's technical and quality requirements implying control and record all requirements as stated under ISO 9000 certification. We expect our Suppliers to demonstrate a proactive Quality and continuous improvement mindset, reactivity for issues eradication; root causes identification and mitigation, and partnership behavior.
- All design, material and process change requested by the Suppliers and/or tier-2 Suppliers shall be identified, documented, and communicated formally by the Supplier through Quality Suite <https://qs.ren.apps.ge.com/sdh> , and must be formally approved by GE before their implementation.
 - GE Hydro requires its Suppliers to strictly comply with all applicable legal requirements related to their activities and business environment.



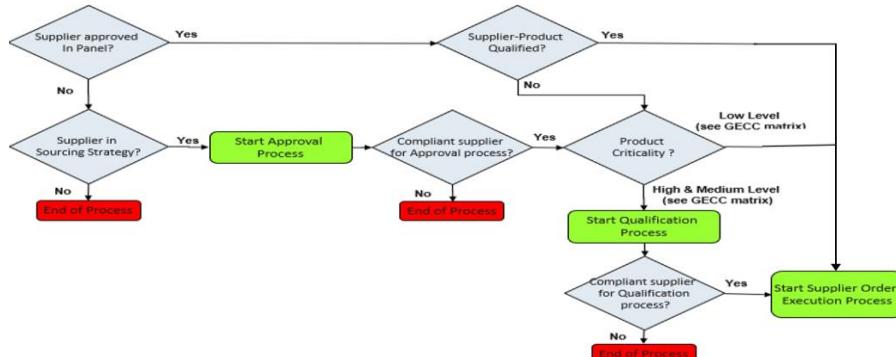
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2. SUPPLIER APPROVAL



Flow chart for supplier approval and qualification

2.1. Supplier Approval - Minimum Mandatory Requirement

The Supplier approval process is performed prior to a purchase order being issued to the Supplier. When the approval process has been successfully completed per the criticality level, a Supplier is registered within the GE Supplier management system with the proper approval status.

Supplier approval done through Supplier Connect Scx.

Approval Documents vs. criticality level	A	B	C	G	L	S
GE T&C**** (Includes Integrity guidelines)	YES	YES	YES	YES	YES	YES
Supplier Eligibility Questionnaire (SEQ) for Critical Suppliers [HG-MB-1-G-T-076]	YES	YES	NO	NO	NO	No
Supplier Eligibility Questionnaire (SEQ) for non-Critical Suppliers [HG-MB-1-G-T-007]	NO	NO	YES	NO	YES	YES
Logistics EHS Pre-Screen Questionnaire/ Online EHS survey	NO	NO	NO	NO	NO	Only for transporter
ISO 9001 certification or equivalent as described in 2.2	YES	YES	NO	NO	NO	NO
ISO 17025 certification	NO	NO	NO	NO	YES	NO
Supplier Requirements Guideline (SRG) Refer SRG guideline for applicability	YES	YES	YES	YES*****	NO	NO
Financial viability (FHR)**	YES	YES	YES	YES	YES	YES
Mutual Non-Disclosure Agreement (MNDA)	YES	YES	Yes	Yes	YES	YES
ComplyWorks	NO	NO	NO	NO	NO	YES***
Acknowledgment of Policy Compliance Declaration [032-2017-HG-EM]	NO	NO	NO	NO	NO	Only for transporter

Link for GE T&C <https://app.sc.ge.com/sites/1547628/portal/1081185>

Follow **GE Renewable Energy Sourcing Fallback Manual** in case of any asked deviation on GE T&C.

** Applicable if spend > 1MUSD annually

Supplier integrity guide <https://www.gesupplier.com/ge-integrity-guides/>

*** Applicable when contractors work at GE factory/site

Note: for US Gov. projects: Suppliers should be member of a government operated supply chain security certification program (CTPAT/Canada PIP/AEO/etc)

Not applicable for T&L suppliers.

**** For annual estimates spend less than 20 KUSD lighter version of GE T&C need to be used, for annual estimated spend more than 20 KUSD standard version of GE T&C need to be used.

link for MNDA: <https://app.sc.ge.com/sites/1547628/portal/1080928> :

Link for HMS document like SEQ : [Link](#)

Link for SRG: <https://ehs.portal.ge.com/supplier-responsibility-governance/>



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2.2. Quality Management System

The Supplier must maintain a documented quality management system to meet the requirements of the current ISO 9001, this can be demonstrated by

- Providing a copy of recent valid QMS certification; or
- Successful completion of a quality management systems audit to the current requirements of ISO 9001. GE Hydro reserves the right to require this audit to be conducted by GE internal auditor or a third-party service designated by GE Hydro.

2.3. Management of sub tier Supplier

Where specified by contract, the Supplier shall purchase products, materials, or services from GE-designated sources. However, the Supplier is fully responsible for:

- qualifying and implementing monitoring of all Sub-Suppliers per GE requirements and notifying GE of their qualification status when required
- the flow-down of all contractual and applicable technical and quality requirements
- ensuring that items procured from such sources meet all applicable technical and quality requirements.

GE reserves the right to:

- review the Supplier's processes for selection, qualification, and monitoring of Sub-Suppliers
- approve, or disapprove, Sub-Suppliers
 - audit and monitor the Sub-Suppliers' processes and facilities when deemed necessary.

2.4. Supplier Responsibility Guidelines (SRG)

For more detail refer to 031-2017-HG-BF: SRG Supplier Responsibility Guidelines – Brochure.

"Supplier Responsibility Guidelines" (SRG) which require GE to do business only with Suppliers which comply with local laws and other GE standards that may apply in the areas of employment, human rights, environment, health, and safety.

When is the Formal SRG On-Site Audit Required?

SRG on-site audit completion is mandatory if any one of the following criteria is met:

- First-tier Supplier manufacturing parts for GE (direct material) has the production site(s) located in a Category 1 country (SRG mandatory geographic coverage);
- GE or affiliate trademark is affixed to the product being supplied - (e.g. Suppliers providing GE name plate are audited due to brand exposure)
- The Supplier is not located in a mandatory country, but business requested audit applicability due to other reputational risks impacting GE jobs/customers.
 - Supplier must be a manufacturer with defined manufacturing facility/factory.

	Category I	Category II	Discretionary	Restricted
Latin America & Caribbean	All countries, except Bermuda and Cuba		Bermuda	Cuba
Europe	All Central Eastern European countries except Hungary, CZ	Poland, Slovenia Slovakia	Hungary, Czech Republic, all Western European countries	None
Africa	All countries		None	Sudan
Middle East	All countries		Israel	Syrian, Iran
Asia	All countries, except the ones listed in the discretionary and restricted columns		Australia, New Zealand, Japan, Hong Kong	North Korea
Antarctica	Antarctica; Bouvet Island, French Southern Territories; Heard & McDonald Islands		None	None

Hydro specific SRG rules

- For all new supplier onboarding SRG is mandatory as per the defined rules in SRG corporate guidelines.
- For new supplier onboarding having estimated annual spend less than 10 KUSD audit is mandatory, but auditor can make the decision of supplier approval even if some findings are open, in this case supplier is having the responsibility to close all the findings within 60 days from the audit.
- For new suppliers having estimated annual spend more than 10 KUSD, audit and closure of all findings are mandatory before approval of supplier.
- For already approved supplier, audit frequency can be 3 years if annual spend is below 100 KUSD, for other suppliers audit frequency should be every year.



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RG Audit is also required for sub-tier Suppliers if located in a high-risk country and meet one of the following criteria:

- >50% of output is purchased indirectly by GE through the first-tier Supplier;
- Sub-tier work is related to transfer of work from a GE location (e.g. stripping operation carried out before at GE shop is totally outsourced to a sub tier Supplier);
- GE directed the first-tier Supplier to use a specific sub-tier Supplier;
- GE or affiliate trademark is affixed to sub-tier Supplier product - (e.g. Supplier providing GE promotional material should be audited due to brand exposure).

2.5 Documents linked to supplier approval process

- HG-MB-1-G-T-076: Supplier Eligibility Questionnaire (SEQ) for Critical Suppliers
- HG-MB-1-G-T-007: Supplier eligibility Questionnaire (SEQ) for non-Critical Suppliers
- Logistics EHS Pre-Screen Questionnaire / Online EHS survey
- 031-2017-HG-BF: SRG Supplier Responsibility Guidelines – Brochure
- 032-2017-HG-EM: Policy Compliance Declaration - Logistics Service Provider Commitment to EHS Policy

Link to get these documents <https://supplierportal.ren.apps.ge.com/ge-confidential-documents> , check under heading “Hydro Documents.”

3 SUPPLIER QUALIFICATION

3.1. GECC Qualification (Technical Qualification)

When approved, the Supplier must be qualified for a specific GECC before PO placement. Through the qualification process, the Supplier demonstrates the ability to provide high quality parts in accordance with requirements and expectations of the GE Hydro business purchasing the material. Qualification requirements are defined and documented by a GE qualification team.

Qualification is required in, but not limited to, the following cases:

- (1) A new or existing Supplier is manufacturing production material for the first time for GE Hydro.
 - (2) A design or process change has occurred at the Supplier or at GE Hydro, changing the processing, form, or function of the product.
 - (3) An existing Supplier or critical sub tier Supplier changes its manufacturing location.
- Note: Reassessment of Supplier approval will also be required when a manufacturing location is changed.
- (4) Quality issues arise at the Supplier, putting current qualifications into question.
 - (5) As required by GE Hydro or with some decided frequency.

Qualification requirements vs. criticality level	A	B	C	G	L	S
Product/ GECC qualification.	YES	YES	YES*	NO	NO	YES*

*Optional (only if required by contract/project)

Note: GECC Qualification (Technical Qualification) need to be done as per the process defined in HG-MB-1-G-I-005

Special process qualification is part of GECC qualification (technical qualification) where special process is applicable in manufacturing of part at tsupplier.

Suppliers who perform Special Processes shall flow-down the following requirements to their Sub-Supplier sources and ensure due compliance with them.

Suppliers shall:



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- have specific, documented and controlled procedures for each Special Process performed and demonstrate conformity to GE requirements for capability
- include methods for monitoring and control of Special Processes and initiate the specified reaction plan when: The plans shall be reviewed with and approved by GE when requested.
- ensure only qualified personnel can execute Special Processes. The Supplier must maintain a list of qualified personnel by Special Process, records of training and certification status. Qualified personnel must maintain their certifications as required by the Supplier or governing body for certification.

Special processes list

- All forms of Non-Destructive Testing/Examination (NDT/NDE)
- Babbitting of Bearings
- Brazing
- Coatings:
 - Painting
 - Thermal spraying (metallization, plasma spray, HVOF)
 - Electroplating
 - Electroless Nickel
 - Zinc flake
- Die casting
- Forging and hot forming
- Heat treatment
- Laser Drilling, Cutting and Marking
- Melting and raw material production
- Sand casting & Shot blasting
- Surface preparation:
 - Washing/Degreasing
 - Grit blasting
- Surface treatment:
 - Passivation
 - Phosphatizing
- Welding

3.2. Technical Regulations and Standards (TRS) Compliance Process

Supplier compliance assessment and management is a collaborative effort between Supplier and GE.

The Supplier shall establish a process to understand the TRS requirements defined in the GE documents/specification received at the time of RFQ(request for quotation), supplier must analyze and provide the gaps with respect to defined TRS requirements in GE documents and specifications.

Note: Where a Supplier is providing a component, equipment or service which may impact overall product safety, or presents a significant risk to legally required certifications, GE should require the submission of a Supplier TRS Compliance Plan.

Supplier compliance shall be verified by establishing tollgates or checks in existing processes or mechanisms for TRS deliverables and documentation shall be collected, reviewed, and controlled as required by the applicable TRS. This shall apply for all transactions, including, but not limited to, incoming factory supply and material shipped direct to site or to an intermediate warehouse.

Where Suppliers have not demonstrated compliance, and have significant TRS risk, GE shall ensure that products and services are compliant before shipment or delivery by use of Shipment Compliance Hold Process. GE Sourcing uses this process to ensure Supplier compliance with the applicable regulations and standards defined by GE specifications and purchase orders before taking delivery of products from Suppliers. Engineering specifies Supplier compliance requirements.

The general TRS requirements are stipulated in Supply Agreements and Terms of Purchase. Specific TRS requirements (directives, norms, standards, applicable rules, and practices) are addressed to the Supplier with the RFQ and Purchase Order package and specifications.



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4. SUPPLIER ORDER EXECUTION

Supplier order execution plays a critical role in making our business successful. Without an efficient and accurate process for execution resources are wasted and unnecessary mistakes become common.

4.1. Supplier order execution: Minimum mandatory requirements

Minimum mandatory requirements	A	B	C	G	L	S
Technical Review***	YES	YES	NO	NO	NO	Yes**
Production plan in SUMO	Yes	Yes	No	No	No	No
Manufacturing process plan(MPP)	Yes	Yes	Yes*	NO	NO	Yes**
KoM***	YES	YES	NO	NO	NO	Yes**
Inspection & Test Requirements and Management	YES	YES	YES	YES	NO	Yes**
Supplier Deviation Request (SDR) and Escape defect	YES	YES	YES	YES	YES	No
RCA & CAPA	YES	YES	YES	YES	YES	YES
Penalties (VBB)	YES	YES	YES	YES	YES	YES
Data Book	YES	YES	YES	YES	NO	Yes**

* Not mandatory- GE Hydro will assess the risk to require or not.

** C&C Construction & Commissioning contractors only (if applicable and required)

*** TR/KOM applicability in detail can be checked in GECC document HG-LS-2-G-P-003 and Supplier Order Execution document HG-MB-1-G-I-017

PPAP Matrix

Sr. No.	Element	Supplier Category : B2S		Supplier Category : B2P	
		mass/multiple batch >30	one-off<30	mass/multiple batch>30	one-off<30
1	Design Records	X	X	X	X
2	Authorised Engineering Change Documents	X	X	X	X
3	Customer Engineering Approval	X	X	X	X
4	DFMEA	X	X		
5	PFD	X	X	X	X
6	PFMEA	X	X	X	X
7	Control Plan	X	X	X	X
8	MSA Studies	X		X	
9	Dimensional Results/ First Article Inspection Report	X	X	X	X
10	Performance Test Results	X	X		
11	Material Test Results	X	X	X	X
12	Initial Process Studies/SPC	X		X	
13	Qualified Laboratory Documentation	X	X	X	X
14	Checking Aids	X	X	X	X
15	Part Submission Warrant	X	X	X	X

There will be phase deployment of the yellow highlighted elements of PPAP/APQP requirements, these elements not mandatory till the time supplier not covered under the APQP program driven by GE.

Supplier order execution plays a critical role in making your business succeed. Without an efficient and accurate process for managing PO's and timing plans, resources are wasted and unnecessary mistakes become common.



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Link to get the standard template mentioned below <https://supplierportal.ren.apps.ge.com/ge-confidential-documents> , check under heading "Hydro Documents"

HG-LS-2-Q-T-010: Quality Package Template (MPP / Control Plan / PFMEA / Controls Instruction / Q-Records)

4.2. Purchase Order preparation

During the RFQ period, before accepting the Purchase Order, the Supplier shall perform a project/production risk analysis to assure its engineering/production capabilities and capacity will satisfy the GE Purchase Order.

4.3. TECHNICAL REVIEW MEETING (Detailed Drawing, Manufacturing and Productibility Review)

Prior to PO at the stage of technical review the supplier may be required to participate in a detailed drawing/specification review with the GE Hydro Qualification Team to ensure the Suppliers' thorough understanding of drawing requirements and specifications during the qualification process. For Supplier Designed, non-Build-to-Print (Functional Spec/Sourcing Controlled) type A, B items, the Supplier may be required to participate in an Engineering Capabilities Assessment/TBE and Supplier Design Reviews with the GE Hydro Qualification Team.

After PO detailed MPP/CP and other documents shall be reviewed at kick off meeting prior to start of manufacturing.

Note: After purchase order (PO) placed, supplier must provide a detailed timing plan including all relevant steps (MPP/PFD/CP documents, Special Process/CTQ Instructions, GE Inspection Calls/Customer Witness Points, etc..) to be reviewed and approved at kick off meeting.

Note: also refer to Supplier Order Execution document HG-MB-1-G-I-017.

4.4. Manufacturing Process Plan (MPP/PFD)

Manufacturing Process Plan (MPP) - A detailed, systematic sequence of operations and requirements by which components or services are manufactured.

A Manufacturing Process Plan, or Manufacturing Scheme, is used to provide a visual representation of the process steps that a product or service follows. They are graphical displays that help create a common understanding of a process and are used as follows:

- To compare the "as is" process against the "should be",
- To assess the complexity level of the process,
- To identify non-value-added operations, possible simplification, and standardization opportunities,
- Depicts where defects do or may occur,
- To define data collection points, etc.....

MPP is a record of where actions are taken, decisions are made, inspections are performed, and approvals are required.

It may often be the first accurate and complete picture of the process from beginning to end.

The provision of the Manufacturing Process Plan is the responsibility of the manufacturer. It is reviewed by a GE Quality representative during the technical review to ensure that GE Quality and Customer requirements are considered.

The Manufacturing Process Plan is part of the Supplier qualification requirements and is a contractual document of the purchase order. For any changes in the MPP, GE must be notified via the Deviation Request process which will then follow the appropriate change management process.

How to create a MPP:

1. Determine the limits of the process to map. Clearly define where the process begins and ends; Agree on the level of detail to show in the process map.
2. Determine the steps in the process. In a brainstorm session, list major activities, inputs, outputs, and decisions.
3. Identify the sequence of the steps. Draw the steps in the same order as they are carried out without any arrows; Define what "is" and not what "should be"
4. Draw the MPP using the standard symbols. Label each process step using words which are understandable by everyone; Add arrows to show the direction in which the process flows; Identify the process map with its name, date, and names of the team members.
5. Test the MPP to ensure that it is complete. Are the symbols used correctly? Are the process steps clearly identified? Is every feedback loop closed? Does every continuation point have a corresponding point elsewhere in the process map?
6. Finalize the MPP. Is this process being run the way it should be? Are people/departments following the process as mapped?

Note: For welded structure MPP standard template need to be used by the supplier and provide to SQE for approval, HG-MB-1-G-I-005_FORM35 - MPP template for welded structure



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4.5. Product and Process Risk Assessment (FMEA)

Supplier must perform a risk assessment of its product manufacturing process through Failure Modes & Effects Analysis (FMEA) approach.

Proper risk mitigation need to be done through FMEA approach, supplier should keep the FMEA a live document.

4.6. Control Plan (CP)

Quality Control Plan is a critically important document for any business.

It is a description of the activities, tools, and procedures needed to control a process that delivers a service or product.

Its overall objective is to minimize and control variation.

A QC Plan documents how process and product characteristics and features are to be managed and controlled throughout the production process. During production, the plan also provides the monitoring and control methods that are used to control the features and characteristics of the product or process.

The Control Plan is the responsibility of the manufacturer who must provide it for review by a GE Quality representative during technical review to ensure that all GE Quality and Customer requirements are considered. Quality Control Plans are living documents and must be revised as changes in the design, process or performance level occurs. For any changes in the Control Plan, GE must be notified via the Deviation Request process which will then follow the appropriate change management process.

4.7. Critical-to-Quality (CTQ) and MI

Suppliers must take special care of CTQ defined on the GE drawings and must use defined and linked measurement instructions for verifying these CTQs, measurement on CTQs must be identified in final inspection report.

4.8. First Piece Qualification (FPQ), applicable only for >30 same products.

First Piece Qualification is to ensure the conformity of the process to manufacture a new part or series of parts/batch (30 or more) with acceptable quality by closely monitoring the 1st piece produced and by applying the same process for the remaining products.

4.9. Q-Record / Protocol requirement

The quality records are templates that the Supplier can use to follow tests realized internally. The templates reflect the mandatory information that GE expects to see in quality records.

The purpose of these templates is to support the Supplier in the elaboration of his quality records.

The mandatory information for Quality Approval lists all the required information that should appear in the quality records for validation.

4.10. Kick-Off Meeting (KoM)

The objective of the KoM is to ensure a proper understanding of GE -Hydro's requirements by the Supplier, scope of work, identification and mitigation of risks and confirmation of detailed planning, documents to be delivered and final delivery date. GE will plan the kick off meetings which shall take place after the Business Award, but no later than after start of Manufacturing. Prior to the kick off meeting, the Supplier must analyze GE -Hydro's requirements and the documents provided with the purchase order. The Supplier must also prepare his questions on the scope of work, technical requirements, and the detailed production planning to be validated during the meeting with GE Hydro representatives.

The agenda shall include the review of open points from the Supplier Development action plan.

Main relevant topics to be covered, when applicable, during the Kick-off Meeting:

- Commercial/ Communication/ Transmission of Documentation
- Engineering and technical aspects (Drawing, specifications, Communication matrix)
- Manufacturing, inspection, and shipping Schedule
- Final MPP, CP, CTQ, MI and FMEA as per defined requirements.
- Subcontracting
- Supplier Quality Management System & Critical to Quality



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- Environment, Health & Safety
- Packaging & Handling
- Supplier Change Request
- Feedback of Experience (FoE) issues linked to Quality Package.

All aspects of the Purchase Order (timing, technical, Quality, etc.) shall be aligned between Supplier & GE during this meeting.

Note: also refer to Supplier Order Execution document HG-MB-1-G-I-017.

4.11. Planning Management

Production schedules follow up: Supplier need to create the production planning in the SUMO and update it on monthly bases including actual job photos attached in the tool itself.

Progress report: The Supplier shall update the schedule in SUMO twice a month.

In case of the Supplier's failure to update the schedule in SUMO, the Buyer/PS may require the help of a third-party to track the progress, in which event all related costs and expenses shall be for the Supplier's account.

Note: Components which are not tracked through SUMO in such cases delivery schedule need to manage through NEO.

4.12. Surveillance

Along project execution at Supplier, GE Quality representative shall conduct Surveillance audit when it is relevant to ensure product conformity. This frequency is defined by the GE Supplier Quality Engineer (SQE) and is linked to Supplier maturity. Those surveillance audit shall consist of:

- Reviewing MPP/CP
- Reviewing Manufacturing Process
- Reviewing Production Progress
- Performing Inspection of current manufacturing steps
- Reviewing Documentation

In case of deviation, finding and/or non-conformity will be opened with obligation to correct the situation with the proper corrective plan in less than 30 days.

4.13. Inspection & Test Requirements (Manage through MTA)

GE Hydro and/or its customer may elect to inspect parts, and/or witness subassemblies at the Supplier's facility during processing, testing, or at final inspection. All source inspection and test witness requirements are to be identified and coordinated through the GE SQE, Quality Assurance, quality representative or another designated representative.

It will be the responsibility of the Supplier to notify GE Hydro in advance, when material will be ready for inspection. The timing of this advance notification will be at minimum 15 days (unless otherwise approved by GE Hydro) prior to any scheduled test/inspection/witness points. The inspection notification and reports management after inspection shall be done by using MTA.

Before all customer inspection, it is mandatory that Supplier perform a pre-inspection with GE Hydro representative.

GE Hydro's and/or customer's acceptance of product (stamp of documents) does not relieve the Supplier of its obligations to supply components that meet drawing and purchase order requirements.

4.14. Supplier Deviation Request (SDR through QualitySuite) & Non conformance (NC) management.

All deviation (before/after creation of defect) after placement of PO and before dispatch of component from supplier must be raised as SDR in Quality Suite through link: <https://qs.ren.apps.ge.com/sdh> or through supplier portal <https://supplierportal.ren.apps.ge.com/hydro>

All defects after dispatch of product from supplier need to be reported as NCR in NC module of Quality Suite.



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Because of some SDR If ECR is required, engineer need to open a specific action for this activity while disposing the SDR, also "yes" need to be selected in the field "As-built/redline required", according to defined action engineer need to raise the ECR and ensure the effective closure.

Change identified in engineering drawing/documents before placement of PO shall be raised as ECR to the engineering, RCL is responsible to raise the ECR, PO need to be placed after revision of engineering drawing/documents.

In case of urgency and impact on OTD, RCL can make a decision of PO placement without ECR, in this case prior agreement with supplier need to be made in technical review meeting along with engineering agreement for regularizing the identified changes through SDR, SDR need to be raised by the supplier with in 5 days of placement of PO, engineering need to clear the SDR in 5 days after receiving the SDR along with any client approval if require,

Detection phase	Details of detection phase	SDR/NCR	Escape
Before defect creation	Change request like material change etc.	SDR	No
External Manufacturing	defect detected by supplier at supplier's factory	SDR	No
External Inspection	defect detected by GE Inspector at supplier's factory	SDR	No
Incoming Inspection	defect detected at GE factory during incoming inspection	NCR	Yes
Internal manufacturing	defect detected at GE factory during manufacturing	NCR	Yes
Internal Inspection	defect detected at GE factory during inspection	NCR	Yes
Transport	defect detected by GE while transportation	NCR	Yes
Site reception	defect detected at GE site while reception	NCR	Yes
Siter erection	defect detected at GE site while erection	NCR	Yes
Commissioning	defect detected at GE site while commissioning	NCR	Yes
Warranty	defect detected at GE site during warranty period	NCR	Yes

When a deviation with respect to the GE drawing or specifications is exist or expected to exist, the Supplier must submit a Supplier Deviation Request through SDR system in QualitySuite.

SDR is applicable for both type of deviations i.e. if defect already created or expected to be created, SDR also applicable for all change requests with respect to drawings and specifications like material change request etc.

The supplier shall follow the process of SDR, should not proceed without GE disposition on any SDR, No repair shall be performed on a deviation prior to disposition by GE.

The Supplier shall not ship any deviated part before it is in cleared the SDR stage. GE has the right to request additional inspections and tests beyond applied drawing and specifications to prove the deviated part's form, fit and function prior to SDR disposition.

The SDR must contain a detailed description, containment, probable source and proposed remedial action (when business directed) as part of the initial submission of information. Failure to supply all the information as required may result in the SDR being returned to the Supplier for completion of the required information. If this rejection impacts fulfillment requirements, charges may apply for the Supplier's account.

SDRs are "one-time" exceptions to GE Hydro requirements.

The approved SDR applies to only the Purchase Orders listed on the SDR.

To request clarification on a GE drawing, specification or purchase order, the Supplier may submit a RFI through QualitySuite. No approvals to ship parts deviating from GE Purchase Orders or Specifications can be granted through the RFI process.

SDRs must be submitted by the primary Supplier (the Seller on the Purchase Order). Any deviations (e.g. drawing changes, material substitutions, etc.) related to a sub tier Supplier's scope should must be submitted through the primary Supplier.

Alternate materials listed in GE Specifications may be utilized in lieu of the specific material identified by the drawing or parts list unless specifically prohibited by the drawing or part specification.

Note: The specifications identified in the preceding paragraph may not be applicable to all GE Hydro businesses. Confirmation with the SQE is required for applicability.



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Note: rule for defining criticality and RCA for SDR is same as defined for NCR in NCR process HG-LS-2-Q-I-002.

4.15. Containment

When SDR/NCR are discovered, containment is expected to be immediate with all affected parts being contained. Containment actions apply to products, process, and materials in which the non-conformance was detected as well as similar products or product families in which the non-conformance may occur. If the non-conformance is discovered during random audit, all inventory must be evaluated.

Containment at the Supplier is expected to isolate (separate from normal production), insulate (inspect products to sort for defects at the Supplier, in transit for shipment and at the customer site) and aid in control of risk related to the non-conformance. An effective containment process must document the Supplier's efforts to verify control of its processes, (pre-production, production, and post-production).

4.16. Proposed Remedial Action

Where applicable, Suppliers to GE Hydro should provide a rework or repair concept plan for all deviating products and services prior to disposition. Also, provide a rework, repair, or accept as is recommended.

Where rework or repair is not possible, substantiation should be provided.

Proposals should include:

- Identified risks that would adversely impact the product
- Planned completion date
- Estimated time (labor) required to complete correction

4.17. Non-Conformity Management (NC)

Depending on the detection phase of the deviation, the deviation can be considered as a non-conformity, refer table under section 4.14.

The Supplier will be informed on the NC, supplier need to start the containment & RCA immediately.

4.18. Detection & Notification

When a non-conformance is detected by GE or the GE Customer, a non-conformance report (NCR) will be issued and the Supplier notified accordingly.

The Supplier will have received by email, an official notification of the NC called "Notification of Non-Conformity opened in GE database". The NC is also attached for more detailed information, and the Supplier is requested to complete the root cause into the NCR Template and send it back to the SQE for review. Non-conformance notification is sent to supplier to confirm or not allocation/responsibility.

If no response is received from the Supplier within **seven (7) days**, starting from the date of this notification, GE will deem the NCR to be accepted, and will take into consideration for Supplier Performance Management (Top Offender), the registration of Cost of Non-Quality and deployment of claim management with the Vendor Bill Back (VBB) process.

4.19. Requirements for Problem-Solving

To ensure timely execution of the root cause analysis, GE will measure the Supplier's responsiveness against the following targets for selected stages:

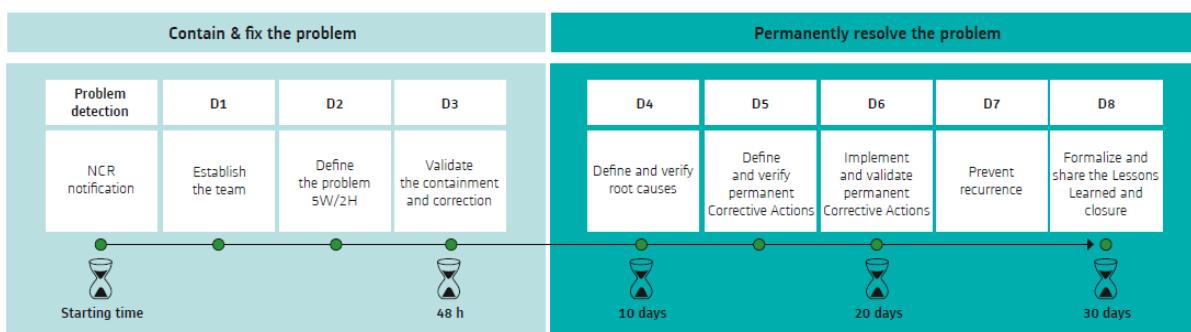


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4.20. Corrective Action Procedure and Requirement

In case of high and medium critical SDR/NC supplier shall perform a formal root cause analysis and identify containment, corrective, and preventive actions. Corrective Action Requests that remain open longer than the specified period may result in disqualification of the Supplier.

Corrective action is intended to:

- Prevent the recurrence of the problem
- Avoid creation of further product or process issues

As required or requested, Supplier corrective action plans should contain at a minimum the following:

- Containment Action(s) - Execution of containment plans
- Process capability as requested by GE
- Descriptions and cycle time of previous remediation performed or total duration to complete remediation
- Root cause analysis utilizing 6 sigma methods (e.g. 8D)
- Long term process changes that will likely eliminate the causes
- Owner and Target date for implementation and completion
- Any identifiable risk items to the product or process that may impact GE Hydro or its customers

All corrective action plans shall require the approval from GE Hydro prior to execution and follow all GE Hydro Supplier quality requirements.

Preventive actions are taken to eliminate the cause(s) of a potential non-conformance or undesirable potential situation to prevent occurrence.

The Supplier must provide and maintain objective evidence that the actions have been accomplished

If the deviation is incorrectly charged to a Supplier, this should be denoted on the corrective action request and sent to both the Sourcing representative and the SQE.

Validation of Corrective Action(s)

Corrective Actions must be documented and validated through objective, factual evidence to assure that the root cause(s) have been eliminated.

Validation may take many forms such as:

- data
- records
- revised or developed procedures
- observations
- production quantities

4.21. Cost of Quality & Penalties

Costs associated with avoiding, finding, creating, and repairing defects and errors—assuming all defects and errors are detected.

Any Supplier cost of non-quality incurred by GE is a waste for our organization and can jeopardize our business profitability and GE Brand.



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We strongly believe that a rigorous and effective Vendor Bill Back drives the Supplier behavior toward the Quality Excellence, aiming to comply with the 'do it right at first time' approach.

The Suppliers shall be more proactive, putting in place preventive actions and controls to ensure zero escaping defect and thus, saving non-quality costs and gaining in competitiveness.

For this reason, GE Renewable Energy has decided to reinforce the Vendor Bill Back process, this process includes both administrative fee as well as the other cost incur in resolving the non-confirming product like repair, rework, replace etc.

These administrative fees are the minimum nonconformance cost to be claimed to the Suppliers and in no way, exonerate the Supplier to afford the payment of ALL nonconformance costs incurred by GE Hydro.

In the Buyer's sole discretion, the Buyer may set-off, deduct or invoice the Supplier for such administrative fee described herein.

Hereunder is the administrative fees table, that explains the fees calculation depending on the Supplier's non-conformance detection location.

Supplier NC detection location	NC Administrative fees \$ USD		
	NAM, EMEA, OCEANIA	LAM	Asia (Include China & India)
Customer Site	1200	700	400
GE Manufacturing	900	500	300
GE inspection	600	300	200
Supplier self-inspection	0	0	0

4.22. Packing & Pre Shipment

Boxing and preservation activities are included in the scope of supply and have to be compliant with Hydro specification. The specification are included in the PO specification package and product specific (in case product specific requirements are not available) supplier need to comply with general box and packing specification.

Supplier must follow the PALILA guideline HG-MB-3-G-P-001 and linked process

Before Shipment the supplier need to fulfill a Pre shipment Checklist (HG-MB-1-Q-T-002) that contain information about: protection, marking, visual conditions, and proper lashing inside the Box. This form include Pictures to provide evidence to GE.

4.23. Data Book

The Supplier shall have a written procedure for the documentation and retention of quality and product records for products supplied to GE Hydro. Records shall include, but are not limited to, product quality or inspection and test plans and results, material specifications, qualification documentation and certificates of conformance. Specific component record requirements may be specified in GE Hydro purchase orders, contracts, or specification. It is the responsibility of the Supplier to determine the appropriate storage means to meet the retention requirement and allow for timely retrieval of records.

The Supplier shall provide a Quality Data Book (QDB) for each product manufactured. The Supplier shall complete each section with the required documents, and follow the instructions below. The QDB shall be prepared systematic and be ready and available for any GE Hydro or Customer visit. The Supplier shall complete the QDB folder per the following table.

All documents shall be in English as well as in any other language stated in the Contract.

All documentation content shall be clear and readable, clearly printed, reproducible.

GE Hydro and/or customer acceptance of product (stamp of documents.) does not relieve the Supplier of its obligations to supply components that meet drawing and purchase order requirements.

SECTION	MAIN INSERTS	CONTENT	COMMENTS
	FRONT PAGE	Project Product MPP/CP PO number Supplier Unit	The Supplier shall include all the elements mentioned in the Content column.



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INPUT DATA	0	Supplier Design validation (Supplier Design only)	Design Calculations Design reviews Mails Meeting report	Section 0 applies when the Supplier is responsible of the Design. The Supplier shall include all the documentation mentioned in the Content column.
	1	MPP/CP		Manufacturing Process Plan & Control Plan applicable for the project
OUTPUT DATA	2	Supplier Deviation Request List		Provide a copy or List all SDRs used on this Project
	3	Non-Conformity Report		To fill the Non-Conformity Report (NCR) Form
	4	Product Folder	Code Compliance Component Conformance (CC) Material Test Reports Welding Procedure Non-Destructive Test Functional Testing Repair/Rework Pre shipment checklist	Per the Control Plan: Please create an insert for each line where Q-Records are required The Supplier shall include mandatory information in the Q-Records for Quality approval. Provide a copy of all documents to validate this commodity meets all Domestic and International Code Compliances for the following but not limited to: CSA, CRN, IEC, CE, PED, ATEX, NEC Include CC for all major components: e.g., pump curves, testing certifications, calibration certificates, and relevant data sheets Provide copies of Material Test Reports for all material used on this Project to include, but not limited to the following: Piping, Structural Steel, Bolting materials (Bolts, nuts, washers), Tubing, Raw Materials, Welding Consumables Provide any Rework procedures and results
	5	Conformance Certificate		To certify that before shipment the supplied good meets the <u>required</u> specifications and complies with the regulation.

4.24. Green Channel

- Green channel supplier: Suppliers which are capable enough to deliver the defect free product without GE inspection

Process for green channel



Benefits for supplier to be Green Channel:

- Less administrative task with no more GE request for inspection based on notification period (MTA i-call)
- Less inspection logistic management due to lack of inspector availability and GE request for rescheduling
- No more perturbation of supplier planning due to quality inspection. For Dimensional control on Machine, no more load/capacity issue to wait inspector availability
- No more resource allocation to support visit, during the inspection time
- Cost saving with no repetition of the control. In case of subcontracted operations, no need to pay twice external control companies

4.25. Audit & Monitoring

The Supplier shall allow GE Hydro and / or the final Customer the right to carry out audits of the Supplier and Subcontractors itself.

GE Hydro shall be entitled to perform audits / Inspections / Visits at any time during the validity of and related Contracts at the premises of the Supplier and all subcontractors and sub-Suppliers of the Supplier to verify compliance with all aspects of the related Contract.



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The Supplier shall grant GE Hydro and its Customers, access to all plant areas, test departments, warehouses, and adjoining areas as well as access to all quality-relevant documents to GE Hydro. Necessary and reasonable restrictions on the product of the Supplier to safeguard business secrets shall be accepted.

Note: for sub tiers audit & monitoring refer to item 2.3. Management of sub tier Supplier.

5. Logistics (For suppliers and specific logistic supplier)

5.1. Delivery Note

The Delivery Note shall contain at a minimum the following

Contact information:

- GE Hydro's address and the delivery address (as stated in purchase order)
- GE Hydro contact's name or the department / service if available
- The Supplier's name and address
- The Supplier's contact information (phone number and email address)
- The date of the actual day of shipping

References:

- Full or Partial delivery
- Delivery note number
- Purchase Order number (provided by GE Hydro) and Project name
- Item number - POS N° (as stated on the purchase order)
- Quantity and unit* per item
- Article number (as stated on the purchase order)
- Designation (as stated on the purchase order)

Product information:

- Packing detail
- Total weight in kg (gross)
- Total weight in kg (net)
- Dimensions
- Transport details (shipping method, delivery conditions)

The delivery note shall be placed visibly on the outside of the box/pallet in a waterproof plastic sleeve. If the consignment contains several boxes/pallets, a delivery note shall accompany each package.

Quantities and units shall be mentioned as stated in the purchase order (m, kg, nbr, etc.). In case the quantity or the unit differs from the purchase order, the Supplier shall agree with GE Hydro on the measurement.

5.2. Origin and Customs

Suppliers compliance requirements (Customs)

The Supplier will inform GE Hydro of the regulation governing the ordered commodities such as:

- Dual-Use Goods regulation (for e.g. but not limited to EU Resolution n° 428/ 2009 "modified", or US Dept. of Commerce via Export Administration Regulation - EAR, etc.)
- Military regulation (products designed for military use) (for e.g. but not limited to EU Common Military list, or US Dept. of State via ITAR, etc.)
- National restrictions

The Supplier will provide to GE Hydro the detailed export control classification number (ECN)

The origin declaration

In relation to the sale of GE products, demands can be made upon GE to show proof of the country of origin of the parts per the EU's free trade agreements.

Each year all of GE Suppliers in accordance with GE purchasing conditions, are obliged to provide the origin for all parts supplied.



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- All Suppliers inside the European Union must send a Long-Term Suppliers' Declaration for parts with preferential originating status or non-preferential originating status, for more information : Long term suppliers' declaration for products having or having not preferential origin status (ONLY FOR SUPPLIER INSIDE EU)
 - o http://ec.europa.eu/taxation_customs/customs/customs_duties/rules_origin/preferential/article_779_en.htm
 - o http://ec.europa.eu/taxation_customs/customs/customs_duties/rules_origin/preferential/article_775_en.htm
- All Suppliers outside European Union must send a
 - o Certificate of Origin
 - o FORM A or EUR1 certificate
 - o Declaration of origin on the invoice for Suppliers who are approved exporters
- The country of origin must be given by using the ISO standard code (2 letters alpha -code, ex: DE, GB, FR, US, JP etc.)

REX System (To replace FORM A certificate)

In accordance with Article 79 of the UCC Implementing Regulation ([Regulation EU 2015/2447](#)) all Suppliers located in the GSP beneficiary countries must apply the REX system as from 1 January 2017.

The following GSP beneficiary countries have notified that they will apply the REX system later than 1 January 2017:

- Application of the REX system as from 1 January 2018: Afghanistan, Armenia, Bolivia, Ivory Coast, Eritrea, Gambia, Guinea, Malawi, Mozambique, Myanmar, Niger, Rwanda, Sri Lanka, Sudan, Swaziland, Syria, Tanzania.
- Application of the REX system as from 1 January 2019: Bangladesh, Benin, Burkina Faso, Cabo Verde, Cambodia, Haiti, Indonesia, Kyrgyz Republic, Lesotho, Madagascar, Mauritania, Mongolia, Nigeria, Paraguay, Philippines, Samoa, Senegal, Tajikistan, Uganda, Uzbekistan, Vanuatu, Vietnam.

From a legal point of view, the other GSP beneficiary countries are supposed to apply the REX system as from 1 January 2017.

However, a beneficiary country has to fulfil two prerequisites before the application of the REX system:

- Submitting an Undertaking, referred to in Article 70 of the above-mentioned regulation
- Communicate to the competent authorities in accordance with Article 72 of the above-mentioned regulation

The countries indicated in Bold are the ones which satisfy the two prerequisites described above.

- Application of the REX system as from 1 January 2017: **Angola, Burundi, Bhutan, Democratic Republic of Congo, Central African Republic, Comoros, Congo, Cook Islands, Djibouti, Ethiopia, Micronesia, Equatorial Guinea, Guinea Bissau, India, Kenya, Kiribati, Laos, Liberia, Mali, Nauru, Nepal, Niue Island, Pakistan, Solomon Islands, Sierra Leone, Somalia, South Sudan, Sao Tomé & Príncipe, Chad, Togo, Tonga, Timor-Leste, Tuvalu, Yemen, Zambia**

The pre-application webpage for GSP beneficiary countries (from 1st of January 2017):

<https://customs.ec.europa.eu/rex-pa-ui/#/create-preapplication/>

Publication of the registered exporters data (from 1st of January 2017):

http://ec.europa.eu/taxation_customs/dds2/eos/rex_home.jsp?Lang=en

Bill of Lading or Air Waybill

They are also required for customs clearance.

Marking of origin

Naked products and their commercial packaging should be legibly and permanently marked with the "country of origin" mention (For example: MADE IN CHINA)

The manufacturing origin marked on product and packaging labels should be the same as the origin declared on the commercial invoice and any other documents.

The commercial invoice

A detailed invoice is essential for freight to be cleared smoothly through customs.

This invoice should contain following elements:



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- Supplier's full name and address
- Shipping location's full name and address
- Purchaser's full name and address
- Consignee's full name and address
- Invoice number
- Invoice date
- GE purchase order number
- Incoterms:
 - o it should be the new 2010 version = acronym 3 letters code + the geographical named place as specified in the commercial agreement
- Payment terms
- Freight terms
- Parcel type:
 - o Cartons, wooden box, pallets...
- Harmonized Tariff system code (HTS code):
 - o For each invoiced item, it should include the first 6 digits issued from the tariff in force in the shipping country
- Country of origin:
 - o For each item listed on the invoice, it must include the manufacturing country of origin.
 - It is the country where substantial transformation is made, in compliance with local rules of origin in force in this country.
 - That is different from:
 - Shipping country = country of departure for the logistic operation
 - Purchasing country = Country where the Supplier head office is settled
- Unit cost and total cost extended by quantity for each invoiced item
- Number of parcels
- Parcel dimensions for shipments
- Weight - gross & net
- Cubic feet of all parcels in shipment
- Catalogue number
- Quantity of each commodity by item line:
 - o Each commodity physically included in the shipment should be described on the invoice as an item line, including "no charge" items (for example warranted spare parts or replacements or gifts). In this case, the item value for customs purpose should be the reasonable value
- Unit of measure
- Detailed description
- Total invoice value:
 - o It should include any additional charges such as packing, customs clearance, freight, and insurance per 2010 incoterm, any rebates, commissions, royalties, etc. If discounts have been provided, they should be detailed and justified
- Currency

5.3. Dangerous Goods

All dangerous / hazardous goods (as identified in any transport regulation) must be accompanied with:

- Their Master Safety Data Sheet (MSDS), in the languages of:



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- the country of origin AND
 - the country of the destination of the Project (destination) AND
 - English,
- Their Dangerous Goods Declaration (DGD) on the Multimodal Form.

The whole set of such documents must be attached to the Delivery Note.

Note: usual dangerous goods in our business (non-exhaustive list): Glues, Paints, Greases, Oils, Resins, Varnishes, Gas bottle (SF6)...

5.4. Carrier

All vehicles used or contracted for carrying out the components/parts, must comply with all applicable laws, and EHS Requirements to traffic, vehicle loading and unloading, parking. Any vehicle that is not in possession of current valid documentation and certificates shall be immediately removed from circulation.

All persons driving shall obey all traffic regulations and signs. They must be subject to formal competence checks by the Supplier to ensure the necessary training, experience, and qualification prior to placement, and carry a valid driver's license for any vehicles they operate.

5.5. Load Securement - constraints

All transport and loading/unloading operations are based on the United States Department of Transportation (DOT), Federal Motor Carrier Safety Administration (FMCSA), Rules for Cargo Securement. CFR Parts 393.100, 393.102, 393.104, 393.106, 393.108, 393.110, 393.110, 393.112, 393.114, and 393.130

<http://www.fmcsa.dot.gov/regulations/cargo-securement/cargo-securement-rules>

And/Or:

EN 12195-1:2010 (E) as the European equivalent for establishing minimum acceptable constraints of cargo to the transport vehicle.

If local requirements are more stringent, then the more stringent local code would apply. If local codes are less stringent, then this document's requirements take precedent over the local code.

A securement (lashing) plan must be issued with a calculation note, checked, and submitted for authorization by a competent authorized person prior to any lashing operation and formally communicated to all persons undertaking the work included the truck driver.

6. SUPPLIER MONITORING & CONTINUAL IMPROVEMENT

6.1. Supplier Monitoring & Continual Improvement - Minimum Mandatory Requirement

The Supplier Monitoring & Continual Improvement process is performed after the Order Execution and allow GE Hydro to realign Supplier strategy on demonstrated performances.

Monitoring & CI vs. criticality level	A	B	C	G	L	S
Performances Evaluation	YES	YES*	YES*	NO	NO	YES*

* GE Hydro will assess the risk to require or not.

Note: Only those suppliers need to be considered for score cards who has delivered products in last year (year of performance evaluation)

Note: Region can decided the spend threshold in the requirement of score cards i.e. region can define that score cards should only be done above some spend threshold only.

6.2. GE Supplier Performances Monitoring



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	Classification	Overall Rating	Total Score
GREEN	Green (G)	High Performance	85 - 100%
YELLOW	Yellow (Y)	Medium Performance	65 - 84%
RED	Red (R)	Low Performance	50 - 64%
BLACK	Black (B)	Unacceptable Performance	< 49%

The Supplier's performance is rated because of regular measurements and supported by evidence of specific criteria: Cooperation / Service, Quality Performance, Delivery Performance, Cost Performance, Business Continuity. During the order execution phase Supplier performance is monitored by GE.

The result of this performance monitoring is summarized in a scorecard and communicated to the Supplier on yearly bases. The Supplier shall be classified and ranked as reported on table.

New Purchase Orders shall no longer be placed to the Supplier whose performance rating falls under Unacceptable Performance. For Suppliers with Low and Unacceptable Performance levels, an Action Plan shall be requested to the Supplier, supplier must need to submit the development plan based on the performance evaluation feedbacks.

6.3. Supplier Internal Performances Monitoring

For quality performance, the Supplier shall develop production process performance metrics that monitor (but are not limited to) the following:

- Process Yield Rates (% Scrap, % Rework)
- Product First Pass Yield (%)
- Customer complaints
- Escaping defects

For delivery performance, the Supplier shall take appropriate Corrective Action when 100% delivery performance is not, or will not be, achieved.

6.4. Subcontractor/Sub-Supplier Monitoring

The Supplier shall monitor Subcontractor/Sub-Supplier performance using the following indicators:

- Delivered product quality
- Customer disruptions/Customer returns
- Delivery schedule performance.

The Supplier shall maintain documentation supporting the mentioned performance monitoring activities. This documentation shall be made available to GE for review upon request.

Note: for sub-suppliers monitoring refer also to item 2.3. Management of sub tier Supplier

6.5. Improvement Suggestion (IS)

The Supplier shall have opportunities to propose Improvement Suggestion (IS). IS are how Suppliers suggest improvements to reduce cost and/or delay by modifying drawing and/or specifications. Quality Assurance Strategy with a proactive approach from Suppliers.

This improvement suggestions can be shared by the suppliers at the time of technical review meetings and other stages.

6.6. Supplier Development

Supplier development is defined as "the process of working with certain Suppliers on a one-to-one basis to improve their performance and expand capabilities for the benefit of the buying organization." Supplier development can come in many different forms, from informal initiatives to a formally structured program.

Supplier development affords corporations an opportunity to bring together teams of Suppliers to work in harmony for the benefit of the company, improving the bottom line in the long run. Additionally, these approaches can showcase the organization's commitment to the economic growth of local communities, while building the capacity of diverse businesses to serve the organization more effectively.



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If the Supplier performances required it, GE Hydro reserves the right to require the support of a third-party service designated by GE Hydro to conduct and support the deployment of a Supplier Development Program. The Supplier will be responsible for all costs directly to the third-party.

6.7. Disqualification

There are several instances where a Supplier's status as "qualified" may be changed. A Supplier can be disqualified for a specific item or process when they fail to consistently meet GE Hydro requirements.

- GE Hydro shall document the basis for disqualification.
- GE Hydro will communicate to impacted functions the decision to disqualify a Supplier for a specific component or service.
- GE Hydro may, in its discretion, decide to contain and dispose of non-compliant material, components, and services from a disqualified Supplier.
- Requalification of a previously disqualified Supplier shall be performed in accordance with General and additional qualification requirements sections of this procedure.
- GE Hydro shall ensure identified deficiencies that led to the Supplier's disqualification are corrected by such disqualified prior to requalification.

7. LANGUAGE, TRANSMITTAL CHANNEL & RETENTION

7.1. Language

All documentation shall be written both in the English language and in the contractual language indicated in the Purchase Order.

7.2. Communication & Tools

The supplier can have an overview of the GE tool they will have to use to collaborate with GE at the following Hydro Supplier Collaboration Portal:

<https://supplierportal.ren.apps.ge.com/hydro>

The screenshot shows the Hydro Supplier Collaboration Portal interface. At the top, there is a banner with the text: "At GE VERNOVA - Hydro, we recognize that our suppliers are critical partners, and play a vital role in the creation of our world-class Solutions. We are happy to provide all of our suppliers with tools and services to make you more efficient, knowledgeable, and above all, help to sustain a close, productive relationship with GE." Below the banner, there is a large image of a concrete dam with people walking on it. The main interface is divided into two main sections: "Before Order Placement" and "Order Execution".

Before Order Placement:

- Supplier Connect**: Self-management of business data. Buttons: "Invite only" and "Go to app".
- OSCAR**: Respond to requests for quotations. Buttons: "Invite only" and "Go to app".
- CORELLA**: Access up-to-date technical documentations. Buttons: "Invite only" and "Go to app".

Order Execution:

- Quality Suite**: Supplier Deviation Requests (SDR) & Requests for Information (RFI). Buttons: "Registration" and "Go to app".
- MTA**: Manufacturing plans, packing lists & quality inspection. Buttons: "Invite only" and "Go to app".
- SAP Ariba**: PO acknowledgement/ updating & electronic invoicing. Buttons: "Invite only" and "Go to app".

Other Tools:

- NEO**: Recording of forecasted delivery dates for simple POs via email. Buttons: "Invite only" and "No link".
- GE Supplier Support**: Check invoice payment status. Buttons: "Free access" and "Go to app".



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Note: Picture above is just for reference, for latest view please refer supplier portal (<https://supplierportal.ren.apps.ge.com/hydro>)

Supplier can get all the documents referred in this manual at <https://supplierportal.ren.apps.ge.com/ge-confidential-documents> , check under heading "Hydro Documents"

7.3. GE Policy for Specification Transmittal to Supplier

It is incumbent upon the Supplier to review with the Sourcing Representative and/or SQE the appropriate document retrieval methods that may be specific to their business. It is also the responsibility of the Supplier to review specification revisions with the Sourcing Representative and/or SQE on a continuous basis to ensure that the correct revisions are being worked to. When Suppliers receive a new purchase order, it is the Supplier's responsibility to verify they have the latest revision of the specification set out on the drawings and purchase order.

Unless otherwise notified by GE Hydro, Suppliers are required to implement specification revisions on all existing and future purchase orders except where parts have already entered the manufacturing process. Any exceptions to this policy must be negotiated between the GE sourcing representative and the Supplier.

7.4. Record retention

The Supplier shall have a written procedure for the documentation and retention of quality and product records for products supplied to GE Hydro. The record retention period shall be a minimum of ten (10) years unless otherwise specified by GE Hydro. Records shall include, but are not limited to, product quality or inspection and test plans and results, material specifications, qualification documentation and certificates of conformance. Specific component record requirements may be specified in GE Hydro purchase orders, contracts, or specification. It is the responsibility of the Supplier to determine the appropriate storage means to meet the retention requirement and allow for timely retrieval of records.

8. FINAL TERM

Modifications and/or additions to this GE Hydro Supplier Quality Requirement Manual must be made in writing. If any provision of this manual is invalid under the law of any jurisdiction, the remaining provisions are enforceable in that jurisdiction to the extent that they are not invalid, whether they are in severable terms or not. In this case, the partners to the agreement shall agree on a valid term which is as close as possible to the economic purpose of the invalid term. This manual shall in all respects be governed by and interpreted in accordance with the substantive law of the State of New York, U.S., excluding its conflicts of law provisions.

Note: All documents mentioned in this document



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9. DEFINITION & GLOSSARY

- 5W: Who, What, When, Where, Why
- 8D - 8 Disciplines: An Eight Step Problem Solving Method and Report is a method used to approach and to resolve problems. It consists of eight phases:
 1. Define the team
 2. Describe the problem
 3. Implement and verify interim (containment) actions
 4. Define and verify root causes
 5. Define and verify corrective actions
 6. Implement Permanent Corrective Actions
 7. Prevent recurrence
 8. Recognize the team and share lessons learnt
- Audit: A planned and documented activity performed to obtain and evaluate objective evidence, to determine the extent to which audit criteria are fulfilled.
- CC: Component Conformance
- C&C: Construction & Commissioning
- COF: Cost of Failure
- CoQ: Cost of Quality
- Conformance Certificate: Document that certifies that before shipment the supplied good meets the required specifications and complies with the regulation
- Containment: Actions taken to minimize the risk to GE Hydro or its customers associated with a nonconformance. Containment actions can be focused on the product in which the nonconformance was detected as well as focused on related products or product families in which the nonconformance may occur.
- CI - Continual Improvement: Continual improvement includes continuous improvement, as well as discontinuous/innovative improvement (such as break-through projects introducing more major change). It is a recurring activity to increase the ability to fulfil requirements.
- CP - Control Plan: A Control Plan is a written description of the manufacturing system for controlling parts and processes. A single Control Plan may apply to a group or family of products that are produced by the same process at the same source. The Control Plan describes the actions that are required at each phase of the manufacturing process with the objective of ensuring that all process outputs are under control. The Control Plan provides the process monitoring and control methods that will be used to control characteristics.
- Control Instruction: Work instructions for dimensional measurement & Non-Destructive Tests
- Correction: Action to eliminate a detected nonconformance, defect, or another undesirable situation.
- Corrective Action: Action taken to eliminate the cause(s) of an existing nonconformance, defect, or other undesirable situation to prevent recurrence.
- CTQ - Critical to Quality: The term CTQ refers to the measurable product, service and/or transactional characteristics that significantly influence one or more CTS in terms of Quality. CTQs, once identified, can be broken down and cascaded to various levels of the product breakdown structure.
- Data book: As built quality data book that compiles all Certificates and Quality Record (Document that justifies conformity of the control)
- DUNS or D-U-N-S - Data Universal Numbering System: is a proprietary system developed and regulated by Dun & Bradstreet (D&B) that assigns a unique numeric identifier, referred to as a "DUNS number" to a single business entity. It was introduced in 1963 to support D&B's credit reporting practice.
- EMEA: Europe Middle East Africa
- Escaping Defect: all non-conformities detected after dispatch from supplier
- FAT: Final Acceptance Test
- FoE: Feed Back of Experience
- FMEA: Failure Modes and Effects Analysis: An analytical method of preventive quality assurance. Used to identify and evaluate potential risks (or defects) and initiate suitable actions to minimize those risks. Types of FMEAs include:
 - "Design FMEA"
 - "Process FMEA"
- FPQ - First Piece Qualification.
- Gage R&R - Repeatability and Reproducibility: a statistical tool used to measure the amount of variation in the measurement system arising from the measurement device and the people taking the measurement.
- GE2GE: Internal trade between GE businesses



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- Inspection Witness Point (WP): The Manufacturer shall notify GE Hydro 7 calendar days before the inspection witness point is reached. The Manufacturer can continue the production of the product without GE Renewable Energy - Hydro's approval. The inspection witness points are planned per the MPP-CP in every step of the process to prevent issues prior the manufacturing phase.
- Inspection Hold Point (HP): The Manufacturer shall notify GE Hydro 15 calendar days the inspection hold point is reached. The Manufacturer is not allowed to continue the production of the product without GE Renewable Energy - Hydro's approval. The inspection hold points are planned per the MPP-CP in every step of the process to detect problems prior the manufacturing phase
- IS - Improvement Suggestion: are how Suppliers suggest improvements to quality, reduce cost and/or delay.
- ITO - Inquiry-to-Order Process: at GE Renewable Energy provides a standard and consistent process for developing commercial opportunities. GE Renewable Energy follows a risk review process to balance customer requirements with GE capabilities and the ability to manage any identified risk.
- ITP - Inspection and Test Plan (to customer) Inspection and Test Plan: Document that describes what, by who, when and how something is inspected or tested on-site or off-site.
- Late detection: all non-conformities detected after shipment from Supplier factory
- LTA: Latin America
- MPP - Manufacturing Process Plan: a detailed, systematic list of operations and requirements by which components or services are manufactured.
- MSA - Measurement System Analysis: is an experimental and mathematical method of determining how much the variation within the measurement process contributes to overall process variability. There are five parameters to investigate in an MSA: bias, linearity, stability, repeatability, and reproducibility
- MTA: Master Tracking Application
- NAM: North America
- NC: Non-conformity
- NCR - Non-Conformity Report: Record of non-conformity
- NDT - Non-Destructive Testing: Analysis techniques used to evaluate properties of material, component or system without causing damage. Typical methods would include ultrasonic, magnetic-particle, liquid penetrant, radiography, eddy-current testing, etc.
- NPI - New Product Introduction: process spans the entire product development cycle from the identification of a new business opportunity to the post commercial introduction of the new product.
- OTD - On-Time Delivery: Delivery of product or service within a specified window of time
- OTR - Order-to-Remittance Process: process covers the execution of a sales contract from the time that the order is initiated to the time that final payment is received.
- PO: Purchase Order
- Preventive Action: Action taken to eliminate the cause(s) of a potential non-conformance or undesirable potential situation to prevent occurrence.
- PQP - Product Quality Plan: A detailed, systematic list of operations and requirements in which a Supplier identifies a process of how, what, why, when and who will perform tests or inspections and the applicable acceptance criteria. This may also be referred to as an Inspection and Test Plan (I.T.P.).
- Purchaser: The GE Hydro business, or its business associate.
- QA - Quality Assurance
- QC - Quality Control
- QCD: Quality Cost Delivery Review done with the Supplier
- QDB: Quality Data Book
- QMS: Quality Management System: Collection of business processes focused on achieving a Quality policy and Quality objectives.
- Qualification Package: All required documentation for qualification.
- RCA - Root Cause Analysis: a method of problem solving that tries to identify the root causes of faults or problems. A root cause is a cause that once removed from the problem fault sequence prevents the final undesirable event from recurring.
- Request for Design Change: A document submitted by the Supplier to request GE Hydro Engineering's approval prior to implementing a change in design for the Supplier or its sub tier Supplier.
- RFQ: Request for Quotation
- Responsible Engineer: GE Hydro Engineering representative who is responsible for participating and approving within the qualification process, and/ or for reviewing all nonconforming issues for Engineering design approval, and coordinates disposition with the SQE for return response to the Supplier. For the purposes of this document the Responsible Engineer applies to the Design Engineer, Materials Engineer, Welding Engineer, Repair Engineer, or other Engineering representative assigned to the review of the nonconformance, document change or qualification. Any communication with the Responsible Engineer must be done with the knowledge of the SQE.
- Repair: Action performed on a product to rectify the nonconformance so that the product meets requirements for its intended purpose (meets functional or appearance requirements). Repair includes remedial action taken on a previously conforming product to restore it



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for use, for example as part of maintenance. Unlike rework, repair can affect or change parts of the nonconforming product. Repairs are not permitted without written approval from GE. See also "Replace", "Rework", "Scrap"

- Replace: Action performed to replace a product with a new product which meets all requirements. See also "Repair", "Rework", "Scrap"
- Rework: Action on a nonconforming product to make it conform to the requirements. Unlike rework, repair can affect or change parts of the nonconforming product. See also "Repair", "Replace", "Scrap"
- RPLM - Renewable Product Lifecycle Management: is the GE Renewable's tool where Part, BOM and Specifications (Drawing, 3D Model, and other technical specification) are managed. Its module called "SDX" is used to share documents with Suppliers.
- Scrap: A disposition for nonconforming product that is not useable for its intended purpose and that cannot be economically reworked or repaired in an acceptable manner.
- Scx: Supplier connect is supplier approval/onboarding tool.
- SDR - Supplier Deviation Request: A request initiated by the Supplier to deviate from purchase order technical requirements (drawings, specifications, engineering instructions, etc.) or the approved qualification package.
- SEQ - Supplier Eligibility Questionnaire: A Questionnaire covering basic questions about Suppliers and required for an initial evaluation of the Supplier.
- Sourcing Representative: GE Hydro representative who negotiates price, delivery, terms, and conditions, and places the purchase order for qualification and production. The Sourcing Representative is also the official contact between the Supplier and GE Renewable Energy - Hydro.
- Special Process: A process by which results cannot be fully verified through subsequent nondestructive inspection and testing of the product and where processing deficiencies may become apparent only after the product is in use. Additionally, processes that require operators of that process to be qualified and certified to be able to conduct the process and meet technical regulations and standards are considered special processes.
- SPC - Statistical Process Control: the application of statistical methods (usually control charts) to analyze and control the variation of a process.
- SRG: Supplier Responsibility Guidelines
- Supplier: Unless noted otherwise, refers to the corporation, company, partnership, sole proprietorship or individual with whom GE Hydro places a Purchase Order.
- Suppliers (External): Entities outside of GE Hydro who provide goods or services to GE Hydro
- Supplier (Internal): Any GE Hydro manufacturing facility
- SQE - Supplier Quality Engineer: GE Hydro representative who communicates the qualification and production quality requirements, and is the key interface with the Supplier relative to qualifications, process improvements, non-conforming material dispositions, corrective actions, and surveillance auditing. For the purposes of this document, the roles, and responsibilities of the SQE shall apply to the Product Quality Engineer (PQE), Quality Process Engineer (QPE) or other business equivalent Global Supply Chain Management (GSCM) representative.
- SQRM: Supplier Quality Requirement Manual
- TRS: Technical Regulations and Standards
- VBB: Vendor Bill Back
- Verification: Confirmation, through the provision of objective evidence, that specified requirements have been fulfilled.
 - T&C: Terms and conditions



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10.

Each region is responsible for the country/countries as show in below matrix:

COUNTRY NAME	RESPONSIBLE REGION	COUNTRY NAME	RESPONSIBLE REGION
Albania	HEU	Luxembourg	HEU
Angola	HNA	Madagascar	HEU
Argentina	HLA	Malaysia	HIN
Armenia	HEU	Mexico	HLA
Austria	HEU	Morocco	HEU
Bangladesh	HIN	Mozambique	HEU
Belgium	HEU	Netherlands	HEU
Bostwana	HEU	New Zealand	HIN
Brazil	HLE	Peru	HLA
Bulgaria	HEU	Poland	HEU
Canada	HNA	Portugal	HEU
Chile	HLA	Romania	HEU
China	HCN	Russia	HEU
Colombia	HLA	Slovenia	HEU
Croatia	HEU	South Africa	HIN
Czech Republic	HEU	South Korea	HCN
Denmark	HEU	Spain	HEU
Dominican Rep.	HEU	Sweden	HEU
Egypt	HEU	Switzerland	HEU
Fiji	HCN	Taiwan	HCN
Finland	HEU	Thailand	HIN
France	HEU	Tunisia	HEU
Germany	HEU	Turkey	HEU
Italy	HEU	Ukraine	HEU
Ivory coast	HEU	United Kingdom	HEU
Japan	HCN	United States	HNA
Kenya	HEU	Venezuela	HLA
Latvia	HEU	Vietnam	HCN
India	HIN	Zambia	HEU
Indonesia	HIN	Australia	HIN
Philippines	HIN	Bhutan & Nepal	HIN
Laos	HIN	Pakistan	HEU

11. APPENDIX

All templates & Forms are available on External Supplier site for Applications & Tools :
<https://www.gerenewableenergy.com/Suppliers.html>



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12. MODIFICATIONS

Rev. Index	Page (S) Chapter (K)	Description (or number of changes)	Date section / name
A	ALL (S)	Creation	16 th July 2013 / Chirag Trivedi & Alejandro Del Bosque
B	ALLS (S)	Use the new PPT format and document identification, add main new process base in SIPOC, and new code, leadership changes	17 th April 2014 / Alejandro Del Bosque
C	ALL (S)	Integration to GE, simplification and rationalization and synergy with Renewable Energy QMS, new criticality level, new structure with Compliance, Execution and Monitoring, new quality package guidelines with MPP/CP	1 st September 2017 / Bertrand Fraissard
D	ALL (S)	Integration of Hydro Code and Surveillance chapter, modification of Conformance Certificate and final term, and evolution of the Supplier monitoring chapter and glossary	25 th October 2017 / Bertrand Fraissard
E	ALL (S)	Review applicable document, Minimum Mandatory requirements updates, include Green Channel inspection, add MPP/CP flow, review Product Validation (JRS), review Non-Quality management matrix	25 th October 2018 / Bertrand Fraissard
F	ALL (S)	Added the Pre-shipment checklist Updated the mandatory information for Supplier Quality Certificates	17 th June 2020 / Riccardo Barigazzi
G	ALL (S)	Alignment of the document with existing practices and processes of Hydro business, acknowledgement by supplier now removed from the document, just need to share this document with supplier for reference and better alignment.	5 th Feb 2023/ Santosh Kumar Sing
H	ALL (S)	Clarity about service project provided under the section "supplier classification level" Class R removed from qualification, approval, and evaluation sections. For supplier order execution criteria for MPP for C class and criteria for TR/KOM for R class has been updated. Clarity on pre-PO SDR has been added in SDR section. Revision correction done on all the pages. Region and country responsibility matrix added. GECC qualification checklist note has been added in supplier qualification section. Hydro specific notes added in SRG section. Note added for GE T&C requirement.	12 Oct 2023/Santosh Kumar Singh