Revision	Release Date	Effective Date	Concise Description of Changes
1	2011-12-01	2011-12-01	Initial Release
2	2018-07-02	2018-08-14	A) Divide the previous **Quality Expectations** into 3 sections: 1. Supplier On-boarding Process; 2. Product On-boarding Process; 3. Supplier Monitoring & Continuous Improvement B) Add the <**Procure to Pay**> Section

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Master files are stored electronically. Electronic copies are valid without signature. Printed copies are for reference only. Printed copies are uncontrolled documents. Because changes to a controlled document can occur at any time, always access and view the document currently released and published in the Document Management System	

PURPOSE

The purpose of the Global Supplier Standards Manual (the “Manual”) is to communicate Johnson Controls requirements to suppliers providing materials, products and/or services (individually and collectively, “Products”) to Johnson Controls in support of our Building Technology & Solutions (BT&S) Division and Enterprise Corporate functions. It is the expectation of Johnson Controls that all suppliers of Direct Material, Field Material & Service, and Indirect Material & Service comply with all the requirements and expectations documented in this Manual.

This Manual provides the foundation for our working relationship with our Suppliers. We strive for excellence through continuous improvement in the Products we receive and through close working relationships with our suppliers.

SCOPE

This Manual applies globally to all Johnson Controls Building Technology & Solutions (BT&S) Manufacturing and Parts Distributions locations that are involved in the purchase of Products and services for use internally or resale.

STANDARD PRACTICES

The Global Supplier Standards Manual was developed to present a minimum set of requirements to current and potential suppliers.

The manual is divided into nine specific areas:

1. General Expectations
2. Global Terms & Conditions
3. Social & Environmental Responsibility
4. Supplier On-boarding Process
5. Product On-boarding Process
6. Supplier Monitoring & Continuous Improvement
7. Delivery Standards, Including Materials and Supply Chain Management
8. Procure to Pay
9. Supplier Scorecard

Table of Contents

GLOBAL SUPPLIER PERFORMANCE STANDARDS

1 GENERAL EXPECTATIONS

1.1 Management Standards

Johnson Controls expects our suppliers to demonstrate their commitment to quality and the environment. Key to this commitment is the implementation of appropriate quality, environmental, occupational health and safety management standards.

The following table indicates Johnson Controls minimum expectations, or equivalent, as approved by Johnson Controls Procurement. Additional requirements to conduct business with Johnson Controls can be found within this manual. Contact your local Johnson Controls representative for requirement / expectations.

	Quality System Registration/Compliance	Environmental Management Registration/Compliance	Safety & Health Management Registration/Compliance
Direct Material Suppliers	ISO 9001:2015	ISO14001:2015	OHSAS 18001:2007
Indirect Material Suppliers - General	ISO 9001:2015	ISO14001:2015	OHSAS 18001:2007

1.2 Supplier Development

Johnson Controls will collaborate with our suppliers to establish development plans to ensure compliance and continuous improvement with respect to the requirements established in this manual. The methods for executing the supplier development activities are established by each business and region as appropriate. Please use the links contained in the manual to access the particular business and/or region requirements.

2 GLOBAL TERMS AND CONDITIONS

2.1 Access to Global Terms and Conditions

Terms and Conditions may be reviewed by accessing:

- http://www.johnsoncontrols.com/betandc

If a supplier is unable to locate these documents, please contact your Johnson Controls Supply Chain Contact.

3 SOCIAL AND ENVIRONMENTAL RESPONSIBILITY

3.1 Responsibilities

The senior manager for each business and location that procures materials and services is ultimately responsible for implementing appropriate processes and systems to ensure their suppliers comply with the Johnson Controls Ethics Policy or equivalent policy. Procurement personnel will oversee suppliers to ensure compliance. Personnel from other functional areas (e.g., Quality, Environmental, and Safety) will support Procurement as requested to assess supplier compliance.

Johnson Controls' Standards of Responsibility recognizes the health and safety of our employees, as well as that of our suppliers throughout the world is of utmost importance. Our work processes and policies are designed to minimize risk. We all must routinely review and improve workplace conditions to ensure a safe and healthful workplace and must report unsafe working conditions anywhere in the world to supervisors and management.

We respect the needs and concerns of the communities in which we live and work. This is exemplified in the company's long tradition of caring about the quality of the environment. Our products, services, and manufacturing methods reflect this concern and our belief that what is good for the environment is good for Johnson Controls. In the same respect we are committed to provide a workplace that is free of harassment or any other behavior that diminishes a person's integrity and self-esteem. Neither physical nor mental harassment, nor abuse will be tolerated. Additional information related to Johnson Control's commitment to sustainability may be found at:

http://www.johnsoncontrols.com/corporate-sustainability/environment

3.2 General Expectations

Johnson Controls expects its suppliers to conduct their operations in a socially and environmentally responsible manner. The goal is to work collaboratively with suppliers to encourage the following:

- Compliance with applicable laws and regulations.
- Integration of environmental, occupational health and safety, and human rights and labor policies into the decision-making process based on a sound management system.
- Clear, accurate and appropriate reporting to Johnson Controls upon request.

3.3 Labor Requirements

Suppliers should treat workers with dignity and:

- Prohibit the use of forced, bonded, indentured or involuntary prison labor.
- Allow workers to leave employment upon reasonable notice and not require workers to hand over government-issued identification; passports or work permits as a condition of employment.
- Employ workers who are at least 16 years old. Youth (between 16 to 18 years) should enjoy all the benefits of a nurturing workplace such as training and development programs. Workers under the age of 18 should not perform hazardous work and may be restricted from night work with consideration given to educational needs.
- Set work hours to comply with local law. Limit a workweek to 60 hours or less, including overtime, except in emergency or unusual situations.
- Comply with applicable wage laws, including those relating to minimum wages, overtime hours and legally mandated benefits. Employees receive at least the minimum wage required by law or the prevailing industry wages whichever is higher. Workers receive full details regarding deductions for taxes, benefits, etc. Wages are not deducted for disciplinary purposes and are paid in cash, check form or by direct deposit.
- Maintain workplaces free of physical or mental harassment, abuse, or any other behavior that diminishes a person's integrity and self-esteem. This includes harsh and inhumane treatment, including any sexual harassment, sexual abuse, corporal punishment, mental or physical coercion, verbal abuse of workers.
- Maintain workplaces free of unlawful discrimination and harassment in all of its forms, including that related to color, race, gender, sexual preference, age, pregnancy, caste, disability, union membership, ethnicity, and religious beliefs. This applies to hiring, salary, benefits, advancement, discipline, termination, and retirement.
- Respect voluntary freedom of association, including the right to organize and bargain collectively in a manner that is legally compliant. Workers' representatives are not subject to discrimination and have access to workplaces necessary to carry out their respective functions. Where worker representation and collective bargaining are restricted by law, efforts should be made to facilitate open communication and direct engagement between workers and management as alternative ways of ensuring that workers' rights, needs and views are considered and acted upon appropriately and in good faith.

3.4 Health and Safety

Suppliers should practice the following:

- Control worker exposure to potential safety hazards (e.g., electrical and other energy sources, fire, heat, vehicles, and fall hazards) through proper design, engineering and administrative controls, preventive maintenance and safe work procedures (including lockout/ tag-out). Where hazards cannot be adequately controlled by these means, provide workers at no cost as appropriate the proper personal protective equipment and ensure proper maintenance of the equipment. Workers are not disciplined for raising safety concerns.
- Maintain appropriate emergency plans and response procedures, including: emergency reporting, employee notification and evacuation procedures, worker training and drills, appropriate fire detection and suppression equipment, adequate exit facilities and recovery plans.

- Manage, track and report occupational injuries and illnesses, including provisions to: a) encourage worker reporting; b) classify and record injury and illness cases; c) provide necessary medical treatment; d) investigate and implement corrective actions to eliminate their causes; and d) facilitate return of workers to work.
- Identify, evaluate and control worker exposure to chemical, biological, radiological and physical agents as well as physically demanding tasks. Provide appropriate personal protective equipment, when hazards cannot be otherwise controlled.
- Provide and properly maintain machine safeguards, interlocks and barriers.
- Provide clean toilet facilities, access to potable water and sanitary food preparation and storage facilities. Worker dormitories provided by the vendor or a labor agent are to be clean, safe, and provide emergency egress, adequate ventilation and reasonable personal space.

3.5 Environmental

Adverse effects on the community, environment and natural resources are to be minimized while safeguarding the health and safety of the public as well as ensure the following:

- Obtain, keep current and follow required environmental permits (e.g. discharge monitoring) and registrations.
- Implement programs to conserve water and energy and reduce waste.
- Identify and manage the materials posing a hazard if released to the environment are to ensure safe handling, movement, storage, recycling or reuse and disposal.
- Monitor, treat and control air emissions, wastewater and waste as required prior to discharge or disposal.
- Adhere to applicable laws and contract requirements regarding prohibition or restriction of specific substances, materials and waste.

3.6 Sustainability

Suppliers should recognize, believe in, and practice the principles of a sustainable business woven into the fabric of how they will conduct themselves. Elements which suppliers will consider include:

- Supporting the Global Reporting Initiative (https://www.globalreporting.org/Pages/default.aspx), including development of a Sustainability Report in alignment with GRI reporting guidelines.
- Our commitment to sustainability includes being a leader in promoting diversity in the supplier base. Johnson Controls recognizes the benefits of purchasing goods and services from Minority / Women Business enterprises certified as a Minority Business Enterprise by the National Minority Supplier Development Council (NMSDC – http://www.nmsdc.org/) or as a Woman Owned Business Enterprise by the WBENC Women Business Enterprise Council (WBENC - http://www.wbenc.org/), or as a Veteran Owned Business by the National Veteran Business Development Council (NVBDC - http://nvbdc.org/). Partnering with organizations like NMSDC, our customers and innovative diverse suppliers is not only good business; it's a smart approach to advancing our global competitiveness in an increasingly diverse marketplace of new ideas. Additional information regarding our Supplier Diversity Business Development initiatives can be found at http://www.johnsoncontrols.com/suppliers/supplier-diversity
- Taking voluntary initiatives to reduce environmental impacts. These include efforts to improve energy efficiency, control greenhouse gas emissions, recycle materials, curtail or phase out use of toxic substances, minimize waste, conduct life-cycle assessments of products, and promote "greening of the supply chain."
- Supporting safe, healthful workplaces and communities, hiring and promoting employees without discrimination, paying competitive wages and benefits, and being responsible citizens in communities where the parties operate.
- Ensuring that human trafficking and forced labor are not used and that risks of worker exploitation are mitigated.
- Participating in the Carbon Disclosure Project https://www.cdp.net/en reporting requirements as requested by Johnson Controls.

- Johnson Controls has released an on-line supplier sustainability rating. The on-line survey allows suppliers to complete the questionnaire at their convenience. The questionnaire contains questions related to human rights, working conditions employee safety and energy management. The sustainability rating will be a method for measuring sustainability activity and compliance with our supply base. Suppliers are required to participate in our on-line survey at http://www.johnsoncontrols.com/suppliers/sustainability/supplier-sustainability-rating
- The Suppliers Financial, Environmental, Health & Safety programs can be reviewed via PPAP/PAPSO onsite visits or through self-assessment using the Direct Material Supplier Operational Assessment Survey or the Indirect Material Supplier Assessment Survey.

3.7 Management Systems

Suppliers should adopt a management system compliant with and registered to ISO 9001:2015 and/or ISO/TS 16949:2016, ISO 14001:2015, OHSAS 18001:2007 or equivalent, as approved by Procurement, that promotes continuous improvement and compliance with applicable laws, regulations, and contract requirements.

3.8 Ethics

Johnson Controls Ethics Policy provides guidance to help suppliers meet the environmental and social obligations. The Johnson Controls Ethics Policy may be viewed at:

www.johnsoncontrols.com/ethics

Suppliers are expected to uphold the highest ethical standards to include:

- Prohibit corruption, extortion and embezzlement, bribery, or other means of obtaining undue or improper advantage and to ensure fair business, advertising and competition.
- Properly disclose and protect business information, customer information, and intellectual property rights in accordance with applicable requirements and prevailing industry practices.
- Protect supplier and employee whistleblower confidentiality.

3.9 Implementation

Basic Principles – Johnson Controls will encourage improvement when appropriate. However, termination of a contract will be considered when the supplier fails to comply with the spirit and intent of our Ethics Policy, has significant social and environmental performance issues that cannot be resolved in a timely or cooperative manner, or could result in significant repercussions for Johnson Controls or our customers.

Supplier Selection Criteria – In addition to cost and quality, social and environmental performance will be used to select and retain suppliers. Acceptance of a Purchase Order means the supplier agrees to abide by the Ethics Policy or equivalent. No Purchase Orders will be awarded to suppliers that refuse to abide by the Ethics Policy or equivalent within a reasonable amount of time; or have significant environmental or social performance issues that cannot be resolved in a timely manner.

Validation of Supplier Performance – Procurement personnel may require validation of the supplier's performance. This may include background checks, site visits, third party audits/data, and internal discussions with personnel from other internal (i.e., environmental, safety, human resources and quality) and external organizations (i.e., industry peers, regulatory agencies, investment analysts, and non-government organizations.)

Each business group will establish criteria for auditing key suppliers, especially those posing the greatest risks to Johnson Controls and its customers (i.e., raw material extraction, chemical processing, manufacturing associated with high labor demands, etc.). Audit results should be tracked to ensure corrective actions are implemented and shared across the business.

3.10 Records and Logs

Suppliers are expected to maintain audit results, records, and performance measures to share with Johnson Controls as appropriate.

3.11 References

Universal Declaration of Human Rights (UDHR), Social Accountability International (SAI) and the Ethical Trading Initiative (ETI), OHSAS 18001 and International Labor Organization (ILO) Guidelines.

4 SUPPLIER ON-BOARDING PROCESS

4.1 Principles

Supplier On-Boarding is a necessary step to be able to be selected as an approved supplier for the supply of materials, products, services and/or components to Johnson Controls. Johnson Controls will perform various validation and assessment steps to confirm supplier capability to meet Johnson Control requirements.

- All suppliers are required to provide full access to on-site inspection, as well as access to all records that demonstrate compliance or non-compliance to Johnson Control's requirements and/or specifications, at a minimum, detailed within this manual. For qualification, Johnson Controls expects its supplier's agreement and conformance with the Principles defined within this manual.

4.2 Supplier On-Boarding

Prior to, and during the initial stages of Supplier On-Boarding, Johnson Controls has integrated strategic planning and development tools to help with risk mitigation and progressively making sound business decisions from a structured, team approach. The following processes and tools outlined within this manual provide a high-level view of these activities that will take place and will assist suppliers to better comprehend the approach followed by Johnson Controls.

- Johnson Controls assesses the capabilities of its suppliers to verify that they exercise a suitable level of systems and process controls to ensure that product supplied is produced to stated requirements. To standardize the evaluation across all our suppliers, a set of scoring and criteria's have been established whereby the methods of control can be measured.
- The Supplier Operational Assessment (SOA) and Indirect Supplier Assessment (ISA) workbooks are evaluation documents that have been constructed in the form of a questionnaire and checklist for you to consider the relevant areas of your systems and report as candidly as possible on their status i.e. details and scores must represent current state, the effectiveness and degree of implementation and be assessed based on definitions provided.
- The results of these evaluations will be used as part of the ongoing partnership between Johnson Controls and its suppliers and will form a platform to identify areas where improvement may benefit all parties.
- A Johnson Controls representative will ensure that the Supplier receives an electronic copy of the appropriate assessment workbook, when applicable, where the RFI and Self-Assessment are used to collect supplier information to aid in evaluating, but not limited to, the following:
    - Facility location and capacity
    - Manufacturing processes
    - Technical capabilities
    - Business practices
    - Quality System Management
    - Quality System Evaluation
    - Industry Experience
    - Risk Indication
    - Product Evaluation
- Suppliers are assessed using a variety of tools and evaluation techniques prior to initial approval. The assessment process supports four events outlined below. Any one or more of the following methods may be used for and/or during the Supplier evaluation process:
    1. Request For Information (RFI)
    2. Self-Assessment

3. Operational Assessment (at Supplier location, if applicable)
4. Corrective/Preventive Action Verification

4.2.1 Request for Information (RFI)

The RFI comprises the information to establish a Supplier profile (part of the Supplier Operational Assessment (SOA) workbook). This has been developed to assist Johnson Controls to make a preliminary evaluation of a potential Supplier against Johnson Controls requirements and/or specifications. New Suppliers must complete and submit the RFI (short and long form within the SOA) and if requested by Johnson Controls, complete the Self-Assessment portion of the SOA outlined in the next sections.

- The RFI tab is the initial phase of supplier evaluation and on-boarding. It allows Johnson Controls and its cross-functional team to better assess the suppliers' capabilities. The potential to gain further business based on the data and information provided is also assessed. The instructions at the top of the RFI sheet defines the next steps. Questions concerning the RFI, requests and/or instructions should be communicated through your Johnson Controls representative that submitted the RFI to your company.
- Once the RFI is completed and submitted to the Johnson Controls requestor, Johnson Controls will determine if the Self-Assessment and/or if an Operational Assessment (SOA) is necessary.

4.2.2 Self-Assessment

The supplier's assessment of their Quality Management System, Leadership, Engineering, specific commodity/process if applicable etc., utilize this portion of the workbook in preparation for the Johnson Controls Operational Assessment (SOA).

- The Self-Assessment is typically done after the RFI has been completed by the supplier. In most, if not all cases, existing Johnson Controls suppliers that have already completed an RFI in the past, will not have to complete the RFI section. This requirement will be communicated by a Johnson Controls representative when the workbook is sent to the Supplier.
- The completed evaluation must be returned electronically to the appropriate Johnson Controls requestor within the agreed upon time of receipt. Ensure that all relevant/requested sections of the SOA workbook have been completed and all inquiries have been clarified prior to its return.
- Once the Self-Assessment has been returned and reviewed by Johnson Controls cross-functional team members, the following activities may take place:

4.2.3 Supplier Operational Assessment (SOA)

The SOA may be conducted by a member of the Global Supplier Quality Engineering department or their designee prior to the award of production orders and/or being placed on Johnson Controls Preferred Supplier List (PSL).

- The SOA process follows and asks the same set of questions as the Self-Assessment outlined within the SOA file. Once the SOA is completed, there may be a follow up visit scheduled to validate and close out the actions identified during the initial SOA.
- During the SOA, the Johnson Controls representative(s) will review each section by evaluating and validating, but not limited to, supporting/relative documentation, manuals, production operations, interviewing direct and indirect personal and issuing action requests should the minimum requirements not be met.
- All findings will be discussed during the assessment and/or closing meeting with the supplier. Actions, due dates and person/department responsible will be assigned during the closing meeting and/or after the completed assessment has been submitted to the supplier.

4.2.4 Verification of Supplier Actions

Johnson Controls reviews the evidence provided by the supplier after the SOA to verify the effectiveness of the supplier's actions related to Development Critical (DC) and/or Development

Opportunities (DO) raised. Follow-up On-Site Assessment(s) may be necessary to complete the verification and close out the SOA for a final score.

- Development action requests will be documented in the "Action Plan" tab. If Development Critical (DC) action(s) are raised, this will require priority action(s) and will be tracked accordingly by the Johnson Controls representative.
- All DC's identified during the SOA must have interim or permanent corrective action(s) in place and agreed upon by the Johnson Controls representative, prior to the Johnson Controls representative exiting the suppliers' facility.
- Once the action details (objective evidence) have been received and reviewed by Johnson Controls, a follow-up assessment at the suppliers' facility may be scheduled to close out issued action(s) and the Assessment itself.
- Conditional Acceptance may be granted, depending on the product, findings, documents provided and/or risk associated by the Johnson Controls cross-functional team.
- Continuous supplier improvement and involvement with Johnson Controls is necessary and must be adhered to by the supplier moving towards the goal of an "Acceptable" supplier. Failure to do so will result in a "High Risk" status as a Johnson Controls supplier eliminating the ability to sell product and/or services to Johnson Controls.
- Once a supplier falls into the "Acceptable" or "Conditionally Acceptable" range and depending on the criticality of the product(s) procured, Johnson Controls will add the supplier to the SOA schedule. This frequency will depend on, but not limited to, the initial SOA score, CTQ, overall risk, regulatory clauses, industry certificates, history etc.
- Johnson Controls will notify the supplier of the assessment frequency after the assessment has been conducted and will notify, in ample time, the supplier when the next assessment will take place.
- Future on-site SOA's will be scheduled depending on, but not limited to, risk, previous SOA scores, current to overall performance and/or commodity set.
- The SOA scoring will be denoted as being based on your own scoring until verified either wholly or partially by a visit to you by Johnson Controls for validation purposes. The Self- Assessment and SOA scores will be shared with Johnson Controls cross-functional team members, used as part of the decision-making process and will be uploaded into Johnson Controls Assessment Database for future reference.
- The "Cover Page" and "Supplier Instructions" tabs embedded within the SOA workbook will guide the Supplier through the process via step by step instructions and links to help navigate the SOA workbook.

4.3 Indirect Supplier Assessment (ISA)

The overall concept of the ISA is similar to the SOA outlined above though uses a "Yes" / "No" scoring approach with an "Overall Score" at the end of each section to assistance in assessing the overall risk of our Indirect Suppliers i.e. "Service Centers", "Subcontractors", "Contract Manufacturers".

The ISA workbook evaluates 5 areas outlined below. A Johnson Controls representative will ensure that the Supplier receives an electronic copy of the ISA workbook, when applicable, where the 5 areas are used to collect supplier information to aid in evaluating our Indirect Suppliers.

1. Supplier Questionnaire
2. Health and Safety
3. Environmental
4. Quality
5. Process

Your Johnson Controls representative will determine which of the following assessment workbooks will be used based on the products, services etc. you provide.

The completed evaluation must be returned electronically to the appropriate Johnson Controls requestor within the agreed upon time of receipt. Ensure that all relevant/requested sections of the ISA workbook have been completed and all inquiries have been clarified prior to its return.

Please contact your Johnson Controls representative should you have any questions/concerns related to the workbook used/submitted.

4.3.1 Supplier Questionnaire

The Supplier Questionnaire comprises the information to establish a Supplier profile (part of the Indirect Supplier Assessment (ISA) workbook). Suppliers may be asked in advance to complete the Supplier Questionnaire tab prior to completing the other 4 sections within the ISA workbook.

The Supplier Questionnaire section is similar to the RFI (Request for Information) outlined in the above section as it allows Johnson Controls and its cross-functional team to better assess the suppliers' capabilities. The potential to gain further business based on the data and information provided is also assessed.

Your Johnson Controls representative will contact you and provide the necessary direction prior to you completing the ISA workbook.

4.3.2 Health and Safety

Our health and safety management system describes how we turn this vision into reality by defining responsibilities at each organizational level and by giving clear direction on how to manage workplace risks through effective processes and procedures.

We expect our suppliers and contractors to share our commitment by confirming that they have appropriate health and safety procedures in place and will carry out their duties in a competent and diligent manner.

This section will help Johnson Controls understand the level of Health and Safety practices implemented and the associated risk when and where practices are missing and/or not compliant to the necessary regulation/compliance.

4.3.3 Environmental

Our suppliers and contractors must comply with all applicable environmental legislation and are expected to adopt a "Green" approach to environmental issues by implementing where appropriate:

- Waste recycling schemes
- Effective control of waste
- Minimize emissions from plant and equipment
- Promote the use of environmentally friendly products
- Prevent accidental spills and leaks
- Put in place robust emergency response procedures

As defined in the above section, this section will help Johnson Controls understand the level of Environmental practices implemented and the associated risk when and where practices are missing and/or not compliant to the necessary regulation/compliance.

4.3.4 Quality

The overall Quality of our suppliers' products and/or services is key to the success of our business. Making sure our suppliers have the appropriate Quality controls, metrics etc. in place allows Johnson Control to associate a risk with the level of Quality practices implemented.

Suppliers will be asked to address the gaps identified during the assessment process should the existing Quality practices not meet the necessary standard based on your products/services.

Your Johnson Controls representative will contact you and provide the necessary direction should there be any questions related to answers/details provided in this section.

4.3.5 Process

The Process section of the ISA takes a deeper look at our supplies production equipment, in-process inspections, parameters, handling of nonconforming product etc. “in-house” and/or in the “field” depending on the products/services provided.

As Indirect products/services vary, the Process section or specific questions within may not apply to your business. The option of “N/A” has been included in this section for that reason. If you feel the question(s) does not apply, based on your products/services, mark the question(s) as “N/A”.

Should you have any concerns or would like further details on specific questions in this section, please contact your Johnson Controls representative for support.

4.4 Process Assessments

Follow up on-site visits may occur between and/or in the place of regularly scheduled SOA’s. Your Johnson Controls representative will contact and schedule the appropriate assessment based on business needs.

- Process Assessments (utilizing either the QBBP (reference section 4.5), or parts of the SOA or ISA workbook) may take the place of the SOA/ISA depending on the product, supplier performance, certifications and/or risk associated. These assessments are an in-depth look at, but not limited to, specific production lines, equipment and/or areas within a supplier’s facility that may or currently exhibit a high risk of failure that will directly affect the way Johnson Controls does business. Typically, the supplier’s PFMEA and/or Control Plans are used to help facilitate the on-site follow up review.

4.5 Quality Best Business Practices (QBBP)

QBBP’s are detailed questions related to a specific commodity set (Plastics, Motors, Steel, etc.). This type of assessment may take the place of the SOA, ISA, Process Assessment or be a part of depending on the product, commodity, and/or risk associated. The QBBP’s are not scored like the SOA questions but rather “Yes” or “No”, like the ISA, with one score to help determine the overall risk of said commodity, process and/or service.

4.6 Qualification Criteria

Once a supplier has gone through and completed the appropriate assessment outlined above, scores within the acceptable Johnson Controls range, has the necessary certifications (UL etc.) required to do business with Johnson Controls, provides schedules, action plans and/or objective evidence related to any/all SOA, ISA and/or QBBP findings and meets the standards detailed within this manual, a supplier will be recommended for approval to the Johnson Controls cross-functional team.

- Final Approval will be granted by Johnson Controls management based on feedback from each supporting group as applicable i.e. Engineering, Procurement, Supplier Quality, Finance.

5 PRODUCT ON-BOARDING PROCESS

5.1 Principles

Product On-Boarding is the PPAP/PAPSO development process in which the Business Requirements and specifications are reviewed and assessed, such as sample testing/approval, DFMEA development/review, drawing accuracy, CTQ / technical aspects, as well as capability studies are requested/conducted to assess the manufacturability and risk to both Johnson Controls and the Supplier.

5.2 Quality Expectations

Johnson Controls expects to receive only defect free, competitive products and services delivered on time to our manufacturing, service, and parts distribution centers.

This Zero-Defects approach in conjunction with a close working relationship with suppliers will enable both to exceed our customer’s expectations while continuously improving our operations.

5.3 Advanced Product Quality Planning (APQP)

Advanced Product Quality Planning (APQP) is a structured method of defining and establishing the steps necessary to assure that a product satisfies customer. Johnson Controls require its suppliers to have a documented APQP process to support launch activities that includes the following: cross-functional team approach, program manager, product requirements, design & planning, product/process development & validation and feedback assessment, timelines that clearly show key milestones and pre-launch activities, regular reviews with the launch team & tracks completion, management sign-off, and records are maintained and shared with customer launch team.

Effective product quality planning depends on a company's top management commitment to the effort required in achieving customer satisfaction. Some of the benefits of Product Quality Planning are:

- To direct resources to satisfy the customer.
- To promote early identification of required changes.
- To avoid late changes.
- To provide a quality product on time at the lowest cost.

Johnson Controls' supplier's project plan could refer to APQP processes and cover 3 main steps as below. One of the most important output of APQP is the **P**roduction **P**art **A**pproval **P**rocess (PPAP) / **P**roduct **A**pproval & **P**rocess **S**ign-**O**ff (PAPSO);

5.4 Production Part Approval Process (PPAP) and Product Approval & Process Sign-Off (PAPSO)

The PPAP/PAPSO was initially developed by the AIAG (Auto Industry Action Group) in 1993 with input from the Big 3 OEM Automotive manufacturers - Ford, Chrysler, and GM, and is referred to as PPAP.

5.4.1 What is PPAP/PAPSO

The PPAP/PAPSO process defines generic requirements for production part approval, including production of discrete parts and materials in bulk. The purpose of a PPAP/PAPSO is to determine if all Johnson Control's and/or Supplier Engineering design record and specification requirements are properly understood and implemented by the supplier and that the process has the potential to produce product consistently meeting those requirements during an actual production run at the quoted production rate.

- PPAP/PAPSO referenced items and requirements within the manual are guidelines based on the AIAG standards. For further explanations, references and example forms can be located on the AIAG website.
- Johnson Controls recommends suppliers visit the AIAG website for further details pertaining to the PPAP/PAPSO standards and/or contact your Johnson Controls representative. Supplier can also contact the local Johnson Controls representative should there be questions related to the requirements Johnson Controls has requested.

5.4.2 When is PPAP/PAPSO required

Johnson Controls requires all suppliers to notify their appropriate Johnson Controls representative (i.e. Quality Engineer, Buyer and/or Sourcing Manager) prior to implementing product or process changes. This notification should be provided as the supplier begins planning the process change to allow Johnson Controls and the Supplier ample time to evaluate the risk to our operations and our customers.

In many cases, Johnson Controls customers require us to notify and gain their approval for changes in the production process. In these cases, Johnson Controls will review and approve supplier changes prior to the implementation of the change at the supplier.

A PPAP/PAPSO warrant is required for New Product, Interplant Transfer of Product, Product Change and External Supplied Product. PPAP/PAPSO deliverables are categorized as either Plant (Johnson Controls) PPAP/PAPSO or Component (Supplier) PPAP/PAPSO.

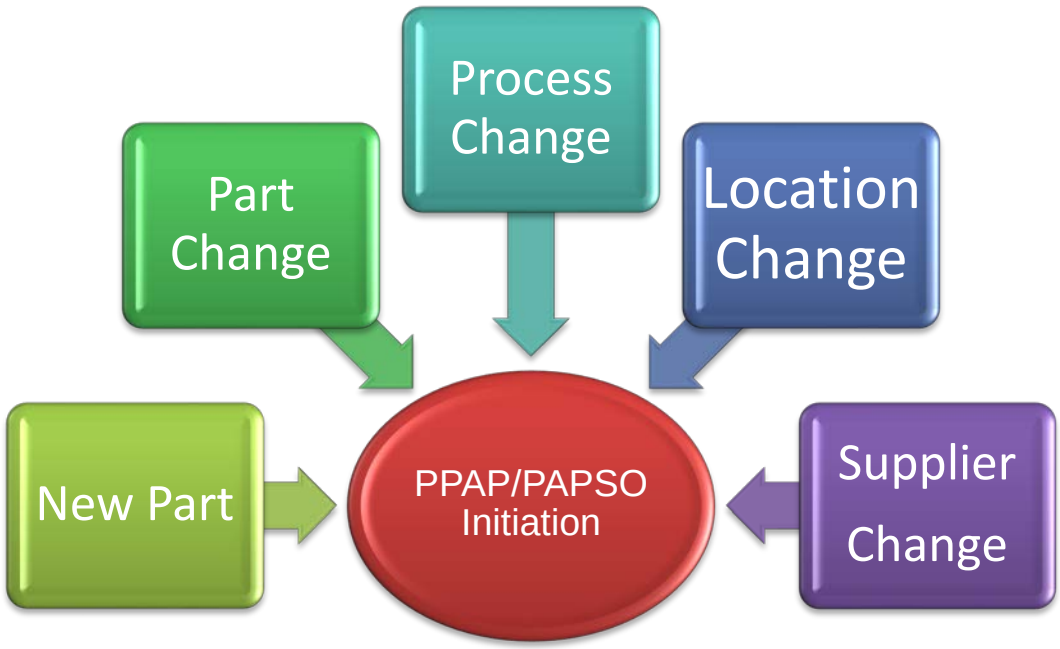
An External Supplier PPAP/PAPSO submission is required, unless a written waiver is granted to the supplier, when ANY of the following criteria is present:

- ☐ **New Part;**
  - o A new part or product (i.e. a specific part, material or color not previously supplied to Johnson Controls).
  - o Correction of a discrepancy on a previously submitted part.
- ☐ **Part Change;**
  - o Product modified by an engineering change to design records, specification or materials.
  - o ***NOTE:*** Supplier must notify Johnson Controls and submit a PPAP/PAPSO for approval prior to the first production shipment unless the supplier requests and Johnson Controls grants a waiver of formal submission. A waiver of submission requirement does not relieve the supplier of the responsibility to comply with the PPAP/PAPSO requirements. It simply indicates a formal submission to Johnson Controls is not required prior to first production shipment. All items in the PPAP/PAPSO file must be reviewed and updated, as necessary to reflect the revised process or product. The PPAP/PAPSO file must contain the name of the person and the responsible part approval activity granting the waiver and the date.
  - o Use of another optional construction or material other than what was used in the previously approved part.
- ☐ **Process Change;**
  - o Production from new or modified tools (except perishable tools), dies, molds, patterns, etc., including additional or replacement tooling.
  - o Production following refurbishment or rearrangement of existing tooling or equipment.
  - o Production following any change in the process or method of manufacture.
  - o Following a Johnson Controls request to suspend shipment due to a supplier quality concern.
  - o Production re-released after the tooling has been inactive for volume production for twelve months or more.
- ☐ **Location Change;**
  - o Production from tooling and equipment transferred to a different plant location or from an additional plant location.
  - o Change of source for subcontractor parts, materials, or services (i.e. heat treating, plating).

- Parts built in additional location than was originally PPAP'ed / PAPSO'ed.

☐ **Supplier Change;**

- Production from a supplier not previously approved for the part, including Tier 2.



5.4.3 PPAP/PAPSO Risk assessment and Submission Levels

It is the supplier's responsibility to submit the PPAP/PAPSO package per identified program timing as negotiated with your Johnson Controls representative (i.e. Procurement and Supplier Quality).

- An Early Warning Risk Assessment will be completed by a Johnson Controls representative to determine the level of PPAP/PAPSO required by the supplier.
- The PPAP/PAPSO Requirements / level of submission is documented on the Purchase Order (PO) with a default level of 3. If another level is authorized, it will be documented on the PO. Contact your local Johnson Controls representative and/or refer to the AIAG website for questions related to PPAP/PAPSO.
- Initial PPAP/PAPSO submission is required prior to delivery of Development Validation (DV) / Production Validation (PV) parts. Sample parts and engineering samples are to be submitted to the appropriate party and address as indicated on the PO.
- Once approval is granted, parts may be shipped to the manufacturing location for DV/PV builds. If there are no changes required following DV, the initial PPAP/PAPSO package submitted for DV will be approved for PV and production.

5.4.4 PPAP/PAPSO Package

- Description of PPAP/PAPSO Requirements:

1. Design Records - Product Specifications/Drawings/Blueprints – Ballooned to match Dimensional report
2. Engineering Change Documents - If any are required
3. Product Engineering Review (Project Test Plan & Report) DVP&R
4. Design FMEA
5. Process Flow Diagram
6. Process FMEA

7. Control Plan
8. Measurement Systems Analysis
9. Dimensional Results
10. Material, Performance Test Results
11. Process Capability Analysis
12. Qualified Laboratory Documentation
13. Appearance Approval Report, if Applicable
14. Sample Product
15. Master Sample
16. Checking Aids
17. Record of Compliance/Regulatory Compliance
18. Part Submission Warrant
19. Plant Layout
20. Tooling, Equipment, and Fixtures List
21. Preventive Maintenance Plans
22. Operator Training/Work Instructions
23. Parts Handling Plan
24. Parts Packaging/Shipping Specifications
25. Supplier Approval Process
26. Materials Readiness (Line Speed and Capacity Analysis)
27. Early Launch Containment Plan
28. Supplier Assessments
29. Product Safety Manufacturing Certification (PSMC)
30. Other Items: Please Specify
31. Statement of Work from Johnson Controls Engineering
32. Functional Specification specific to SOW
33. User Acceptance Testing by Johnson Controls Engineering
34. Supplier Accreditation to SAS 70 or SSAE116 Type 2

- **Definitions of PPAP/PAPSO Requirements:**

1. Design Records: Product Specifications/Drawings/Blueprints: All engineering drawings, literature documentation, specifications, or models available for inspection/audit purposes to ensure design integrity. Drawings and specifications shall have critical (safety) and significant (key) characteristics identified where applicable.
2. Engineering Change Documents: If any are required: Authorized engineering change documents for those changes not yet recorded in the design record but incorporated in the product, part or tooling.
3. Product Engineering Review (Product Test Plan & Report, DVP&R): Approval to ship product prior to PPAP/PAPSO completion shall utilize the Engineering Change process incorporated by the affected Product Group. Product engineering approval is required to use components prior to PPAP/PAPSO approval. Appropriate Product Engineering group shall be consulted on all product or process changes requiring PPAP/PAPSO submission. Component or system tests necessary to validate the product or process change should be identified here.
4. Design FMEA: A document evaluating the risks associated with the design process of the product. A single Design FMEA may be applied to a manufacturing a family of similar parts or materials if reviewed for commonality. Critical (safety) and significant (key) characteristics must be identified from requirements and cascaded to drawings/ specifications/PFMEA, Control Plan and Operator Instructions.
5. Process Flow Diagram: A document that clearly describes the production process steps and sequences for all processes. Process flow diagrams for ‘families’ of similar parts are acceptable if the new parts have been reviewed for commonality.
6. Process FMEA: A document evaluating the risks associated with the manufacturing process of the product. A single Process FMEA may be applied to a family of similar parts or materials if reviewed for commonality. High RPNs must have a corrective action plan and target date completion date. Critical (safety) and significant (key) characteristics must be identified from

requirements and cascaded to drawings/ specifications/PFMEA, Control Plan and Operator Instructions.

7. Control Plan: A document that defines the complete process and all methods used for process control ensure that the part meets the specifications as required by the customer. Control plans for 'families' of parts are acceptable if they have been reviewed for commonality. Critical (safety) and significant (key) characteristics must be identified from the PFMEA and cascaded to the Operator Instructions.
8. Measurement System Analysis: Proof of Gage R&R acceptability on all gages utilized in the measurement of the product. Equipment with Gage R&R results < 10% are acceptable. Equipment with Gage R&R results between 10% and 30% should have an improvement plan and target completion dates. Equipment with Gage R&R results greater than 30% must have a containment plan in addition to an improvement plan and target completion dates. Where Specifications are not available measurement system variation should be less than 30% of total variation observed.
9. Dimensional Results: A complete dimensional layout of a small sample of pieces as specified by the requestor. 1 to 6 individual parts are preferred.
10. Material Performance Test Results: Test results for raw material including chemical composition where required. All products with defined performance requirements (i.e. Salt Spry test) should be documented here. Any additional chemical, physical, or metallurgical requirements identified in the design record or Control Plan.
11. Process Capability Analysis: Statistical analysis of data to ensure the capability of the process for identified critical characteristics. Minimum Cpk requirement is 1.33. Cpks less than 1.33 but greater than 1.00 must have an improvement plan and target completion date. Cpks less than 1.00 must have a containment plan along with an improvement plan and target completion dates. Ppk values less than 1.67 may apply for low volume production or where special causes are identified with the Critical Characteristic.
12. Qualified Laboratory Documentation: Laboratories performing testing must be certified to A2LA, TS, ISO/IEC 17025 or equivalent. Required laboratory certifications should be submitted.
13. Appearance Approval Report, if applicable: A document to define compliance to cosmetic requirements as specified by the customer. Usually contains visual samples of product meeting the agreed criteria and product failing to meet the defined criteria.
14. Sample Product: When applicable, a sample product from the production process submitted to the receiving plant or product engineering team. PPAP/PAPSO samples should be clearly identified so as not to be confused with production components.
15. Master Sample: A sample of the product that is to be submitted to Johnson Controls or retained by the supplier, unless waived. Master samples can take the form of detailed photographs or digital impressions of the product if necessary.
16. Checking Aids: A list of checking aids utilized in the production or verification of the product being supplied. Checking aids can include fixtures and variable and attribute gages. Checking aids must be traceable and calibrated according to local requirements.
17. Record of Compliance/Regulatory Compliance: Evidence of compliance to all specifications or standards referenced on the design records. Applicable for Johnson Controls Design and Supplier Design responsible components. Includes record of compliance to standards (UL, FCC, IC, CE, etc.).
18. Part Submission Warrant: Form that summarizes the entire PPAP/PAPSO package. This form shows the reason for submission (design change, annual revalidation, etc.) and the level of documents submitted to Johnson Controls. All submissions shall require a warrant submission approved by the supplier and Johnson Controls Customer plant.
19. Plant Layout: Is a design for the floor plan of a plant which aims to improve efficiency by arranging equipment according to its function. The production line should ideally be designed to eliminate waste in material flows, inventory handling and management.
20. Tooling Equipment/fixture listing: All Tooling, Equipment and Fixtures must be identified and calibrated.

21. Preventive Maintenance Plans: Tends to follow planned guidelines from time-to-time to prevent equipment and machinery breakdown. It includes tests, measurements, adjustments, parts replacement, and cleaning, performed specifically to prevent faults from occurring.
22. Operator Training/Work Instructions: is a set of step-by-step instructions compiled by an organization to help workers carry out routine operations.
23. Parts Handling Plan: Handling and storage requirements of materials, including delicate components, are defined. Purchase orders in place for components & packaging to support on-time production requirements
24. Parts Packaging/Shipping Specifications: Packaging that will be used to ship parts to assure integrity of the products.
25. Supplier Approval Process: Supplier process to approve their own supply base.
26. Materials Readiness (Line Speed and Capacity Analysis): Build rate and Yield, % calculations.
27. Early Launch Containment Plan: Containment is accomplished through the deployment of additional controls in the supplier's manufacturing process ("additional" meaning above the intended production process) to identify known or potential non-conformances. Additional temporary controls can include, but are not limited to: inspection audits, dimensional measurements, SPC requirements, appearance checks, part functionality checks, label verification systems, check fixtures and gages.
28. Supplier Assessments: Supplier Assessment refers to the SOA (Supplier Operational Assessment) process.
29. Product Safety Manufacturing Certification (PSMC): The products of the company can meet the request according to the CCC, CE, UL, TUV standard, etc. according to the demands of customers.
30. Other Items: Please Specify: Any additional items identified by the Manufacturing Plant or product team

5.4.5 PPAP/PAPSO Approvals

- **Final Approved PPAP/PAPSO:** The PPAP/PAPSO package is complete and all the requirements are satisfied by Johnson Controls PPAP/PAPSO request personnel. The part meets all Johnson Controls requirements and supplier is authorized to ship production quantities of the part.
- **Interim Approved PPAP/PAPSO:** Johnson Controls receiving plant representative (i.e. Plant/Supplier QE) may choose to grant Interim Approval if the package is not complete or all the requirements are not satisfied. If Interim Approval is granted, a specific timeframe will be identified along with an action plan to complete any unacceptable/missing items.
- The manufacturing location may begin production when granted Interim Approval so that parts can be shipped from the supplier to the plant. Any special conditions are documented and communicated.
- **PPAP/PAPSO Rejected:** Johnson Controls receiving plant representative may reject the PPAP/PAPSO if the package does not meet requirements. The Johnson Controls Plant/Supplier may NOT begin production until the PPAP/PAPSO is approved or given interim approval.

Note: Corrections for minor issues may be corrected within 24 hours. For example, part weight was not to the correct decimal place, the warrant level was not marked, and an outdated material certification was included.

6 SUPPLIER MONITORING & CONTINUOUS IMPROVEMENT

6.1 Principles

The area of the Supplier Development and Monitoring is based on measuring suppliers to drive continuous improvement and to evaluate Supplies, monitoring on all parameters that make sense in the commodity segment the supplier is active in with Johnson Controls.

6.2 Supplier Monitoring

6.2.1 Quality Objectives (PPM)

One of the measurements of Quality Performance of suppliers is defective Parts Per Million (PPM). Suppliers are expected to establish both internal and customer PPM, have defined internal and external goals and have evidence of meeting them. The expectation for supplier performance is 0 PPM (zero defects).

- Suppliers track Johnson Controls PPM and has knowledge of the goal. Supplier has evidence of Year-Over-Year (YOY) reduction for internal PPM. Both internal and external PPM are clearly posted at the supplier facility and are tied to the plant success (e.g. bonus, corporate wide measures, performance goals, etc.)
- Product received by Johnson Controls facilities that is identified as nonconforming to the drawing, specifications and/or agreed upon standards will be counted against a supplier's PPM record. Quantities will be reported in the units of measure in which they are purchased. This applies to production parts / saleable units.

The following are PPM assignable:

- Production Parts which do not meet drawing specifications or dimensional, functional, or appearance standards as called out in the specifications or from an agreed-upon boundary sample.
- Out-of-spec parts that require rework/repair in order to be used.
- Production Parts damaged from inadequate packaging or transportation for which the supplier is responsible.
- In cases where the supplier may be shipping prior to PPAP/PAPSO with an approved customer deviation, any defects outside of the boundaries defined by the deviation.
- Out-of-spec parts shipped prior to PPAP/PAPSO approval without an approved customer deviation.
- Shipments that are received with mixed parts or parts that are the wrong revision level after the break point has been established. PPM is assigned for the quantity of incorrect parts only.
- Shipments that are received with mislabeled containers are considered PPM assignable. The reject quantity shall reflect the total number of containers with incorrect labels. In cases where each individual part requires identification, the total number of incorrectly labeled parts will be counted toward PPM. If mislabeled products are used incorrectly in production operations, the total number of incorrect assemblies will be counted against the supplier's reject quantity.

The following are NOT PPM assignable:

- Parts that meet all drawing specifications and/or boundary sample requirements but are not useable.
- Parts that meet all specifications and/or standards but have been rejected by a Johnson Controls customer. This includes components purchased by Johnson Controls that fail within the warranty period applied to the product.
- Parts that have not been released and approved for production and/or have no released drawing (i.e. launch parts, sample/trial parts, DOE parts, pre-productions parts, etc.).
- Parts that are outside the production system will be addressed through prototype quality measures.
- Parts that have an approved deviation (in advance of shipment to a Johnson Controls facility) for an out-of-spec condition cannot be assigned PPM for rejects associated with the deviated characteristic.
- Parts that have been received with a delivery-related issue: part information errors, delivery errors, foreign stock, and quantity errors should be rejected as a Delivery Performance issues rather than product quality.
- Parts that have been received missing any required quality documentation (i.e. material certification, performance certification, compliance records, dimensional records).
- In any of the above situations, it may be appropriate for an 8D to be requested, a Management Quality Review (MQR) to be scheduled, and/or additional containment actions to be initiated.

- Parts may be sorted at the appropriate location (Supplier or Johnson Controls site). Parts received at the Johnson Controls location or other Johnson Controls ship-to point that are rejected by the sort may stay on the supplier's PPM record.
- If sampling has predicted a % defective and resulted in the entire lot being rejected, the PPM will be adjusted after the sort is complete. This also applies to parts on containment.
- If suspect parts are removed from Johnson Controls Operations and sorted with no disruption of Johnson Controls Manufacturing or delivery the supplier has ten (10) business days to report the actual reject totals identified during the sort to the affected Johnson Controls Facility. If reject data is not provided within that time, the entire quantity of parts identified for sorting can be subject to PPM assignment. Johnson Controls and the supplier must identify appropriate sorting locations and methods to insure no disruption to on-going operations.
- If the supplier identifies, communicates, and takes appropriate action to contain and correct a potential problem before the problem is identified or the parts are used at a Johnson Controls site, then the parts will not be counted against PPM. If the problem is identified or used at Johnson Controls prior to contact from the supplier, the PPM count will be incurred.
- Parts which are out-of-spec may be used “as is” with an approved deviation if required to maintain production and not disrupt the end customer. In these cases, PPM may be assigned as determined by the receiving Johnson Controls plant. Cases such as these will be reviewed and determined based on the severity of the issue.
- The Johnson Controls Plant/Supplier Quality Engineer or designee at the receiving plant location is responsible for the accurate application of PPM. In some cases, extenuating circumstances may lead to an adjustment in the amount of PPM charged to a supplier. Adjustments to a supplier reported PPM should be requested using the appropriate document. Contact the originator of the rejection to obtain the appropriate document.

6.2.2 Product Data and Engineering Change Control

Supplier shall have a documented procedure to control all product data and documentation (e.g., drawings, CAD/Engineering Data, CNC programs, 3D models, GA dwgs., specifications, DFMEA [where supplier is design responsible], test results, work instructions, procedures). Change control must exist for all product data and documentation including customer specifications/drawing revisions.

- Supplier should use appropriate electronic tools to coordinate the Engineering Changes (EC). Customer approval is given prior to the implementation of any EC that may affect form, fit/function, or that the end result of the change will require a process change from the one previously approved. The EC process includes sign-off of all functional areas affected by the change (e.g. Manufacturing Engineering, Materials/Purchasing, Quality), and supplier has timely part submissions (PPAP/PAPSO) to customer and from sub suppliers. A formal customer deviation process is in place whenever there is a discrepancy between the part being shipped and the drawing and/or other applicable specification. The proper EC level is shipped and reflected on the label and/or part.

6.2.3 Deviation Process/Control

The supplier is responsible for meeting all the requirements of the purchase order, drawings and specifications or applicable Industry Standards (e.g., EIA, ASTM).

- When material that does not conform to these requirements, it shall not be shipped to Johnson Controls, its customers and/or other suppliers without prior written approval. Request for approval of deviation from requirements shall be brought to the attention of the Johnson Controls Buyer/authorized Supply Chain personnel. Approval or disapproval of supplier deviation requests will be documented and communicated to the supplier.
- Each request for deviation shall include a statement of deviation, refer to the clause deviated, corrective action for future supplies, person responsible for the corrective action, affected lot numbers / quantities and estimated date of implementation of corrective action to prevent recurrence of the nonconformance.

- Supplier will maintain a list of deviations and copies of the approvals from Johnson Controls. A copy of the deviation should accompany any shipment made for products under deviation to Johnson Controls.

6.2.4 Supplier Change Management

Supplier shall establish an internal change management process. All the changes regarding the 4M1E (Man, Machine, Material, Method and Environments), which will cause the non-conformance with existing PPAP/PAPSO records, must be submitted to Johnson Controls for approvals before implementation. This requirement is also applicable for the supplier's own out-sourcing management.

6.2.5 Supplier Notification of Nonconforming Material

Suppliers are notified of non-conforming material or service through a documented rejection notice. This document is issued whenever purchased material or service is identified which does not conform to quality requirements. The purpose of this section is to identify expectations regarding non-conforming material received by Johnson Controls.

- Non-conforming material may be identified during incoming inspection, assembly, processing, audit, Customer notification, Warranty, or reliability testing.
- Rejection Documents will be maintained in different forms as Johnson Controls transitions into an automated system. Suppliers should notify their Johnson Controls representative if they receive a notice of nonconforming product and are unsure of the response required.
- The Rejection Document and/or electronic notification can be used for several purposes, including:
    - Accounting Debit Memo
    - Packing Slip for Returning Material
    - Quality Record for Generating PPM
    - Supplier Response Request (4D/8D)
    - Communication of Issues to purchasing
    - Record to Support Adjustment of Suppliers Cumulative Shipment History.
- An administrative fee may be assessed for each Rejection Document to capture Johnson Control's cost for managing supplier nonconforming material.
- A Return Material Authorization number (RMA#) will be requested from the supplier for debit authorization for on-site scrap, rework, sort or return of material.
- Suppliers must send their appropriate Johnson Controls Supplier Quality contact a written interim containment plan within 24 hours of problem notification using the 4D/8D methodology unless an alternate response time is requested by the Johnson Controls Supplier Quality contact.
- When requested, within seven (7) to thirty (30) calendar days, as identified by the appropriate Johnson Controls Supplier Quality contact, the supplier is expected to communicate in writing the problem-solving results utilizing the 8D approach. If the supplier is unable to resolve the quality issue within the identified timeframe, a weekly updated 8D must be provided to Johnson Controls until problem resolution is achieved, unless otherwise specified.
- Johnson Controls has developed and implemented a comprehensive, automated system to communicate quality and delivery performance to our suppliers and monitor the Corrective Action process. The Issue Resolution Information System (IRIS) communicates directly with designated supplier contacts through e-mail systems. As Johnson Controls transitions to this a single business process, Suppliers will be expected to respond to the following documents:

    SMRR (Supplier Material Rejection Report)
    - SMRR's are used to document product quality or performance issues to the supplier.

    DMR (Discrepant Material Report)
    - DMR's are used to document delivery related issues to the supplier

    SCB (Supplier Chargeback)

- SCB's are used to accumulate extraordinary (Cost of Poor Quality (COPQ)) and/or administrative cost associated with SMRR's ($100 USD admin fee) & DMR's ($250 USD admin fee)

Suppliers who are involved in the IRIS process must:

- Provide and maintain an email address for initial notification
- Utilize IRIS specific forms for documentation of the Corrective Actions Process
- Use the 8D approach for Problem Solving
- Forward all documentation via return email on the appropriate forms and within the identified timeframe
- The Supplier Notification and Initial Response process is summarized in **Table 3**

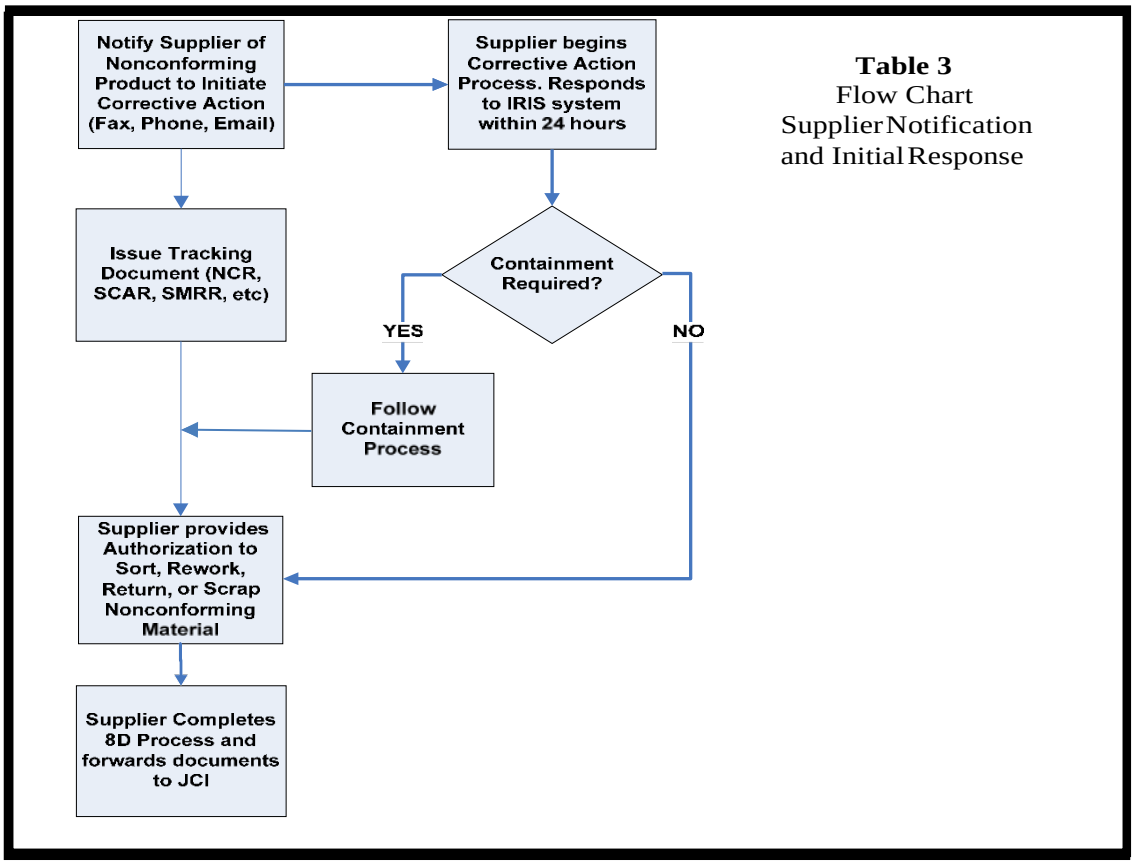


Table 3
Flow Chart
Supplier Notification
and Initial Response

6.2.6 Containment Introduction

Containment is accomplished through deployment of additional controls in the supplier's manufacturing process to identify a known or potential non-conformance and to prevent it from being shipped to Johnson Controls.

- Additional controls can include, but are not limited to: inspection audits, dimensional measurements, SPC requirements, appearance checks, part functionality checks, label verification systems, check fixtures and gages, and poka-yokes.
- The goal of containment is to protect Johnson Controls from defective material escapes during the initial product and process startup (pre-production), throughout production, and in reaction to a supplier quality issue identified at Johnson Controls. The following sections detail Johnson Controls' expectations for each of these phases.

6.2.7 Containment Expectations

Pre-production containment applies to any parts produced for prototype; pilot or saleable unit builds at Johnson Controls prior to full production. Pre-production containment activities are a requirement of the Supplier AQP and must be documented on the control plan.

- The Control Plan is a comprehensive document of product and process characteristics, process controls, tests, and measurements systems that occur during production. The control plan is typically developed from the process FMEA and follows the process flowchart order, including evidence of incoming inspection, manufacturing process and controls, finished parts audit and containment activities.
- The Containment Plan includes increased frequencies and additional tests over and above the production Control Plan to ensure heightened product and process quality until the supplier's production process is validated. The sample sizes and frequencies for in-process checks are based on historical experience with the process and prototype builds. During pre-production, the sample size or frequency of product re-inspection is typically 100% and does not replace the final part audit.
- The Johnson Controls Advance Quality Engineer or designee will review the Containment Plan as part of the PPAP/PAPSO process. Open issues from process reviews will drive deployment of additional controls and documentation in the Control Plan. On-site representation may be required at start of production depending on the criticality of the part and, or process.

At production start-up, Johnson Controls' Launch or Plant Quality will continue to monitor Containment activities until exit criteria is met. Issues that remain unresolved after start of production will be subject to additional containment activities.

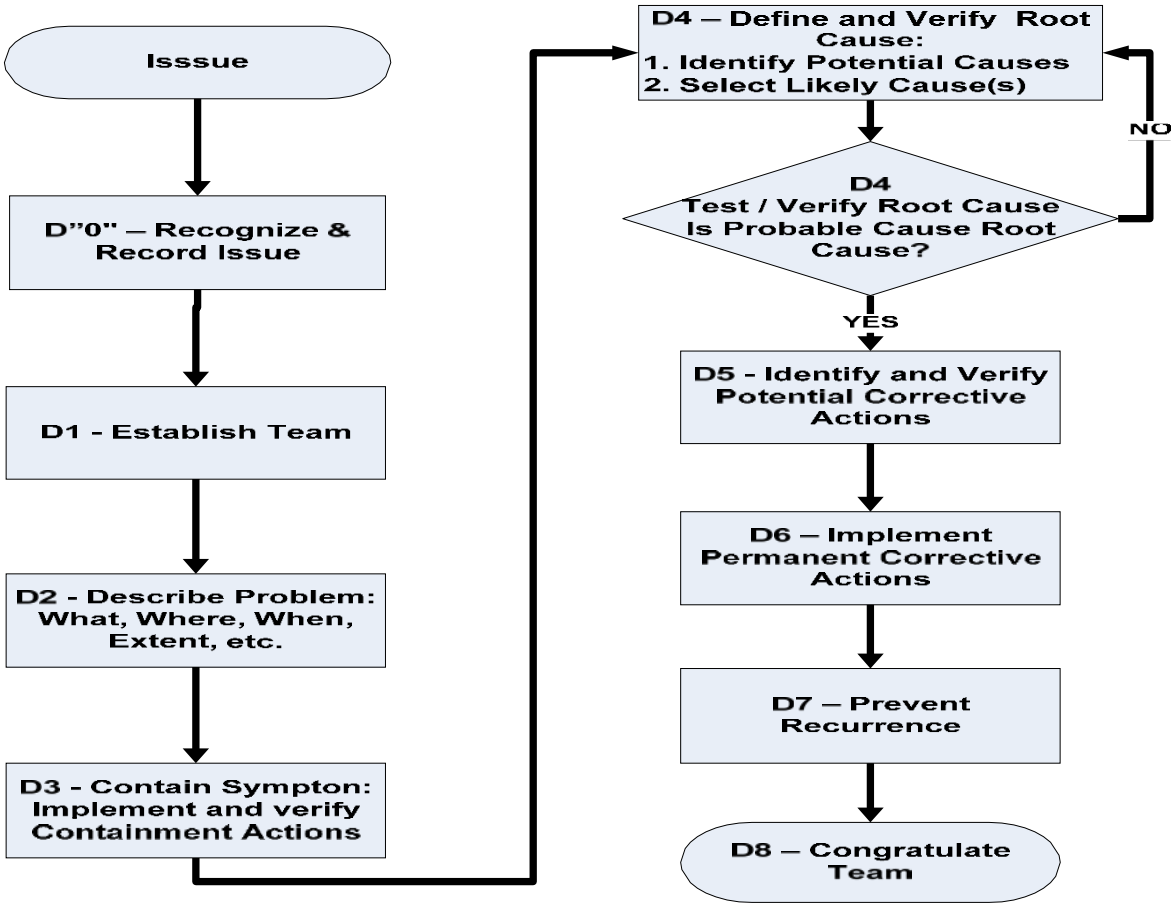
- Criteria for exiting Containment will be determined by Johnson Controls. To exit required containment, the supplier must achieve a pre-determined quality level. The supplier is responsible to have documentation as proof of adherence to their established containment plan. Quality tools, such as trend/Pareto/Paynter charts, are expected to verify containment effectiveness.

6.2.8 Problem Solving: 8 Disciplines Problem Analysis System (8D)

The 8D Problem Analysis Report is the Johnson Controls preferred problem-solving format for use by all Johnson Controls Facilities and Suppliers.

- Each Supplier is responsible for appropriate and timely application of the 8D, and for the knowledge and skill level of their organization to solve problems.
- The 8D Problem Analysis Report provides a means for the definition and resolution of issues through problem solving.

The Eight Disciplines Problem Analysis System is illustrated below:



6.2.9 Management Quality Review (MQR) Introduction

Management Quality Review (MQR) meetings are held to analyze and review current problem situations (quality, delivery, or other issues). Supplier accountability and response will be the focus.

A MQR may be arranged if a supplier is considered responsible for an issue that results in:

- Product Safety characteristic as defined on the print does not meet PpK, CpK requirements.
- Production suspended due to supplier's product quality or part shortage.
- A sort or rework at Johnson Controls and / or customer completed due to supplier's product quality.
- One of the poorest performing suppliers during a given period
- Poor delivery performance affecting Johnson Controls Operations

The purpose of an MQR is to emphasize and prioritize high-risk problems. A supplier will be notified by Johnson Controls when an MQR is required. The intent of the meeting is to bring additional focus to the top issues facing the organization to bring about the necessary improvement.

Suppliers are expected to:

- Confirm attendance of Supplier Plant Manager, Quality Manager, and Account Manager as a minimum. Additional resources may attend if necessary.
- Present the following:

  1) Most recent supplier rating report (if available).

2) Be prepared to explain any deficiencies in any area of supplier performance relative to the Supplier Scorecard. Common areas of focus include PPM, Corrective Action Timeliness, and Delivery Performance.

3) Be prepared to present an 8D that addresses your company's efforts to improve the systems, which affected your performance in a given area.

Note: **This meeting is not meant to be a "brainstorming session." All documentation required is expected to be completed and forwarded to your Buyer 72 hours prior to the meeting.**

Current critical incidents and critical trends for supplied products and services will be evaluated with appropriate team members relative to the risk to our customers and operations. Accordingly, actions will be initiated utilizing an appropriate escalation process. Johnson Controls expects the highest level of cooperation from suppliers in escalating issues to the appropriate level within the Supplier organization. If the measures agreed to during the MQR are not met in the agreed upon timeframe and/or performance continues to decline, escalation measures at both the supplier and Johnson Controls will take place.

6.2.10 Supplier Dis-qualification

Safety, and the activities that surround it, is one of the most important requirements Johnson Controls will focus on before, during and after supplier qualification. Meeting the highest level of safety must be a top priority for suppliers. Failure to do so may result in supplier dis-qualification. Suppliers not meeting the MQR objectives, an acceptable SOA score and/or not able to implement effective corrective actions in a timely manner, may be subject to dis-qualification. Should a supplier score well in all areas of the SOA but lacks in overall safety may result in supplier dis-qualification.

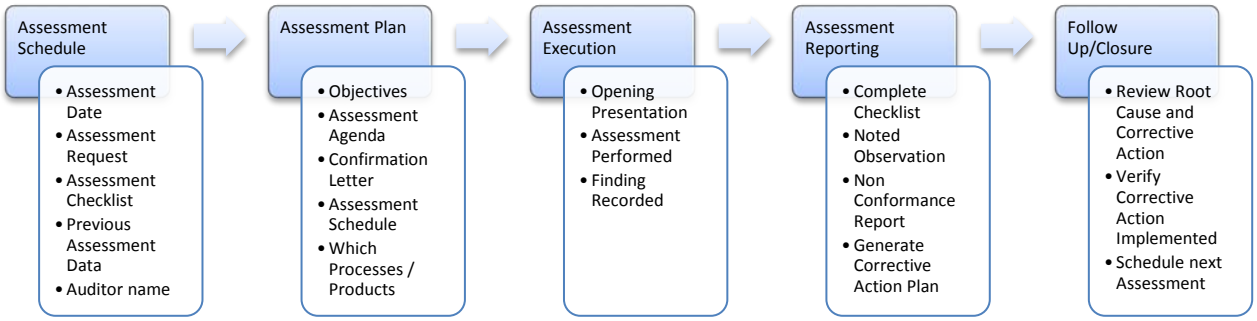
6.3 Supplier Continuous Improvement

6.3.1 Supplier Re-assessment

An important step in achieving our quality goals is to ensure that our suppliers have a solid Quality Management Systems (QMS) approach to quality improvement in place.

- Suppliers shall maintain a QMS suitable to the products and services provided to Johnson Controls, which is certified by an accredited third-party certification body. In the absence of third-party certification, depending on the product, its application, value, and criticality, Johnson Controls may authorize the acceptance of other evidence of compliance. This may include second-party (Johnson Controls) assessment or first-party (self) assessment to the applicable criteria above, or to a set of alternative basic quality requirements, provided by Johnson Controls.
- Suppliers are to conform to the assessment plan as well as the assessment frequency schedule thereafter once the assessment has been completed. Below is an outline of activities, but not limited to, involved in the assessment of suppliers QMS etc. programs, corrective and preventive actions and frequency of future on-site assessments.

For additional detail requirements regarding to SOA, ISA and QBBP assessments, please refer to Section 4, your local Johnson Controls representative and/or the below flowchart.



6.3.2 Supplier Quality Roadmap

Supplier should establish their data collection and analysis system as an input for continuous quality improvement. The data is based on, but not limited to, the following requirements:

① Collection of failure issues and solutions regarding to all sales products;

② Collection of failure issues and solutions regarding to all internal processes;

③ Collection of Internal and external audits; Management review records;

④ Collection of all customer complaints and customer focus areas (Such as PPM expectation; OTD rate etc.)

Suppliers are expected to maintain a quality roadmap documenting current quality performance at Johnson Controls and action plans to improve performance. Action plans should include:

- Clear statements of the actions to be implemented
- Identification of the resource or resources to complete the actions
- Detailed completion timing for the identified actions
- The expected improvement in performance as a result of the action

7 DELIVERY

7.1 Purpose

This section describes the delivery standards that suppliers of materials to Johnson Controls Building Technologies & Solutions (BT&S) locations are expected to meet.

7.2 Standard Practices

Below are the standards related to material delivery that suppliers to Johnson Controls are expected to meet.

7.3 Supply Chain Management Expectations Introduction

The Johnson Controls supply chain organization contributes to manufacturing excellence in quality, cost, and delivery to the customer. In particular, the supply chain function assures the on-time delivery of component material and shipment of finished goods at the lowest cost.

Continued improvement in our global supply chain systems is and will continue to be a competitive advantage for Johnson Controls. To truly leverage the potential of these innovative systems and processes, the knowledge and capabilities of our extended enterprise must be flexible and capable of meeting our replenishment requirements.

Total Supply Chain Management is achieved through the execution of comprehensive, yet common business processes and systems such as:

- Johnson Controls Manufacturing System (JCMS)
- Johnson Controls Business Operating System (BOS)
- Communicating electronically between suppliers and customers using one of two communication methods, EDI or E2Open Supplier Collaboration.
- Implementing Lean Manufacturing practices
- Understanding and reacting to schedule forecast variation week to week.
- Managing capacity to demand.
- Managing deliveries to the sooner of promise date or standard lead time, including management during holidays, plant shut-downs, peak season, etc. without lead time push-outs.
- The supplier should drive lead time reductions to match plant input lead time requirements to obviate system inventories (including supplier consigned inventories).
- Proactive communication through the supply chain when there are potential issues in meeting demand requirements including supplier ERP transitions. Risk mitigation plan reviews are to be six (6) months prior to the supplier's lead time to ensure supply continuity to Johnson Controls. Part change notifications are due 6 months in advance of supplier's lead time to allow Johnson Controls to disposition and coordinate the change request.

- Shipping according to the transportation routing instructions
- Responding to the Customer (Johnson Controls) specified replenishment method(s) and establish replenishment processes to assure on-time delivery from the extended supply chain
- Responding to "issue communication" tools (SMRR, DMR, MQR, etc.)
- Participating in Quarterly Business Reviews (QBR)
- Development of the team members which focuses on: process knowledge, technical capability, problem solving skills, and leadership ability
- Implementation of repeatable processes that minimize human intervention, and audit them to assure conformance
- Identification and measurement of key metrics on a monthly basis

The delivery sections of this document provide expectations for supplier performance in order that, together, we may create a supply chain that executes flawlessly each and every time.

7.4 Electronic Commerce

Johnson Controls prefers that either Electronic Data Interchange (EDI) or E2Open Supplier Collaboration be utilized by all suppliers throughout the Supply Chain and is working to make this a standard expectation for all direct suppliers. Our suppliers must have the capability to interface with us in one or more of the following options upon request:

- Traditional EDI package including all of the following transaction sets; 830- Forecast, 850-PO Create, 855- PO Acknowledge, 856- Automated Ship Notification (ASN), 860- PO Change. In some locations and 862- JIT delivery release is also required.
- E2Open Supplier Collaboration: if a supplier is not compliant with the above required EDI transactions, then plans must be made to transition to E2Open.
- To get started:
    - **Getting Started with E2open**
    - Getting Started with E2open provides an overview of the collaboration system, how to log into the E2open portal, reset your password, set system requirements, manage data and customize your work-space. Click Here to get started
    - **Using E2open Forecasting to Order Execution**
    - In this course you will learn how to use E2open to manage; supply forecasts, shipment data against Discrete Purchase Orders/Scheduling Agreements/SA Firm Delivery Schedules and order execution. Click Here to get started
    - ***Note**: After beginning this course, please select the 'Supplier' role button to navigate to the relevant topics for Suppliers.*

Any updates, new releases, system changes, etc. will be communicated to our partner suppliers by the Johnson Controls Supply Chain Management and Purchasing organizations.

All suppliers must develop a contingency plan for their primary EDI system or E2Open Supplier Collaboration. This allows us to keep both product and information flowing if the primary system fails for any reason. To inquire about the specific details of using EDI with Johnson Controls, please contact your procurement buyer or supplier collaboration team member.

7.5 Advanced Shipping Notice (ASN)

An ASN is the electronic transfer of shipment data from a supplier to a customer. Johnson Controls has made the use of ASNs a standard expectation upon implementation of EDI or E2Open. Until a supplier has EDI or E2Open capability an emailed ASN must be provided. The customer plant utilizes the information contained within the ASN in two ways:

- Determine and confirm goods in transit.
- Verification against the shipment as product is received.

Accuracy is imperative in order to maintain the integrity of information related to inventory records, MRP/supplier schedules, and invoice payments. ASN timeliness is critical to information accuracy and functionality.

The ASN must be created upon finalization of the shipment and be received by Johnson Controls within one hour from the time the shipment leaves the supplier's shipping location and prior to its arrival at the Johnson Controls plant.

All shifts in a facility must be capable of sending the ASN to meet these requirements. Confirmation of ASN receipt is available to suppliers (contact the Johnson Controls plant for availability). In order for the ASN to be successfully transmitted to the Johnson Controls plant, the ASN must contain all of the SPECIFIED INFORMATION listed below. ASN's received without a Bill of Lading (BOL), Packing list or Invoice number fail our rules and is not received, and a Discrepant Material Report (DMR) will be issued for failure to send an ASN:

1. BOL Number (Bill of Lading), Packing List or Invoice number: Must be barcoded
2. Shipment date/time
3. Gross weight of shipment
4. Net weight of shipment
5. Total Bill of Lading quantity (e.g. # of cartons)
6. Standard Carrier Alpha Code (SCAC)
7. Mode code (e.g. "E" for Expedite, "A" for Air, etc.)
8. Pool point location (if applicable)
9. Tracking or Pro number
10. Packing slip number(s)
11. Ship from location (our supplier code or supplier DUNS Code)
12. Ship to location(s) (our plant code(s) including dock code(s)) or DUNS Code
13. Part number - Must be barcoded
14. Engineering change level (Part)
15. Quantity shipped - Must be barcoded
16. Unit of measure
17. Purchase order or Schedule Agreement number, line, release– Must be Barcoded
18. Number of cartons shipped of each part
19. Quantity per carton EDI SPECIFICATIONS
20. Shipment mode, i.e. LTL, Truckload
21. Carrier Name
22. Planned Delivery Date

7.6 International Shipping

The purpose of this section is to provide suppliers of Johnson Controls, with a better understanding of their responsibilities as exporters and suppliers. Our goal is to ensure that suppliers are aligned with the procedures of Johnson Controls, as we as a supply chain strive to adhere to Customs Regulations.

This section contains information regarding:

- **Shipment requirements for exports to Johnson Controls**
- **Warehouse & inventory requirements for international shipments**
- **Documentation requirements**

Each supplier to Johnson Controls, Inc. is responsible for complying with all customs laws and regulations as it relates to their activity with Johnson Controls, Inc. This includes, but is not limited to, the items outlined in this procedures manual.

Note: Trade Agreement reporting is found in the section on Supply Chain Management NAFTA and Trade Agreements.

7.6.1 INCOTERMs 2010®

Johnson Controls Buyer applies INCOTERMs® 2010. Johnson Controls will eliminate INCOTERM® 2000 and will only accept INCOTERM® 2010 by 2019. Regardless of INCOTERM selected, title passes to the Buyer only upon acceptance by Buyer at Buyer's facility where the supplies are to be used. Buyer uses one of two INCOTERMs® 2010 for international shipments, with the preference of Free Carrier ("FCA"), Named Place of delivery:

7.6.2 FCA (free carrier) (Point of Discharge), where the named place is:

- a shipping port, for a full container shipment
- an airport, for an air shipment
- a warehouse within the country of origin, if less than a container or part of a shipment consolidation process

This means the seller / supplier will be responsible for:

- loading material onto transport vehicle
- providing all necessary paperwork such as export licenses, documentation
- securing required authorizations
- checking that the quantity and quality of the goods are in conformance with the submitted documentation
- provide appropriate packaging and markings

Johnson Controls assumes all risk of loss or damage from the time the material has been delivered to our carrier and assumes insurance responsibilities.

7.6.3 DDP (Delivered Duty Paid)

Where the named place is the Johnson Controls receiving location. The seller / supplier will be responsible for all items listed in #1 above; inclusive of inland freight and any duties/fees payable for import until it reaches the destination. The seller / supplier is also responsible for;

- cost & management of movement from manufacturing facility to regional warehouse, including any duties/fees payable for import until it reaches the warehouse.
- obtaining all import licenses, documentation and authorizations required to be the importer of record
- assume all risk of loss or damage from time material has been delivered to carrier until title at destination where goods will be used
- Insurance

If your shipments will be utilizing a different INCO term, you will be notified by the buyer, materials manager or logistics analyst.

7.6.4 Warehouse and Inventory Requirements

In order to minimize the risk of an inventory stock-out and to support lean manufacturing, Johnson Controls strategy is to utilize a regional warehouse/domestic pick-up point to manage and retain buffer stock inventory for certain international supply chains and will notify the supplier to implement these requirements.

- A supplier may manufacture overseas, but they are maintaining an inventory at a U.S. warehouse or distribution center. Johnson Controls will then pick up the freight at the named domestic facility as determined by the in-bound terms.
- If a supplier does not have a domestic presence, Johnson Controls will be the importer and will recommend the third-party warehouse provider with whom the supplier should hire to manage the buffer stock. Johnson Controls will determine on a case-by-case basis when this requirement is necessary.

7.6.5 Custom Brokers

Johnson Controls buyer has designated Customs Brokers to clear shipments on our behalf. Buyer's designated Customs broker will be used for all international shipments unless INCOTERMs® are

DDP. Suppliers must use note designated broker as per the routing instructions set forth by Buyer. For DDP shipments, Seller may use the licensed U.S. Customs broker of their choosing.

7.6.6 International Shipment Documentation

Suppliers are responsible for providing complete and accurate documentation for all international shipments. Documents must be sent with each cross-border shipment and faxed to the broker that will be clearing the product through customs. Documents include, but are not limited to, the Bill of Lading, Packing List, Commercial or Pro-Forma Invoice, and a Certificate of Origin (NAFTA) where applicable. Incomplete or inaccurate documents may delay the timely delivery of product to a Johnson Control's facility; therefore, failure to supply complete and accurate documentation will result in a supplier DMR and a debit for the cost incurred in a delayed shipment.

7.6.7 Valuation of Merchandise

Suppliers are responsible for stating the proper value of the product being shipped per the terms and conditions of your contract with Johnson Controls. Failure to do so may result in a DMR and subsequent DMR debit charge.

7.6.8 Harmonized System of Tariffs usage (HS)

All suppliers are required to show the proper tariff classification, for each product line item, on the commercial or pro forma invoice.

7.6.9 Country of Origin

All suppliers are required to show the proper country of origin for each product line item on the commercial or pro forma invoice.

7.6.10 Country of Origin Marking

Every article of foreign origin (or its container) shall be marked in accordance with the regulations of the importing country.

7.6.11 Commercial or Pro-Forma Invoice

A commercial or pro forma invoice shall accompany each export to a Johnson Controls facility (see attached). Contents of invoices and general requirements:

1) Port of entry to which the merchandise is destined.
2) Complete name and address of consignee, along with the plant 10 # (see Transportation/Billing Requirements section, Facilities Listing link of this manual).
3) Complete name and address of shipper, including tax 10#.
4) Complete name and address of the customs broker
5) Ship date
6) Johnson Controls Part/Model Number (This is important to ensure the correct HS classification is assigned and to determine preferential trade eligibility. Do not modify the Johnson Controls part number (e.g., by adding a suffix or prefix.)
7) A detailed description of the merchandise that adequately describes the goods in term that the average person will understand. If shipment involves equipment, the invoice must also include the serial # and make & model # in the body of the invoice.
8) Quantities, weights and unit of measures of the merchandise shipped. (e.g. liters, gallons, Kilograms, lbs,)
9) The purchase price in the currency of purchase.
10) Value of each item in the currency in which the transactions are usually made.
11) Type of currency.
12) All charges upon the merchandise itemized by name/category and amount.
13) All rebates, drawbacks, bounties, separately itemized, allowed upon the exportation of the merchandise.
14) Country of origin.

15) Assists, dies, molds, tools, engineering work and cost associated.
16) Tariff classification number.
17) INCOTERMs®; see, Section on INCOTERMs® above.
18) Invoice #
19) Declaration of truth

Invoice and all attachments must be in the language appropriate for the country of importation. For shipments to the United States, the invoice is required to be in English or be appropriately translated into English. When the above contents are excluded from the invoice, the customs clearance of the shipment is delayed. Any costs for storage incurred due to non-compliance with these requirements may be billed back to Seller.

Special Notes:

- Equipment has to be invoiced separately from Raw Material
- Equipment has to be separated on different skids from Raw Material inside the cargo
- Invoices must be sent at the time of dispatch of the shipment from origin with an ETA report (Estimated Time of Arrival), specifying the following:
- Trailer Number
- Quantity of bundles or skid Time of estimated arrival

7.6.12 International Shipment Checklist

1) Completed Bill of Lading with the name and address of the shipper, the consignee, and the broker. This must be the same BOL # as on the ASN
2) Completed Packing List
3) Completed Commercial or Pro-Forma Invoice per guidelines listed above
4) Completed Certificate of Origin or NAFTA certificate
5) Completed Annex 18 & Certificate of Manufacturer for suppliers shipping metal sheets, steel piping, and textiles (fabrics, zippers, heaters, leather) to Mexico
6) Completed Shipper's Export Declaration for shipments to Mexico or an authorization for the Mexican Customs Broker allowing them to complete the form
7) Completed Textile Declaration for shipments into the US only of rolled goods or cloth

7.7 Shipping and Replenishment Performance

The standard for Johnson Controls suppliers is 100% on-time arrival of all parts required by the Johnson Controls manufacturing site. This means shipping the correct quantity of the correct product to the correct location according to the designated replenishment method, and to contact the plant if the release schedule cannot be met.

It is mandatory that the supplier contact the Johnson Controls plant immediately upon recognition if the released schedule cannot be met. The supplier shall have a process in place to ensure that any potential problems that could impact the Johnson Controls operations are communicated as soon as they are identified. Differences shall be resolved with appropriate customer contact prior to shipment time.

Johnson Controls will be expecting suppliers to receive forecasts and releases electronically, and to process them without manual entry. This strategic direction is being deployed at all Johnson Controls locations. Our suppliers must have the capability to interface electronically with us upon request.

7.8 Forecast Expectations

Suppliers are expected to review new forecast transmission to determine whether any capacity or material constraints are violated. Any violations that cannot be resolved must be communicated to Johnson Controls in a proactive and timely manner. E2Open is one tool used by Johnson Controls to communicate forecasts to suppliers and for suppliers to communicate forecast and order commitments and the supplier’s ability to support 20% upside demand to Johnson Controls. EDI suppliers will receive the forecast either via EDI or some alternate electronic method while suppliers

currently not using E2Open or EDI will receive the forecast via email until such time as the supplier is using E2Open or EDI capable.

As part of Johnson Controls forecasting expectations, refer to the following details:

- Johnson Controls agrees to provide Supplier with a rolling 12 month or 52 week forecast ("Forecast"). The final [based on supplier contracts - PBU/ERP specific] month will be a binding forecast upon which the Supplier may rely in planning its manufacturing efforts ("Binding Forecast"). Supplier shall supply the quantities of [Product] in the Binding Forecast ("Binding Supply Commitment") plus or minus [based on supplier contracts - PBU/ERP specific] percent.
- Johnson Controls shall issue a Blanket PO for a set duration of time that will contain an item number, description, quantity, price, location and other pertinent information. The prices for the items on the Blanket PO will be binding on both parties during the term of the Blanket PO. Releases will be provided, in writing, by Johnson Controls or one of its affiliate plants, or if by phone, will be confirmed in writing (also called a "JIT" or may have another name used by the local team). Each Release will reference the Blanket PO, part number, item number, description, quantity, delivery date, price, and location.
- Supplier shall reserve [based on supplier contracts - PBU/ERP specific] weeks supply of components needed to make the Product (collectively the Components") onsite at Supplier's facility.
- Supplier shall also reserve [based on supplier contracts - PBU/ERP specific] weeks of finished Product at Supplier's facility, which shall not exceed the amount of the Binding Forecast.
- The forecast grants fabrication and raw material authorizations as specified in the commercial terms between Johnson Controls Purchasing and the supplier.

7.9 Replenishment

Authorization to ship specific product will be communicated to the supplier through Johnson Controls plant designated replenishment method (MRP, Blanket POs/Supplier Schedules, KanBan, min/max, sequence).

A "Delivery signal" will show a delivery date. A delivery date defines when the goods are to be ultimately received by Johnson Controls. In this context the delivery date does NOT mean delivery to carrier. The supplier is expected to understand transit time and have product ready for shipment in order to meet the delivery date on the schedule, inclusive of transit time. Contact the Johnson Controls plant if you have any questions as to which date is being transmitted.

1) Supplier is required to take ownership for all parts manufactured for Johnson Controls.
2) Control its processes to assure that the physical shipments correspond with the Johnson Controls demand.
3) Have the ability to meet an agreed upon percentage week to week net schedule fluctuations over the period authorized. This does not apply once the supplier has been notified of a phase In- Phase Out.
4) Contact Johnson Controls Plant Materials Representative(s) if the supplier is unable to meet the delivery schedule, and supply the following information:
    a) Date the parts will be available.
    b) Suppliers plan to get back on schedule. Assign the necessary resources to resolve any delivery issues.
    c) If an established delivery schedule is missed or release schedule cannot be met, contact your Johnson Controls plant representative for agreement on necessity of expedites.

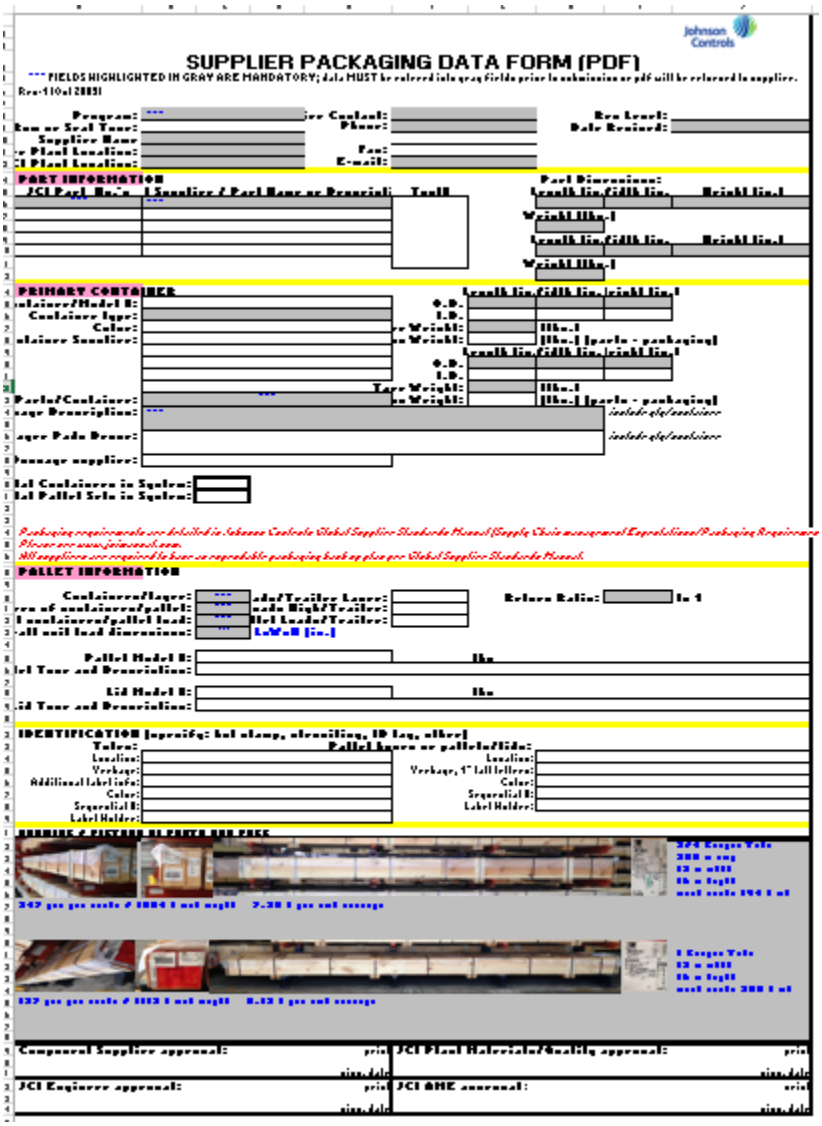
d) Obtain approval from Johnson Controls for the mode & carrier chosen. Every effort must be expended to reach agreement on the expedited freight responsibility at the time of shipment. If the supplier is responsible, the freight must be shipped "PREPAID" and the supplier may choose their logistics company; however, it is strongly recommended that supplier contact Trans International.

A supplier will be held responsible for downtime and other associated costs (i.e., Premium freight or charter costs) due to their inability to meet delivery requirements, in accordance to the purchasing terms and conditions.

7.10 Packaging Requirements

The supplier is responsible for ensuring that all materials are packaged to arrive safely, securely, and without damage to the Johnson Controls facility. The supplier is responsible for complying with the Supplier Packaging Data Form provided by the manufacturing facility. Johnson Controls is committed to sustainable practices including efforts to reduce packaging, use returnable packaging, and maximize recycling of packaging materials in order to minimize packaging waste and expects suppliers to share these commitments.

Packaging must be compliant to all applicable legal requirements and guidelines. Wood used in packaging must be correctly treated. Additional specific packaging requirements are communicated by the purchasing entity.



SUPPLIER PACKAGING DATA FORM (PDF)

7.11 Labeling Requirements

The adherence to these labeling requirements, as well as the packaging requirements also stated within the Johnson Controls Global Supplier Standards manual, is mandatory and will be continuously monitored. Non-compliance to these instructions will be brought to your attention through the issuance of a DMR (Discrepant Material Report) by our receiving plant.

Suppliers must ensure that all materials shipped to Johnson Controls are correctly labeled and that the labels are properly attached to all packages. Whenever possible the label printing should be a bold black type with at least 25mm high letters. No more than one (1) part number is to be packaged in a container.

Supplier owned packaging with "Return to" labels must be located in a clearly visible area that does not interfere with the production identification labels.

Label protection against moisture, weathering, abrasion, etc., may be required in harsh environments and is encouraged wherever practical. Care must be taken to assure that labels meet reflectivity and contrast requirements and can be scanned with contact & non-contact devices.

It is the supplier's responsibility to remove labels on returnable containers and affix a new label prior to shipment, unless prior arrangements have been made with the Johnson Controls receiving plant.

7.11.1 Part Shipping Labeling

All labels affixed to a container must be barcode scan-able and contain the following information:

1) Johnson Controls Part Number (barcoded)
2) Johnson Controls Purchase Order Number (barcoded)
3) Johnson Controls PO line & Release number or Scheduling Agreement number (barcoded)
4) Quantity (barcoded)
5) Johnson Controls Supplier ID Number
6) Label Serial Number
7) Part Description
8) MFG Date (manufacturing date)
9) Part Revision Level
10) Lot Number
11) International Build Statement (i.e. Made in Mexico)
12) Manufacturing Address (Actual address of suppliers final assembly plant - name should Mirror Johnson Controls scorecard plant location description to the fullest extent possible)

All containers must have the final Johnson Controls destination information affixed either as a master label on the skid or within their standard label format affixed to each container. Data required includes Johnson Controls site name, Johnson Controls site number (when known), address, city, state and postal code.

7.11.2 Mixed Load Labeling

When release quantities require cartons of mixed material on one pallet, a special "Mixed Load" label must to be used in addition to being labeled per Johnson Controls Labeling Specifications. All containers must be loaded to cubic capacity in order to maintain load density, package integrity, and obtain optimum transport utilization. The following criteria must be observed when shipping mixed loads to a Johnson Controls plant:

1) Cartons must be uniform in size to maintain load stability.
2) Avoid shipping less than a full layer whenever possible.

Johnson Controls should be contacted to establish load quantities into their releases. For unit load packaging that is shrink wrapped, the master label and mix load labels must be applied to the outside. When individual containers are palletized and made into a unit load for mechanical handling, the master label shall be attached to two adjacent sides of the unit load.

7.11.3 International Shipment Labeling

Shipments to or from countries (e.g., Mexico, U.S., Canada, European Union) may require special labeling, other than the Odette standard. Johnson Controls should be contacted to assist in obtaining the proper labels required if needed.

7.11.4 Sample Shipment Labeling

When shipping sample parts for Johnson Controls review or new revision level, a "Sample Part" label is utilized containing the name of the site requestor and/or the person expecting to receive the container.

7.12 Discrepant Material Reports (DMR's)

This section defines the process Johnson Controls uses to communicate issues and monitor supplier performance with regards to delivery.

7.12.1 DMR Requirements

A DMR is issued when a shipment is received with one or more issues in the following categories; issues could occur at the header level, line item level or both. The standard for Johnson Controls suppliers is 100% on time arrival of all parts required by Johnson Controls. This means shipping the correct quantity of the correct product to the correct location at the designated time via the designated carrier according to the designated replenishment method, and to contact the plant if the release schedule cannot be met (proactive measures). There are 4 tactical areas where DMR's will be used to address Johnson Controls supplier delivery issues:

1) Delivery
2) Lead time accuracy
3) Incorrect/Missing Labels and/or Paperwork (Packing slip, ASN, etc.)
4) Freight routing or damages

7.12.2 DMR Initiation

The Johnson Controls' Supplier Scheduler/Buyer/Buyer or designee identifies delivery shipment errors as close to the time of the receipt as possible and creates a DMR within Johnson Controls' internal IRIS system.

The Supplier Scheduler/Buyer/Buyer or designee reviews the shipment documentation and evidence of the error and determines whether the DMR is valid.

When the Supplier Scheduler/Buyer/Buyer approves the issue, an e-mail notification is automatically sent to the affected supplier and any additional people the Supplier Scheduler/Buyer has entered into the issue.

7.12.3 DMR Supplier Response Expectations

Upon receipt of a DMR, the supplier is required to complete a 4D within 48hrs, and if required an 8D (See below for 8D instructions). The supplier may be issued a $250 (debit) Supplier Charge Back (SCB) to cover the administrative fee of processing the DMR. Additional costs (SCB) may be administered depending on the issue (i.e. sorting, relabel, repack). The supplier will be made aware of these actions before they take place.

If the supplier believes that the DMR is inaccurate or unsubstantiated, the supplier may dispute the issue, which then prompts the Supplier Scheduler/Buyer to either agree with the dispute, reject the dispute and return the DMR to the supplier, or override the dispute in order to allow the 4D to progress through the system.

The supplier is expected to assign an internal champion (his/her name, phone number is communicated to the related plant) to work with the manufacturing site (who is also expected to name an internal champion) to address all DMR related issues and to provide timely and accurate responses to the issues that have been identified via the DMR.

The supplier's DMR champion must track the suppliers DMR performance, drive corrective action for all DMR's and communicate improvement plans (through the DMR supplier action tracker process) to the manufacturing site, and any additional supply chain management personnel. This will be a month-to-month, YOY (year over year) reporting process.

7.12.4 DMR 8D Supplier Response Expectations

Provide the requesting Johnson Controls facility an initial 8D complete through the first 4 steps within one business day. This should include identification of all potential causes of the problem, how the problem was communicated to the Scheduler/Buyer, and immediate containment actions.

Provide the completed 8D to Johnson Controls within 5 business days or agreed date of the DMR issuance. Repetitive errors or chronic problems with information accuracy will result in the DMR issue being escalated to Level I - Plant Material Manager and, if not resolved, would next escalate to Level II - Product Business Unit (PBU) Managers.

7.12.5 DMR 8-D Supplier Scheduler/Buyer Responsibility

If the Supplier Scheduler/Buyer approves the dispute, the DMR is removed from the supplier's record and considered closed. The related DMR quantity does not count in the DMR score calculation.

- If supplier's response (either dispute or 4D) is not obtained within one business day of issuance, Johnson Controls considers the DMR acknowledged and close the DMR as accepted. The quantity will count against the supplier's rating for that month, and it will be noted that the supplier did not respond or dispute.

7.12.6 Identify/Containment

Unless a dispute is accepted, the supplier will perform the appropriate intervention to eliminate any opportunity for manufacturing site interruptions. The Supplier Scheduler/Buyer reviews and tracks the corrective action submitted by the supplier for each DMR issued. The Supplier Scheduler/Buyer determines if the corrective action is effective and will close the DMR. Once a DMR is closed, it cannot be disputed, cancelled or reversed.

- If corrective action is not effective, the Supplier Scheduler/Buyer issues a Management Quality Review (MQR) in accordance with the Management Quality Review Procedure.

Effective October 26, 2009, supplier delivery performance will be measured in PPM's and percent (for on-time delivery metric). Performance will be documented via the Supplier Scorecard. Johnson Controls has 4 tactical areas in delivery that will be measured:

1) Delivery
2) Lead time
3) Incorrect/Missing Paperwork (Packing slip, ASN, etc.)
4) Incorrect/Missing Packaging labels
5) Freight routing or damages

7.12.7 DMR score = [total pieces late, discrepant] / [total pieces shipped] * 1,000,000 = PPM

Once a DMR is approved, the metric is automatically moved from Johnson Controls internal IRIS system to the Supplier Scorecard Application. Receipt information is added each month regardless of DMR activity, so if a supplier has no DMR's in a given month, the DMR Score would be zero for that month. The supplier score would be reported for the quarter and year during manufacturing sites' Operations Reviews.

Suppliers may be debited $250 US dollars or 200 Euros for every closed DMR issued.

A DMR Debit Memo is issued to process the charges. The original is sent to Accounts Receivable and copies are forwarded to the site Controller and Buyer. The Debit Memo will be processed within five days of its receipt.

7.13 Logistics Requirements

Logistics requirements Johnson Controls will determine carrier selection and routing instructions to effectively manage inbound freight through the careful consideration of these factors:

- **Supplier location**
- **Product volume**
- **Packaging**
- **Transportation costs**

Johnson Controls expects our suppliers to share in the ownership of the shipping process to ensure products are received in a timely and cost-effective manner - essentially, at the right time, in the right container, at the right shipping price, to the right location. Below you will find supplier responsibilities necessary in order to fulfill our transportation requirements.

7.13.1 Logistics Requirements Communication

All shipments must be accompanied by appropriate documentation. Documentation may include, but not limited to, packing slip, bill of lading, NAFTA certificates, commercial invoices and hazardous materials information.

The supplier is responsible for contacting the appropriate carrier, freight forwarder and Johnson Controls materials personnel to ensure timely pick-up and delivery. It is the supplier's responsibility to set shipping window times in conjunction with Johnson Controls plant materials personnel and the carrier to ensure delivery at the Johnson Controls facility by the delivery date shown on the release.

Please note that Johnson Controls is in the process of requiring plans to move to Advanced Shipment Notification (ASN) in 2018 for all shipments to our manufacturing facilities. Please be prepared to support ASN's at that time.

7.13.2 Packing Slip Requirement

Johnson Controls requires all suppliers to prepare their packing slip(s) in a standard format. The standard format can be found below, as well as within the forms section of the Standards Manual website.

Failure to comply with this requirement will result in a DMR for the shipment per the DMR procedure. Items required in a specific location include:

1) Packing Slip # Must be barcode readable
2) Sold To Info
3) Supplier Production Plant
4) Ship To
5) BOL #
6) Customer Part # Must be barcode readable
7) Description
8) Supplier Part #
9) Quantity Shipped Must be barcode readable
10) PO# or Schedule Agreement # / line/Release Must be barcode readable
11) Footer which includes page number and repeats the Packing Slip #

7.13.3 Bill of Lading Requirements

The following information instructs a Johnson Controls Supplier on how to properly complete a bill of lading (BOL) form for shipments that are sent collect into Johnson Controls. Non-compliance to these requirements that result in excess freight charges to Johnson Controls will be debited back to the Supplier.

A separate bill of lading must be created for each ship-to location, even when shipping on the same carrier. Each BOL must contain a unique BOL #.

Consignee and Destination: the consignee should be shown as: Johnson Controls, and Plant name. The Destination must include: Street address, city, state, and zip. Some Johnson Controls facilities may require a variation to this.

Example 1: Standard Plant Consolidation

Johnson Controls- Reynosa (McAllen, TX) Consolidation c/o Johnson Controls.
5201 George McVay Dr. Suite I & J Doors 1 - 6
McAllen, TX 78503

Example 2: Shipping through a Broker to a plant in Mexico

Johnson Controls Operations Mexico S De R.L. De CV
C/O LASER FORWARDING INC. (WHSE 3)
13166 South Unitec Dr – Uniroyal Industrial Park
Laredo, TX 78045

1) **Number of Packages and/or Handling Units** - If packages are consolidated on a skid, provide both package count and skid count on the bill of lading.
2) **Description of shipment** - Enter the description of each line item. Please note the type of package (carton, tote, barrel, etc.) and the quantity per package. Each line item must include the correct National Motor Freight Classification (NMFC) Item # and Class. This information is critical to ensure correct rating so as to avoid excessive charges.
3) **Weight** - Enter the total gross weight, in pounds, for each line item. Include the weights of pallets, skids or any secondary container.
4) **Freight Terms** - Indicate 'FOB Origin, Freight Collect' terms if Johnson Controls is responsible to pay for the shipment. All freight shipped to Johnson Controls facilities must be shipped freight collect unless Purchase Order states otherwise or shipment is a Supplier paid expedite or routing deviation.

7.13.4 Routing Instructions

Where Johnson Controls is responsible for paying freight charges, a routing instruction will be provided to the supplier. The routing instruction will include at least one primary carrier and an expedited carrier and is issued by each Johnson Controls receiving location.

Please use the location specific routing instructions provided by the procurement team or plant materials team.

A copy of the routing instruction must be signed and returned to the Johnson Controls plant materials contact.

Plant approval must be obtained from the receiving plant materials personnel for any routing instruction deviation. Any deviation from these routing instructions without plant approval may result in a supplier debit to compensate for excess freight charges and/or administrative fees.

7.13.5 Premium Freight/Expedites

Any premium freight which results from a supplier event will be managed and paid for by the supplier. Johnson Controls will not take responsibility for the set-up, management, tracking or payment of a supplier-caused premium freight event. The supplier will communicate to the plant all expedite information and provide milestone updates to keep the plant informed on the arrival of the expedited components. Johnson Controls reserves the right to take- over the management of the premium freight event if the supplier fails to communicate and effectively manage the event themselves, and supplier may be charged for Johnson Controls time.

When expediting freight at Johnson Controls expense, authorization must be obtained from the appropriate Johnson Controls receiving plant materials personnel. Unauthorized expedited freight may result in debit to the supplier to compensate for excess freight charges and, or administrative fees.

7.14 Replenishment Methodology Requirements

To standardize supply chains, optimize inventory levels and minimize freight expense, Johnson Controls has defined four replenishment methods to order material from our supply chain partners.

Our goal is three-fold:

- Optimize turns, truck utilization, and prevent premium freight by using one of 4 standard methods per discrete supply chain; minimize use of other methods
- Maximize internal & external visibility of component parts
- Appropriate use of technology & electronic commerce to communicate replenishment signals

This means that a supplier could receive different replenishment signals from different Johnson Controls receiving plants, and a single Johnson Controls plant could use different signals for different supplier material/parts.

The determination of which method is used is based on many components, but to simplify this explanation, it depends on the following:

- Lean manufacturing strategy – or where the Johnson Controls plant is at in their journey to lean manufacturing.
- Characteristics of the market --- or production strategy required to meet customer needs as BT&S spans range from stocked product to engineered-to- order product
- Supply Chain footprint – or how close the shipping point is to the end destination.

To determine the optimal replenishment method to use for each component, Johnson Controls plants follow a standardized process updated annually, or when operational or supply chain conditions shift. Johnson Controls will communicate these changes to the supplier as soon as possible.

The five standard methods are:

- **MRP –** Discrete purchase order or a release signal for a purchase order, which could be communicated through standard 830 and 862 EDI signal or E2Open, to specify required shipment quantities and delivery dates.
- **Kanban -** Kanban may be communicated via e-mail, a visibility tool, or other trigger. Kanban provides a shipment signal, enabling the supplier to ship previously agreed quantities.
- **Min/Max -** Min/Max provides a range of acceptable inventory levels along with current inventory levels to the supplier. The supplier must monitor and calculate their required shipment quantities.
- **VMI (Vendor Managed Inventory)-** In addition, a supplier may be requested to manage the inventory levels per Min/Max or other replenishment method.
- **Sequence -** Replenishment data that is sent to suppliers to optimize truckload utilization and/or prioritize shipments. This method is commonly used when varying models/configurations of the same part type from a supplier are received and can be immediately staged for production.

Supplier consignment arrangements are desired in appropriate circumstances.

Alternative methods will be evaluated for conversion to standard. If a specific situation warrants pursuing a non-standard method, the Johnson Controls will confer with the supplier.

Manual replenishment signals may be used in cases of system unavailability or malfunction, or in cases of other extraordinary events.

7.15 Security

Johnson Controls is committed to ensuring the security of its supply chain. Security measures are set in place with the primary goal of preserving the safety of our employees, protecting the physical property from loss or damage, safeguarding the integrity of our intellectual property and preventing interruptions in the manufacturing process. We expect the same approach to be taken by the supplier with whom we conduct business and partner, which is to make a commitment toward the common goal of creating a more secure and efficient supply chain.

7.15.1 Security Procedure Requirements

Suppliers should develop and implement a comprehensive plan to enhance security procedures throughout their operations and supply chain. The recommendations below have been outlined by U.S. Customs & Border Protection as part of Customs-Trade Partnership Against Terrorism (C-TPAT), a program in which Johnson Controls is a member. The company should have written security procedures in place that address the following (updated per updated release of requirements by US CBP):

7.15.2 Business Partner Requirements:

Importers must have written and verifiable processes for the selection of business partners including manufacturers, product suppliers and vendors.

7.15.2.1 Security Procedures:

For those business partners eligible for C-TPAT certification (carriers, U.S. ports, terminals, brokers, consolidators, etc.) the importer must have documentation (e.g., C-TPAT certificate, SVI number, etc.) indicating whether these business partners are or are not C-TPAT certified. For those business partners not eligible for C-TPAT certification, importers must require business partners to demonstrate that they are meeting C- TPAT security criteria via written/electronic confirmation (e.g., contractual obligations via a letter from a senior business partner officer attesting to compliance; a written statement from the business partner demonstrating their compliance with C-TPAT security criteria or an equivalent WCO accredited security program administered by a foreign customs authority; or by providing a completed importer security questionnaire). Based upon a documented risk assessment process, non-C-TPAT eligible business partners must be subject to verification of compliance with C-TPAT security criteria by the importer.

7.15.2.2 Point of Origin:

Importers must ensure business partners develop security processes and procedures consistent with the C-TPAT security criteria to enhance the integrity of the shipment at point of origin. Periodic reviews of business partners' processes and facilities should be conducted based on risk and should maintain the security standards required by the importer.

7.15.2.3 Participation / Certification in Foreign Customs Administrations Supply Chain Security Programs:

Current or prospective business partners who have obtained a certification in a supply chain security program being administered by foreign Customs administration should be required to indicate their status of participation to the importer.

7.15.2.4 Other internal criteria for selection:

Internal requirements, such as financial soundness, capability of meeting contractual security requirements, and the ability to identify and correct security deficiencies as needed, should be addressed by the importer. Internal requirements should be assessed against a risk-based process as determined by an internal management team.

7.15.2.5 Container Security:

Container integrity must be maintained to protect against the introduction of unauthorized material and/or persons. At point of stuffing, procedures must be in place to properly seal and maintain the integrity of the shipping containers. A high security seal must be affixed to all loaded containers bound for the United States. All seals must meet or exceed the current PAS ISO 17712 standards for high security seals.

7.15.2.6 Container Inspection:

Procedures must be in place to verify the physical integrity of the container structure prior to stuffing, to include the reliability of the locking mechanisms of the doors. A 7-point inspection process is recommended for all containers:

- Front wall
- Left side
- Right side
- Floor
- Ceiling/Roof
- Inside/outside doors
- Outside/Undercarriage

7.15.2.7 Container Seals:

Written procedures must stipulate how seals are to be controlled and affixed to loaded containers to include procedures for recognizing and reporting compromised seals and/or containers to U.S.

Customs and Border Protection or the appropriate foreign authority. Only designated employees should distribute container seals for integrity purposes.

7.15.2.8 Container Storage:

Containers must be stored in a secure area to prevent unauthorized access and/or manipulation. Procedures must be in place for reporting and neutralizing unauthorized entry into containers or container storage areas.

7.15.2.9 Physical Access:

Controls Access controls prevent unauthorized entry to facilities, maintain control of employees and visitors, and protect company assets. Access controls must include the positive identification of all employees, visitors, and vendors at all points of entry.

7.15.2.10 Employees:

An employee identification system must be in place for positive identification and access control purposes. Employees should only be given access to those secure areas needed for the performance of their duties. Company management or security personnel must adequately control the issuance and removal of employee, visitor and vendor identification badges. Procedures for the issuance, removal and changing of access devices (e.g. keys, key cards, etc.) must be documented.

7.15.2.11 Visitors Controls:

Visitors must present photo identification for documentation purposes upon arrival. All visitors should be escorted and visibly display temporary identification.

7.15.2.12 Deliveries (including mail):

Proper vendor identification (I D) and/or photo identification must be presented for documentation purposes upon arrival by all vendors. Arriving packages and mail should be periodically screened before being disseminated.

7.15.2.13 Challenging and Removing Unauthorized Persons:

Procedures must be in place to identify, challenge and address unauthorized/unidentified persons.

7.15.2.14 Personnel Security:

Processes must be in place to screen prospective employees and to periodically check current employees. Application information, such as employment history and references must be verified prior to employment.

7.15.2.15 Background checks / investigations:

Consistent with foreign, federal, state, and local regulations, background checks and investigations should be conducted for prospective employees. Once employed, periodic checks and reinvestigations should be performed based on cause, and/or the sensitivity of the employee's position.

7.15.2.16 Personnel Termination Procedures:

Companies must have procedures in place to remove identification, facility, and system access for terminated employees.

7.15.2.17 Procedural Security:

Security measures must be in place to ensure the integrity and security of processes relevant to the transportation, handling, and storage of cargo in the supply chain.

7.15.2.18 Documentation Processing:

Procedures must be in place to ensure that all information used in the clearing of merchandise/cargo, is legible, complete, accurate, and protected against the exchange, loss or introduction of erroneous information. Documentation control must include safeguarding computer access and information.

7.15.2.19 Manifesting Procedures:

To help ensure the integrity of cargo received from abroad, procedures must be in place to ensure that the information received from business partners is reported in an accurately and timely manner.

7.15.2.20 Shipping & Receiving:

Arriving cargo should be reconciled against information on the cargo manifest. The cargo should be accurately described, and the weights, labels, marks and piece count indicated and verified. Departing cargo should be verified against purchase or delivery orders. Drivers delivering or receiving cargo must be positively identified before cargo is received or released.

7.15.2.21 Cargo Discrepancies:

All shortages, overages, and other significant discrepancies or anomalies must be resolved and/or investigated appropriately. CBP and/or other appropriate law enforcement agencies must be notified if illegal or suspicious activities are detected, as appropriate.

7.15.2.22 Security Training and Threat Awareness:

A threat awareness program should be established and maintained by security personnel to recognize and foster awareness of the threat posed by terrorists at each point in the supply chain. Employees must be made aware of the procedures the company has in place to address a situation and how to report it.

Training should be provided to employees in the shipping and receiving areas, as well as those receiving and opening mail. Specific training should be offered to assist employees in maintaining cargo integrity, recognizing internal conspiracies, and protecting access controls. These programs should offer incentives for active employee participation.

7.15.2.23 Physical Security:

Cargo handling and storage facilities in domestic and foreign locations must have physical barriers and deterrents that guard against unauthorized access. Importers should incorporate the following C-TPAT physical security criteria throughout their supply chains as applicable.

7.15.2.24 Fencing:

Perimeter fencing should enclose the areas around cargo handling and storage facilities. Interior fencing within a cargo handling structure should be used to segregate domestic, international, high value, and hazardous cargo. All fencing must be regularly inspected for integrity and damage.

7.15.2.25 Gates and Gate Houses:

Gates through which vehicles and/or personnel enter or exit must be manned and/or monitored. The number of gates should be kept to the minimum necessary for proper access and safety.

7.15.2.26 Parking:

Private passenger vehicles should be prohibited from parking in or adjacent to cargo handling and storage areas.

7.15.2.27 Building Structure:

Buildings must be constructed of materials that resist unlawful entry. The integrity of structures must be maintained by periodic inspection and repair.

7.15.2.28 Locking Devices and Key Controls:

All external and internal windows, gates and fences must be secured with locking devices. Management or security personnel must control the issuance of all locks and keys.

7.15.2.29 Lighting:

Adequate lighting must be provided inside and outside the facility including the following areas: entrances and exits, cargo handling and storage areas, fence lines and parking areas.

7.15.2.30 Alarms Systems & Video Surveillance Cameras:

Alarm systems and video surveillance cameras should be utilized to monitor premises and prevent unauthorized access to cargo handling and storage areas.

7.15.2.31 Information Technology Security- Password Protection:

Automated systems must use individually assigned accounts that require a periodic change of password. Information technology (IT) security policies, procedures and standards must be in place and provided to employees in the form of training.

7.15.2.32 Information Technology Security - Accountability:

A system must be in place to identify the abuse of information technology (IT) including improper access, tampering or the altering of business data. All system violators must be subject to appropriate disciplinary actions for abuse.

7.16 Johnson Controls Certificates of Origin, North America Free Trade Agreement ("NAFTA"), and Other Preferential Trade Agreements:

All suppliers of Johnson Controls have responsibilities relative to NAFTA and other Trade Agreements whether or not supplier's ship products cross border. Our goal is to ensure that suppliers are aligned with the procedures of Johnson Controls as we as a supply chain strive to adhere to Customs Regulations. As put forth in our global terms and conditions, each supplier to Johnson Controls is responsible for complying with all customs laws and regulations as it relates to their activity with Johnson Controls. This includes, but is not limited to, the items outlined in this standards manual.

7.16.1 Certification Requirements

Certificate of origin, preferential trade certifications, where applicable, Export Control Classification Number (ECCN). Buy American Certificates, and Manufacturer's Affidavit (for US origin products only) must be provided annually for ALL production parts and follow the criteria listed below:

- Each calendar year certificates must be received no later than December 1st of the preceding year. e.g. Certificates for calendar year 2018 must be received no later than December 1st, 2017.
- Certificates for parts that are launched during the calendar year must be provided immediately.

7.16.2 Suppliers doing business from North America

Any supplier with a North American address to whom a purchase order is given, regardless of where the parts are manufactured, has the responsibility to provide a

Certificate of origin and a preferential trade certification (e.g., NAFTA certificate of origin) for each part that it supplies to Johnson Controls that qualifies for preferential duty treatment (e.g., NAFTA, U.S.-Korea FTA, US-IL FTA, US-CL FTA, CAFTA-DR, MX-EU FTA).

If Johnson Controls incurs duties/fees during importation and/or must solicit the supplier for documentation because the supplier failed to meet the requirements listed in 7.16.1 above, the supplier will be debited either a standard $500.00 per month per supplier number, or the sum of all fees & duties paid as a result of not having a proper certification on file, whichever is greater.

Responses must be complete and accurate, including the Johnson Controls (Johnson Controls part number and the supplier number as shown on purchase orders. In addition to direct financial penalties, suppliers that fail to comply will not be eligible for a Supplier award, and at risk would be a supplier's ability to quote on new business. North American suppliers are responsible for submitting the following information:

NAFTA Certificate of Origin

A NAFTA Certificate of Origin that includes each part that is supplied to Johnson Controls, and all related companies must be completed and signed. The header and signature fields must be completed (including the number of pages in field 11). Field #1 must be completed. "Various" is not acceptable in this field. Field #3 may read "Provided to Customs Upon Request". Field #4 must state "Various" since the certificate may be applied to multiple Johnson Controls' facilities.

Part numbers on the certificate must be the Johnson Controls part numbers and should match those printed on your commercial invoice to ensure Johnson Controls can apply the NAFTA preference. Do

not modify the Johnson Controls part number (e.g. add a suffix or prefix). The item level information must be provided on a continuation page(s) that follows the format in the NAFTA Continuation form.

If the list of parts on a certificate covers parts produced at more than one supplier manufacturing location, suppliers must provide and list each individual site on an attachment (see Additional Plant / Shipping Location Form in 7.16.2.2 below).

Standard Certificate of Origin

If Johnson Controls purchases a component from within the NAFTA territory and the supplier cannot certify the part as NAFTA eligible, the supplier is still required to provide a certificate of origin of the part. A standard certificate of origin form may be used. See an example at 7.16.2.1 below. Do not list any items that do not qualify as NAFTA originating on the NAFTA certificate.

7.16.2.1 Exhibit 1: North American Free Trade Agreement – Certificate of Origin

DEPARTMENT OF HOMELAND SECURITY
U.S. Customs and Border Protection

NORTH AMERICAN FREE TRADE AGREEMENT
CERTIFICATE OF ORIGIN

Please type or print — 19 CFR 181.11, 181.22

1. EXPORTER NAME AND ADDRESS TAX IDENTIFICATION NUMBER:	2. BLANKET PERIOD (MM/DD/YY) FROM TO
3. PRODUCER NAME AND ADDRESS TAX IDENTIFICATION NUMBER:	4. IMPORTER NAME AND ADDRESS VARIOUS TAX IDENTIFICATION NUMBER:

5 Description of Good(s)	6 HS Tariff Classification Number	7 Preference Criteria	8 Producer	9 Net Cost	10 Country of Origin

I CERTIFY THAT:

"THE INFORMATION ON THIS DOCUMENT IS TRUE AND ACCURATE AND I ASSUME THE RESPONSIBILITY FOR PROVING SUCH REPRESENTATIONS. I UNDERSTAND THAT I AM LIABLE FOR ANY FALSE STATEMENTS OR MATERIAL OMISSIONS MADE ON OR IN CONNECTION WITH THIS DOCUMENT;

"I AGREE TO MAINTAIN, AND PRESENT UPON REQUEST, DOCUMENTATION NECESSARY TO SUPPORT THIS CERTIFICATE, AND TO INFORM, IN WRITING, ALL PERSONS TO WHOM THE CERTIFICATE WAS GIVEN OF ANY CHANGES THAT COULD AFFECT THE ACCURACY OR VALIDITY OF THIS CERTIFICATE;

" THE GOODS ORIGINATED IN THE TERRITORY OF ONE OR MORE OF THE PARTIES, AND COMPLY WITH THE ORIGIN REQUIREMENTS SPECIFIED FOR THOSE GOODS IN THE NORTH AMERICAN FREE TRADE AGREEMENT AND UNLESS SPECIFICALLY EXEMPTED IN ARTICLE 411 OR ANNEX 401, THERE HAS BEEN NO FURTHER PRODUCTION OR ANY OTHER OPERATION OUTSIDE THE TERRITORIES OF THE PARTIES; AND

11. * THIS CERTIFICATE CONSISTS OF |_____| PAGES, INCLUDING ALL ATTACHMENTS

11a. AUTHORIZED SIGNATURE	11b. COMPANY	
11c. NAME *(Print or Type)*	11d. TITLE	
11e. DATE *(MM/DD/YY)*	11f. ▶ TELEPHONE *(Voice)*	*(Facsimile)*

CBP Form 434

7.16.2.2 Exhibit 2: North American Free Trade Agreement - Certificate of Origin/ Country of Origin Affidavit/ Manufacturer's Affidavit – Additional Plant / Shipping Location Form

Certificate of Origin / Country of Origin Affidavit/ Manufacturer's Affidavit
Additional Plant / Shipping Location Form

Johnson Controls associates your NAFTA Certificate of Origin or Country of Origin Affidavit / Manufacturer's Affidavit document to the parts' corresponding purchase order information. For this reason, different parts in the JCI database could be associated with different locations of the same parent supplier, i.e. a corporate address, a sales office location, a manufacturing location, etc. If you wish to use one document to certify parts that are produced across more than one location, list those additional locations below, then sign and date this form. Your document will be applied to the locations you list below as well as the location on the cover page of the certificate. Please note: This information will be used until it is rescinded or revised by the supplier.

Exporter Name and Address:

Vendor #:
Name: Address:
State/Province #:

Tax ID #:

Exporter Name and Address:

Vendor #:
Name:
Address:
State/Province #:

Tax ID #:

Exporter Name and Address:

Vendor #:
Name: Address:
State/Province #:

Tax ID #:

Exporter Name and Address:

Vendor #:
Name: Address:
State/Province #:

Tax ID #:

This Additional Plant/Shipping Location Form covers all parts relating to the Exporter Name and Address for all locations for all documents issued.

Signature: X_____ Date: X_____

7.16.2.3 Supplier Responsibility outside North America

Any supplier with a foreign address to whom a purchase order is given has the responsibility to provide a Country of Origin Declaration for all parts provided. The Country of Origin Declaration Form must be faxed directly to your purchasing contact at Johnson Controls since this information is required to complete the purchase order set up process.

7.16.2.4 Exhibit 3: Certificate of Origin

Certificate of Origin

EXPORTER'S NAME AND ADDRESS: TAX I.D. NO.:	FROM: TO:	
PRODUCER'S NAME AND ADDRESS: TAX I.D. NO.:	IMPORTER'S NAME AND ADDRESS: Various TAX I.D. NO.:	
DESCRIPTION OF GOODS	HS TARIFF NUMBER	COUNTRY OF ORIGIN

I CERTIFY THAT:

THE INFORMATION ON THIS DOCUMENT IS TRUE AND ACCURATE AND I ASSUME THE RESPONSIBILITY FOR PROVING SUCH REPRESENTATIONS. I UNDERSTAND THAT I AM LIABLE FOR ANY FALSE STATEMENTS OR MATERIAL OMISSIONS MADE ON OR IN CONNECTION WITH THIS DOCUMENT.

1. I AGREE TO MAINTAIN, AND PRESENT UPON REQUEST, DOCUMENTATION NECESSARY TO SUPPORT THIS CERTIFICATE, AND TO INFORM, IN WRITING, ALL PERSONS TO WHOM THE CERTIFICATE WAS GIVEN OF ANY CHANGES THAT WOULD AFFECT THE ACCURACY OR VALIDITY OF THIS CERTIFICATE.
2. THIS CERTIFICATE CONSISTS OF PAGE(S), INCLUDING ATTACHMENTS.

AUTHORIZED SIGNATURE:	COMPANY:
NAME:	TITLE:
DATE: TELEPHONE:	FAX:

7.16.2.5 Export Control Classification Number (ECCN) Certificates

The ECCN Certificate is required to indicate whether or not your parts are regulated by the Bureau of Industry and Security. A complete explanation of the ECCN and why it is required can be found on the Bureau of Industry and Security, U.S. Department of Commerce' web site: http://www.bis.doc.gov/licensing/exportingbasics.htm

Please also note on this form if any products are subject to International Traffic in Arms Regulations (ITAR).

If you are unable to determine the ECCN for your product, you may request a classification ruling from BIS. Response time is 30 days from receipt and is submitted electronically. Please see the BIS web site for additional information.

7.16.2.6 Exhibit 4: Export Control Classification Number

EXPORT CONTROL CLASSIFICATION NUMBER

The Bureau of Industry and Security (BIS) regulates all products exported from the United States and all products with U. S. content re-exported from other countries. These regulations are defined in the Export Administration Regulations (EAR). Just because an item may fall under certain export controls doesn't mean it cannot be exported. The U. S. government may restrict export only to certain countries or may require a license prior to exporting your product.

Since Johnson Controls Co. may export your products from the United States we are requiring our suppliers to provide the ECCN. Please also note on this form if your product(s) are subject to International Traffic in Arms Regulations (ITAR). All ITAR items require an export license if exported anywhere outside of the United States, including Canada.

J.C.I. Item number and description	ECCN	License Information	CCATS

Seller/Company Name:

Name: Title:

Authorized Signature: Date:

Telephone Number: Fax Number:

Blanket Period From Date: Through Date:

7.16.2.7 Buy American Certificates

The Buy American Certificate is required to indicate whether or not your products comply with the Buy American Act of Federal Acquisition Regulations under 48 CFR. A description of each clause is provided on the certificates along with a list of qualifying countries. If your products qualify under the Act, they may be eligible for use in US government construction and supply contracts. No need to list the percentage. Just put an "X" in the Qualifying column and the correct clause in Qualifying Clause column. If the product does not qualify under the Act, then type an "X" under Non-Qualifying.

7.16.2.8 Exhibit 5: Buy American Act/Trade Agreements Act Certificate

Johnson Controls

Buy American Act/Trade Agreements Act Certificate

Please indicate below whether products being sold to Johnson Controls/York International comply with any of the below contract clauses. Under column 5 - "Qualifying Clause," indicate the strictest clause with which your product complies, with A being the strictest and C being the most liberal. As this certification is valid for one year, you must notify JCI of any change in compliance status. By signing below, you are certifying that the products listed comply with the designated

A.) Federal Acquisition Regulation clause 52.225-9 (Feb. 2009), when included in a government construction contract, requires the use of "domestic construction materials." Such a product must be manufactured in the United States AND the cost of United States origin components in the product must exceed 50% of the cost of all components. Note that a product need not satisfy the second part of the test (the component test) if it qualifies as a "commercially available off-the-shelf" item. These are products that are customarily used by the general public, sold in substantial quantities in the commercial marketplace, and sold to JCI without modification and in the same form as in the commercial marketplace.

B.) Federal Acquisition Regulation clause 52.225-11 Alt. I (Mar. 2009), when included in a government construction contract, requires the use of "domestic construction materials," as defined in part A. It also allows the use of certain "designated country construction materials." These are products that have been "substantially transformed" in one of the countries listed on page 2. "Substantial transformation" means a relatively complex manufacturing or assembly process through which the finished product takes on a new identity. Note that products "substantially transformed" in Mexico and Bahrain DO NOT qualify under this clause.

C.) Federal Acquisition Regulation clause no. 52.225-11 (Mar. 2009), when used in a government construction contract, requires the use of "domestic construction materials" (as defined in part A) or "designated country construction materials" (as defined in part B). Note that products "substantially transformed" in Mexico and Bahrain DO qualify under this clause.

1. J.C.I. Item number and description	2. Country of Origin	3. Qualifying	4. Non Qualifying	5. Qualifying Clause
See Attached Continuation Page(s)				

Seller certifies that each product designated above as a qualifying product, as delivered to Buyer, complies with the indicated Federal Acquisition Regulation clause, if delivered directly to the construction site.

Seller/Company Name:

Name: Title:

Authorized Signature: Date:

Telephone Number: Fax Number:

Blanket Period From Date: Through Date:

7.16.2.9 Manufacturer's Affidavit

A Manufacturer's Affidavit is required for all US origin products. In the event your product has been exported and is returned to the United States, this document allows for duty free treatment upon importation. The manufacturing location must be provided. The party signing the certificate must be an officer of the company or hold a valid power of attorney.

If you have completed the NAFTA Certificate of Origin and are the manufacturer of the product (indicated by a YES in the Producer Field), the product noted is excluded from this requirement. If you have purchased this product, the document must be completed by the manufacturer.

7.16.2.10 Exhibit 6: Manufacturer's Affidavit of Origin

Manufacturer's Affidavit of Origin

I, _____, certify that the part number(s) noted below are sold to _____ from January 1, 20___ through December 31, 20___ are manufactured by _____ in _____ at the address listed below:

_____	_____
Date	**Signature**
_____	_____
Manufacturing Address	**** Title/Capacity**

Part Number	Description	HS Code	Country of Manufacture

** **Note**: This document must be signed by an officer of the company or an individual with a Power of Attorney.

7.16.2.11 Submitting your Certificates:

2018 Certificates for Johnson Controls & all related accounts can be submitted in any of the following ways:

- E-mail: Contract your local Johnson Controls representative for proper e-mail address
- Fax: Contact your local Johnson Controls representative for local Fax Number

Johnson Controls will review the documentation received for completeness. Flaws/Errors identified in the provided documents (such as fields improperly left blank, or invalid responses) will be returned to the supplier to request corrections.

Suppliers should note that in signing the NAFTA certificate of origin they undertake to advise Johnson Controls of any changes that would affect the accuracy or validity of the certificate. This notification must be in the form of an amended certificate of origin forwarded to the contacts as stated above.

NAFTA training is strongly recommended for all suppliers.

8 PROCURE TO PAY: Materials and Services

8.1 Purpose

Provide suppliers of Johnson Controls Building Technology & Solutions the expectations and standards to follow when materials and services are procured from the supplier. Contact your procurement professional to manage these expectations regarding Johnson Controls Building Technology & Solutions purchases.

8.2 Procuring Materials and Services Expectations

The BT&S Procurement organization's expectations are focused on four main areas:

- Supplier Collaboration
- Purchase Orders
- Invoice Requirements
- Payment Requirements

8.2.1 Supplier Collaboration

Johnson Controls offers different methods for collaboration with our suppliers. Refer to our supplier website link below for more details regarding the following:

- RFQ/RFP
- E-Auctions
- Access to drawings and Specification in some circumstances
- Material Best Business Practices (MBBP)
- Supplier visibility E2O / EDI
- Supplier Registration
- Supplier Assessment
- Financial Assessment

Contact your Johnson Controls Buyer or Procurement partner for your required purchasing method. The following link also provides more information posted on our external supplier website.

http://www.johnsoncontrols.com/suppliers/building-technologies-and-solutions/supplier-partnership-experience

8.2.2 Purchase Orders

As a Johnson Controls supplier you should not process any request for goods or services from Johnson Controls without an official Johnson Controls purchase order or release number before any product ships or services are rendered.

Contact your Johnson Controls Buyer or Procurement to work through the best options for communicating orders. This includes Schedule Agreements, Blanket / Framework and Discrete purchase orders. Refer to the delivery standards section 7 and our external supplier website to learn more about how to manage releases.

http://www.johnsoncontrols.com/suppliers/building-technologies-and-solutions/supplier-partnership-experience

8.2.3 Invoice Requirements

Johnson Controls requires all supplier invoices, manual or electronic, to include a purchase order number. Invoices cannot be paid without the corresponding Johnson Controls-provided PO numbers.

- Refer to our external supplier website link below for additional information.

http://www.johnsoncontrols.com/suppliers/building-technologies-and-solutions/supplier-partnership-experience

8.2.4 Payment Requirements

- Johnson Controls will pay suppliers based on agreed terms that are recorded in our ERP system and communicated on our purchase order.
- Refer to our external supplier website link below for additional information.

http://www.johnsoncontrols.com/suppliers/building-technologies-and-solutions/supplier-partnership-experience

9 GLOBAL SUPPLIER SCORECARD

9.1 Performance Evaluation

Johnson Controls Procurement Leadership Team (PLT) consists of representatives from each division and region to consolidate our activities and communize our system of evaluating supplier performance. This team identified five key categories of supplier performance.

Each category of performance has been identified as a key success factor for Johnson Controls. The collection and monitoring of these metrics across the supply chain will have a significant social, environmental and financial impact. The following performance metrics are applicable for Direct Material, Field Material & Service, and Indirect Material & Service.

9.2 Performance Areas Monitored

The areas of performance that are monitored are:

- Quality
- Commercial
- Supply Chain Management
- Social and Environmental Sustainability
- Service and General Expectations

The Scorecard has been based on a familiar 100-point scale. Each of these categories has a maximum value for the organization and provides Johnson Controls the ability to successfully assign a score across all of our divisions and regions. The value rating of each of these categories has been defined globally and is weighted appropriately by the Johnson Controls Procurement organization. For further details regarding the scorecard point allocation, please contact your local Johnson Controls representative.

- Distribution of point allocation may change from time to time. The procurement team will notify suppliers when significant changes are made in the scoring guidelines.
- Recognition of exceptional performance is a strong component of our Supplier Performance Excellence system. As a result, Execution Awards are given annually in each region to identify the suppliers that are performing in the top percentile relative to the scorecard criteria.

9.3 Definitions

While each of the above categories has some specific nuances identified by each division and region, broad definitions for the entire organization are as follows:

9.3.1 Quality Section

The Quality section of the scorecard collects data regarding the quality of material and/or services provided to Johnson Controls manufacturing facilities (Direct Materials) and Field branches.

9.3.2 Commercial Section

The Commercial section collects information reflecting the ability of the supplier to contribute to the cost advantage we provide to our customers. This may include items such as compliance with our Terms and Conditions, inventory reduction and consignment programs, and significant innovations in products or services.

- Continuous Improvement and Responsiveness is also a metric that is collected to identify whether an organization is improving over time and is responsive to Johnson Controls and its customers.

9.3.3 The Supply Chain Management Section

The Supply Chain Management section focuses its data collection on accuracy and timeliness of material delivery, compliance with local trade requirements, and certifications regarding implementation of supply chain methodology and systems.

9.3.4 The Environmental Performance and Sustainability Section

Environmental Performance and Sustainability information is gathered through the Johnson Controls Environmental Performance and Sustainability Survey, the Supplier Assessment Survey, and other means. Any supplier supplying direct material to Johnson Controls is expected to complete a self-survey and must insure all areas are in compliance with local, state, federal and country laws. This area is assessed by the responses gained in this survey by Johnson Controls.

9.3.5 Service and General Expectations

The Service and General Expectations section gathers data that is intended to be a reflection of practices of most World Class companies. Social awareness is a prime metric collected in this category and diversity spend is a cornerstone of this group. Third party certification of processes and methods execution (ISO 9001, ISO 14001 and OHSAS 18001) are an important part of this group and ensures that our supply base strives to create repeatable and documented processes.

- Each of the above categories is a critical key measure to Johnson Controls and is intended to support our global processes and procedures.
- Please contact your Supply Chain Representative for access to your supplier scorecard, survey's and/or questions related to the scorecard.

9.4 Supplier Award Recognition

At Johnson Controls, our suppliers are vital to the success of our Organization. To recognize outstanding supplier performance, Johnson Controls hosts an annual supplier event which demonstrates our appreciation to the suppliers who go above and beyond our expectations. Suppliers of this magnitude, are recognized for making outstanding contributions that make a difference in our supply chain.