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**Supplier Requirements**

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# Introduction

This document describes the process by which a supplier of components, products, systems, and/or services can be qualified to supply ABB.

The process starts with the initial assessment of the supplier, which permits ABB to determine if a new supplier meets the minimum requirements established by ABB and can be added to the ABB Supplier List. The next step covers the assessment of the Supplier's process (manufacturing, designing, sub-contracting) which will be used to supply ABB with a specific component, system, or service. The assessment of the first delivery is performed next with approval of initial samples and deliveries.

This process is meant to be a cooperative effort between ABB and its supplier to ensure and maintain good quality and deliveries throughout the supply chain. This is achieved by ABB working with the supplier to develop and maintain a controlled process which addresses ABB requirements, and ensures minimal quality costs for both ABB and the supplier.

# Supplier Qualification Process

**Overview Diagram**



**Comments**

* There are three (3) important steps to the process, Supplier Assessment, Process Assessment, and First Delivery assessment.
* All Suppliers being assessed will go through the Supplier Assessment and First Delivery Assessment steps.
* Process Assessment is mandatory for deliverables identified as “critical” by the LBU.

## Supplier Assessment Required?

**Activity Description**

This is a decision point where we determine whether the new supplier needs to be assessed. Suppliers that have been exempted from the process will not be required to complete the qualification process.

**Actions**

* Determine if the supplier is a one time supplier with a purchase value of less than 100kUSD or an indirect material or indirect service supplier.if so, exit this process.
* If not, continue with this process.

## Supplier Self-Assessment

**Activity Description**

The supplier evaluates himself against the “ABB Supplier Requirements” document (9AKK102949) using the Supplier Assessment Questionnaire (9AKK102951) and submits the result with supporting documents to the requesting ABB unit.

Actions

* LBU requests a self-assessment from Supplier
* LBU provides Supplier with self assessment documents or directs supplier to download documents from abb.com/Supplying to ABB.
* Supplier reads “ABB Supplier Requirements (9AKK102949)”, ABB’s “Supplier Code of Conduct” and Sustainability Policy documents
* Supplier completes the Supplier Assessment Questionnaire (9AKK102951) and submits it, along with any supporting documents and comments, to the LBU
* LBU reviews the questionnaire and obtains necessary clarifications from the supplier if needed.
* LBU adjusts individual question scores based on their review and clarifications provided by supplier.

**Comments**

* Assessment Questionnaires and supporting evidence should be critically reviewed by LBU SCM and QO to reasonably judge the integrity of supplier responses.

## Site Visit Required?

**Activity Description**

This is a decision whether the information provided by supplier is sufficient or whether further investigation through a site visit is necessary.

**Actions**

* LBU SCM determines whether a site visit is required based on information provided by the supplier, the criticality of the deliverable and the sustainability categorization..

## On Site Assessment

**Activity Description**

LBU personnel visit the Supplier’s site to verify information provided by the supplier on the Assessment Questionnaire.

**Actions**

* Inform supplier and arrange the visit
* Inform supplier of the information to be reviewed.
* LBU assembles the team required to conduct the site visit. Include people who have knowledge of the items to be reviewed.
* Conduct site visit
* Revise Qualification Questionnaire based on results of the site visit

**Comments and Guidelines**

* This step is not to conduct an audit, but rather to clarify information provided by the supplier as part of the Self Assessment.

## Supplier Assessment is OK?

**Activity Description**

LBU SCM decides whether supplier is accepted or rejected based on the information gathered during the on site assessment.

**Actions**

* LBU SCM decides whether supplier can be added to the LBU Supplier list. Decision is based on Questionnaire results, proposed corrective actions, site visit (if conducted), and SRM results.
* Supplier is informed of decision
* Identified improvement actions are documented and followed up by LBU SCM
* Supplier Assessment Questionnaire and supporting documents are added to CafeSCM by LBU SCM.

**Comments and Guidelines**

**Supplier is Accepted:** Supplier score is above 80%: added to the LBU Supplier List. LBU SCM will encourage supplier to implement continuous improvement plans to increase their score year over year, and communicate to the LBU the results on a regular basis.

**Supplier is Under Development:** Supplier’s score is between 50% and80%: Supplier can be added to the LBU Supplier List provided that a continuous improvement plan is in place to reach 50% within one year.

**Supplier is Rejected:** Supplier’s score is under 50%: Supplier cannot be added to the LBU Supplier List.

* Rejected suppliers can work on improvement actions and request a new assessment once they believe they have complied with the ABB Supplier Requirements.

## Process Assessment Required?

**Activity Description**

LBU QO decides whether the Supplier’s process to deliver a specific part/system/service needs to be assessed.

**Actions**

* LBU Quality responsible in cooperation with the LBU SCM team, using information on the criticality of supply and supplier, determines the need for a Process Assessment.

**Comments and Guidelines**

* Assessment of deliverable criticality should include discussion with all relevant specialist disciplines.

## Process Assessment

**Activity Description**

Evaluate the supplier’s process to deliver a component/system/service.

**Actions**

* Request a Process Control Plan from Supplier for the deliverable.
* Ask the supplier to develop a Quality File (not required for catalogue items). Inform supplier of your intention to audit his process and arrange a time for the audit.
* Provide supplier with a copy of the Process Audit Questionnaire (9AKK102952) in preparation for the audit.
* LBU Quality responsible assembles a team of people to conduct the audit. Audit team should consist of people who have been trained in assessing Process Capabilities. In addition people who have an interest or can provide expertise related to the deliverable and the Supplier’s process.
* Prepare for the audit by gathering all information pertinent to the audit (current drawings and specifications, supplier performance data, non-conformances etc…)
* Conduct audit
* Determine overall rating of the supplier’s process and identify potential areas of improvement

**Comments and Guidelines**

* Process Control Plan (9AKK102950) is an essential tool to the execution of a Process audit. It will help the auditor to understand the supplier’s process and allow focus on the areas of control.
* Supplier may not have experience with developing a Process Control Plan and may require help and support.
* The success of the Process audit will depend on the quality of the auditors, their level of preparation, and the follow-up of corrective actions.

## Process Assessment is OK?

**Activity Description**

LBU Quality responsible advises LBU SCM head whether Supplier’s process is capable of delivering on-time and on-quality.

**Actions**

* Review audit results along with improvement actions
* Decide whether process is capable of meeting ABB’s stated requirements

**Comments and Guidelines**

**Supplier Process Accepted:** The score is above 80%: the supplier is authorized to deliver the sourced deliverable. The supplier is requested to implement an improvement plan on the areas for improvement.

**Supplier Process not Accepted - Corrective Actions Required:** The score is between 50% and 80%: the audited process is not accepted. The supplier is required to present his action plan to reach a score above 80% within 3 months maximum. LBU QO has to assess, whether additional inspection control during this timeframe is required.. LBU QO may perform a new audit to verify the improvement.

**Supplier Process not Accepted - Controlled Shipment Required:** The score is under 50%: the audited process is not approved and LBU QO will request additional controls from supplier (ie. End of line 100% inspection) . In addition LBU QO must implement necessary controls in LBU to ensure production quality.. The supplier is required to present his action plan to reach a score above 80% within 3 months maximum. A new audit must be performed before the Supplier's score can be adjusted.

**Supplier Process not Accepted - Supplier Rejected:** Based on assessment results supplier’s process is identified as a too weak to meet ABB’s requirements.

* In some cases the LBU may require the supplier to make a certain number of improvements before the final decision to approve or reject is made.
* Process assessment is location specific, if the same product or service could be supplied from another of the supplier’s locations, it needs to be evaluated on its own merit.
* If the supplier is delivering multiple parts or services from the same process, the process assessment can be approved for the group of deliverables.

## First Delivery Assessment

**Activity Description**

This part of the process is to verify that initial samples and first delivery runs are in compliance with all requirements.

**Actions**

* In cases where samples are required, LBU Quality responsible will provide the Supplier with sample requirements (number of samples, method of packaging, and identification, delivery date, etc…), verify samples according to drawings and requirements and approve samples.
* LBU Quality is responsible to ensure that the drawings provided are in line with the latest version of products produced, are in a language, the supplier can read (at least English), and contain international standard norms.
* LBU Quality responsible requests a First Delivery Plan from the Supplier which defines how the Supplier will monitor the first deliveries to avoid non-conforming parts being delivered to ABB.
* LBU Quality responsible defines the incoming inspection plan for these first deliveries.
* First deliveries are checked according to plans and any non-conformances are reported to the supplier, Supplier makes the necessary corrections or improvement and re-submits samples or deliveries.

**Comments and Guidelines**

* Care must be taken when defining the First Delivery inspection plan in order to validate the Supplier’s process capability.

## First Delivery Assessment is OK?

**Activity Description**

Decide if samples and first delivery are acceptable and determine if supplier/deliverable can be approved for regular deliveries.

**Actions**

* Review sample and delivery results
* Determine if Supplier/deliverable met requirements.

**Comments and Guidelines**

**Supplier/deliverable qualified:** Supplier deliverable meets requirements. Supplier is qualified for the regular delivery of this specific deliverable.

**Supplier/deliverable rejected:** Supplier deliverable does not meet requirements. Supplier should resubmit new deliverables for re-assessment.

* In some cases it may take a few iterations of samples and first deliveries before the final decision to approve or reject is made.
* LBU QO provides detailed feedback to the supplier about the non-compliance areas of the first deliveries.
* It is only at this point that the supplier is qualified for supply of a specific deliverable or set of deliverables.
* If the quality of the deliverables is fluctuating, a process Audit might be necessary.

# Key Focus Areas

As part of our overall commitment to our stakeholders, ABB needs to work with its suppliers in the areas of quality, environment, social responsibility, health and safety, and business ethics. Details on ABB’s policies on quality, business ethics, and Sustainability can be found our our website at [www.abb.com](http://www.abb.com). ABB expects its suppliers to have the same commitment to responsible business and therefore transfer these expectations to each of its sub-suppliers providing goods or services directly or indirectly to ABB. Our expectation is that all members of ABB’s supply chain act in compliance with the ABB Supplier Code of Conduct.

## Quality Management

Suppliers must agree to introduce and maintain a quality management system according to ISO 9001:2008, or equivalent third party certification recognized by ABB, with the obligation to on-time and defect free delivery, and continuous improvement of their performance. Certified suppliers must send a copy of their quality system certifications to ABB. Suppliers who are not certified shall present to ABB their plan for management of Quality and may be subject to a Quality Management System audit by ABB.

## Environmental Management

ABB's environmental management principles also apply to its suppliers (link to [ABB Sustainability Policies](http://www.abb.com/sustainability)). As a general objective, ABB wants to do business with suppliers who have implemented environmental management systems complying with the requirements of ISO 14001. Suppliers not yet having implemented ISO 14001 must at least have implemented an environmental policy and ensured that all operations and processes comply with relevant standards, legislation and international conventions. Suppliers must have identified and documented the significant environmental aspects of their manufacturing or supply processes, covering their scope of supply to ABB. Suppliers must also have implemented processes to ensure continuous improvement of their environmental performance, and must adhere to ABB’s list of prohibited and restricted materials and substances when fulfilling their supply contracts.

## Social Responsibility

ABB's management principles for social responsibility also apply to its suppliers. Suppliers must ensure that all operations and processes comply with relevant standards, legislation and international conventions. A senior manager shall be responsible for ensuring that systems and procedures for social responsibility are in place.

### Human Rights

ABB requests the following business practices from Suppliers:

* To respect the personal dignity, privacy and rights of each individual
* to respect the personal dignity, privacy and rights of each individual;
* to refuse to employ or make anyone work against his or her will; and
* to prohibit behaviour including gestures, language and physical contact, that is sexual, coercive, threatening, abusive or exploitative behaviour.

### B. Fair Labor Conditions and Child Labor

The Supplier will ensure fair labor conditions. In particular, it will

* refrain from employment discrimination based on gender, color, ethnicity, religion, disability, union membership, political affiliation or sexual orientation and furthermore comply with all applicable laws on employment discrimination;
* respect the rights of employees to freely associate and bargain collectively;
* not use any forced or compulsory labour or involuntary prison labor and give all employees the choice to leave their employment freely upon reasonable notice;
* compensate employees fairly and follow local wage regulations and / or collective agreements and where these do not exist, compensate employees so they can at the least meet their basic needs; and
* recommends that working hours should not exceed sixty (60) hours per week including overtime, except for grave emergencies; employees should be allowed at least one (1) uninterrupted day off per week.

The Supplier will not tolerate or use child labor in any stage of its general activities other than in accordance with all applicable laws and regulations.

## Health and Safety Management

ABB's management principles for occupational health and safety also apply to its suppliers. Suppliers must provide and ensure a safe and healthy working environment for all of its employees. Suppliers should implement a health and safety policy and establish objectives to meet this policy. As a minimum, suppliers must ensure that their operations and processes comply with relevant standards and legislation. ABB prefers suppliers who have implemented OHSAS 18001 or equivalent systems for occupational health and safety management.

## E. Business Ethics

The Supplier will conduct its business in an ethical manner in accordance with all applicable rules and regulations. In particular, the Supplier will

* refrain from any and all forms of extortion and bribery;
* adhere to anti-trust and other competition laws, e.g. not participating in price fixing or bid-rigging;
* disclose to ABB available information about conflict of interest including disclosure any of financial interest of an ABB employee in any of the Supplier’s business.

The Supplier will protect all confidential information provided by ABB and its respective business partners.

# Quality File

Suppliers will create a Quality File to maintain all the relevant information related to the scope of supply. The quality file should include:

## Basic Documents

Minimum required documents to be contained in the Quality File.

* *Drawings and specifications* (The supplier must maintain the latest revisions of the ABB drawings and specifications as part of the quality file)
* *Purchase Order and Purchase order changes*

## Additional Documents

The quality file may also include additional documents based on the complexity and criticality of the scope of supply to ABB. As these documents are created, they should be added to the Quality File. Some of these documents are described below: (Product Design documents are only required if the Supplier has responsibility for the design of the Component Product).

* Products Design Development Plan: Suppliers shall document plans that identify the responsibility for each design and development activity, as well as a precise planning, which matches ABB project needs. The plans shall describe or reference the design and development activities and shall be updated immediately as the design evolves.
* Product Design Review: Design output shall be documented and expressed in terms of requirements, calculations, and analysis. The design review shall verify that all requirements have been met by the design output.
* Product Design Change: Suppliers shall establish and maintain procedures for the identification, documentation, and appropriate review and approval of all changes and modifications to a design. For ABB specific component, systems, or services, ABB must approve all changes prior to implementation.
* Approved Sub-Supplier List: Suppliers will establish the list of sub-suppliers that have been approved using their own internal supplier qualification process.
* Sub-Supplier Initial Sample Approval: Suppliers will maintain approved samples of key components, products, or systems manufactured by their sub-suppliers, which will be used in the supply of the ABB component, system, or service in question. Initial Samples reports shall be kept by the supplier at ABB's disposal.
* Process Control Plan: Suppliers shall map out the process to be used to supply the component, system, or service to ABB. For each step in this process (or component used in that step), the plan should include: component/process step number, operation description, production equipment, characteristics to be controlled, methodology for measurement including tolerances, measurement equipment, size and frequency of measurement sample, corrective action procedure. You may use the ABB Control Plan 9AKK102950 available on [www.abb.com/Supplying to ABB](http://www.abb.com/global/abbzh/abbzh251.nsf!OpenDatabase&db=/global/seitp/seitp161.nsf&v=17EBE&e=us&m=100E&c=99AE918F4CD72613C12569AE0058189B) or an equivalent document, as long as it includes all elements listed above.
* Gauge Capability Study: Suppliers shall control, calibrate, and maintain inspection, measuring, and test equipment, whether owned by the Supplier, on loan, or provided by ABB, to demonstrate the conformance of the product to the specified requirements. Equipment shall be used in a manner, which ensures that the measurement capability is known and is consistent with the required measurement capability.
* Process/Product Capability Study: Suppliers will determine if they are capable of meeting the material, component, system, or service requirements as provided in the ABB contract and that the proposed process for creating the component, system, or service is capable of meeting all requirements.
* Preventive Maintenance Plan: Suppliers will keep their preventive maintenance plan for all equipment involved in the creation of the component, system, or service in question, at ABB’s disposal.
* Process Failure Mode Effects Analysis: Suppliers will utilize the FMEA tool to analyse the process used to fulfil the scope of supply and determine potential failure modes. These failure modes will be reviewed for adequate controls and modifications to the Process Control Plan may be necessary as a result of the analysis.

# Modification/Improvement Process

Any change to the original product or process design must be approved by ABB prior to implementation. A Request for Change needs to be submitted to ABB and approved prior to implementing the change. The supplier shall keep records of all requests and corresponding ABB approvals.

For all modifications/improvements submitted, ABB will determine whether a new First Delivery Plan is necessary.

In particular, an Initial Sample submission will be requested in the following cases:

* New product
* New tooling
* Change in supplier's manufacturing unit

# Revision Control

Rev A – Revised process flow to improve universal application to all types of suppliers, revised Sustainability requirements for consistency, clarified Quality File document requirements. PB 15/01/2007

Rev B – Reworded document to clarify requirements. LL23/12/2008

Rev C – Updated to reflect requirements of GIQO\_0102 Supplier Qualification Process and to incorporate elements from ABB Supplier Code of Conduct. PB 20.07/2011