# **Supplier Quality** Manual First Solar. 1-5-2024

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# 1 Supplier Quality Requirements & Guidelines

#### 1.1 INTRODUCTION

First Solar's VISION is Leading the World's Sustainable Energy Future. Our MISSION is to Provide Cost-Advantaged Solar Technology, Through Innovation, Customer Engagement, Industry Leadership, and Operational Excellence. To achieve this mission and vision, we must optimize our energy yield predictability with world class quality and reliability. You, as our Suppliers, are critical to our mission success, and will be held to the highest standards as you drive process control and continuous improvement within your organization.

First Solar expects that our direct suppliers will manage sub-tier suppliers with controls commensurate with those First Solar applies to direct suppliers.

NOTE: ACCEPTANCE OF A FIRST SOLAR PURCHASE ORDER (PO) CONSTITUTES ACKNOWLEDGEMENT THAT THE SUPPLIER HAS READ, UNDERSTANDS, AND WILL COMPLY WITH THE REQUIREMENTS SET FORTH IN THIS MANUAL.

#### 1.2 PURPOSE & SCOPE

The First Solar Global Supplier Quality Manual is intended to communicate the minimum quality requirements, processes, and systems for material and component suppliers to ensure all members of the supply base meet or exceed the requirements and guidelines for providing world-class products. This manual outlines the strategy used by First Solar to ensure that First Solar's supply base is continually improving to prevent quality and delivery disruptions, provide the lowest cost, and top level service.

Our suppliers are critical to our success, and are expected to be knowledgeable in the content of the First Solar, Inc. Global Supplier Quality Manual. We ask that as a part of doing business with First Solar, the appropriate stakeholder(s) within your organization review the manual and maintain a working knowledge of its content.

This manual does not replace, substitute or override any requirements set forth in any supply agreement, contract, material specification or drawing.

# 1.3 SUPPLIER SYSTEM REQUIREMENTS

#### ISO Certification / Compliance

First Solar expects our suppliers' quality management systems to be certified to the latest version of ISO 9001, or a comparable quality management system. In cases where certification is not possible, compliance is required. It is the suppliers' responsibility to provide evidence of compliance. It is also highly recommended that suppliers conform to ISO 14001: Environmental Management Systems; and ISO 45001: Occupational Health and Safety Management Systems.

# 1.4 ENVIRONMENTAL, SOCIAL, & GOVERNANCE (ESG)

#### Responsible Business Alliance (RBA) Compliance

The RBA is a coalition of the world's leading companies working together to improve social, ethical, and environmental responsibility in the global supply chain. First Solar suppliers must be compliant to the RBA Code of Conduct, which can be found online at <a href="mailto:responsiblebusines.org/media/docs/">responsiblebusines.org/media/docs/</a>.

Fundamental to adopting the RBA Code is the understanding that a business, in all of its activities, must operate in full compliance with the laws, rules, and regulations of the countries in which it operates. The Code also encourages Participants to go beyond legal compliance, drawing upon internationally recognized standards, in order to advance social and environmental responsibility and business ethics. In no case can complying with the Code violate local laws. If, however, there are differing standards between the RBA Code and local law, the RBA defines conformance as meeting the strictest requirements. In alignment with the UN Guiding Principles on Business and Human Rights, the provisions in this Code are derived from and respect internationally recognized standards including the ILO Declaration on Fundamental Principles and Rights at Work and the UN Universal Declaration of Human Rights.

First Solar suppliers shall adopt or establish a management system with a scope related to the content of the RBA Code. The management system shall be designed to ensure: (a) compliance with applicable laws, regulations and customer requirements related to the participant's operations and products; (b) conformance with the Code; and (c) identification and mitigation of operational risks related to the Code. It should also facilitate continual improvement.

In addition, Suppliers may be required to complete the following RBA Self Audit Documents (SAQ) & upload them to the RBA website for tracking purposes.

- Corporate SAQ
- Site level SAQ(s)
- Surveys
- Other tools and Processes as deemed necessary for RBA Compliance.

Suppliers deemed to be High Risk by the RBA will require 3<sup>rd</sup> party Validated Assessment Program (VAP) audit. All Corrective Action Plans (CAP) must be certified by the RBA VAP lead auditor within the RBA system.

Suppliers have access and are encouraged to utilize relevant RBA training & resources at <a href="responsiblebusiness.org/training/resources">responsiblebusiness.org/training/resources</a>. Suppliers may be required to complete specific online RBA training content by First Solar.

#### Clean Energy Buyers Institute

Measuring and reducing Scope 3 GHG emissions

First Solar is a member of the Clean Energy Buyers Institute and supports its efforts to decarbonize the solar supply chain. First Solar has committed to setting science-based targets for greenhouse gas (GHG) emissions from its manufacturing facilities (Scope 1-2) and supply chain (Scope 3).

We encourage our suppliers to measure the carbon footprint of their products, recognizing confidentiality concerns, to provide First Solar with sufficient information for decision making. Approaches to collect and report product carbon footprints can include life cycle assessments and environmental product declarations.

We also encourage collaboration with our suppliers on mutually beneficial cost-effective actions to reduce GHG emissions, such as projects that increase energy efficiency, use of renewable energy, and recycled content, or other sustainability measures.

At a corporate level, First Solar would like to stay informed of our suppliers' company-level reporting of GHG emissions and targets, such as using frameworks like CDP, TCFD, GRI, SBTi, RE100.

On a medium to long-term perspective, First Solar plans to reduce Scope 3 GHG emissions from purchased goods and services and use of sold products 44% per megawatt (MW) produced by 2028 from a 2020 base year, and to reduce Scope 3 GHG emissions from purchased goods and services, capital goods, and use of sold products 97% per MW by 2050 from a 2020 base year. After third-party validation by the Science Based Targets Initiative (SBTi), First Solar will publish the Scope 3 targets and track progress annually in collaboration with its suppliers.

# 1.5 PROCESS DEFINITION AND CAPABILITY REQUIREMENTS

#### Process/Product Definition and Risk Management

Suppliers are required to fully document their receiving, manufacturing and delivery process. Suppliers shall establish a risk management process to effectively assess elements in various aspects of their business that could negatively affect the quality of the products, delivery and services provided to First Solar, Inc. At a minimum, this includes...

- Design (product) and/or Process Failure Modes and Effects Analysis (FMEA)
- Control Plans
- Process Flow Diagram
- Suppliers will prepare a documented contingency plan which sets out the steps
  the Supplier will take to avoid and mitigate the effect of any reasonably
  foreseeable interruptions to the provision of the Parts or Services. (Inclusive of
  a commercial agreement with a third party inspection service for each ship to
  location)

#### **Process Capability**

First Solar will consistently provide superior quality products to our customers. To achieve this goal, all material suppliers will be expected to achieve target process capability levels and maintain control plans, as directed by First Solar.

Key product or process characteristics (may also be referred to as Category 1 or 2 characteristics) may be outlined in First Solar drawings and/or specifications. If there are no First Solar key product characteristics defined, the supplier is responsible to identify key product and/or process characteristics and validate their capability. These must be documented in the supplier's control plan. The supplier's control plan must identify sampling method and frequency for all characteristics.

Statistical Process Control (SPC) must be applied to all First Solar- and/or supplier identified key characteristics.

Real-time measurement and tracking with a statistical run chart as appropriate. Effective monitoring and timely reaction and documentation to out-of-control conditions.

#### Process Capability Description

- Short-term Process Capability: Statistical capability of a process with common causes
  of variation only. This type of variation is also referred to as inherent process
  variation.
- Long-term Process Capability Statistical capability of a process generally in-control but could include special cause variation experienced through an extended period of manufacturing time (e.g. tool wear, machine aging, lot-to-lot variations, shift changes, machine-to-machine differences, etc.).
- First Solar Process Capability Requirements Because special causes of variation can be introduced into a process on a long-term basis, First Solar sets separate process capability targets as follows:
  - Short-term Process Capability: 1.67 Cpk or higher
  - Long-term Process Capability: 1.33 Cpk or higher

Specific timeframes defining a short-term and long-term production run will be determined based on the nature of the product and process involved.

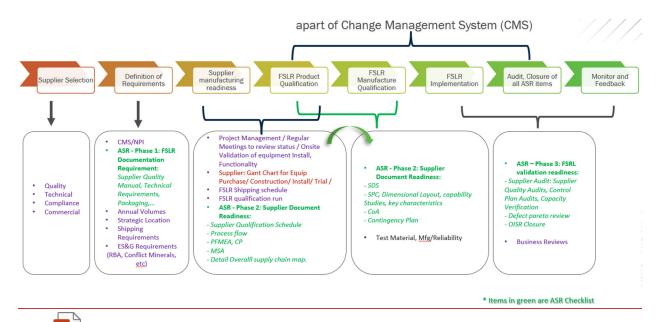
#### At a minimum

- Short Term: (Defined as within a specified lot of material or less than 6 lots of material)
- Long Term: (Defined as over >6 lots of material)

# 1.6 SUPPLIER QUALIFICATION PROCESS

#### The New Product Oualification Process

The New Product Qualification Process is used to communicate requirements to the supplier and drives supplier to be production ready.





#### First Solar Change Management System (CMS)

First Solar has established the Change Management System (CMS) which uses a phase-gate process to manage and implement changes to First Solar products and processes, as well as components and products supplied to First Solar. (Ref. section 1.9 Change Notification)

 Supplier activities must be coordinated for timely and successful completion to support the overall CMS project timeline and objectives. The Advanced Supplier Readiness (ASR) process is used in conjunction with the part approval process.

#### Advanced Supplier Readiness (ASR) - Overview

The Advanced Supplier Readiness (ASR) process is a compilation of qualification requirements that the supplier must meet in order for their specific product or process to be approved for use by First Solar. The supplier will be required to demonstrate conformance to these requirements. The First Solar Supplier Quality representative will manage the supplier to ensure that all applicable requirements are met and verified on a timely basis.

Advanced Supplier Readiness requirements: Conformance to all or part of the list below will apply depending on the requirements set forth by First Solar.

- Supplier Change Request Form
- Conformance to First Solar drawings and/or specifications
- Design and/or Process Failure Mode and Effects Analysis (FMEA)
- Process Flow Diagram and Control Plan
- Measurement Systems Analysis (MSA, Gage Study, GRR)
- Process Capability
- Detailed Overall Supply Chain Map
- (Material) Safety Data Sheet (SDS)
- Supplier Qualification and Test plan, including Project Timeline
- Packaging Plan, Transportation Plan, & Labeling Plan

- Capacity Plan and Capacity Analysis (Which meets the First Solar Annual Quoted Volumes)
- Third Party and/or Regulatory Requirements (e.g. UL, IEC, TUV, ETL, etc.) Component Level Recognition may be required.
- Tier 2 Supplier Documentation/ Specifications/Prints
- Raw Material Certification, including Tier 2 Data as required
- Complete Layout for all Print and Specification requirements (dimensional, functional or performance)
- Certificate of Analysis (CoA) or Certificate of Compliance (CoC)
- Evidence of continual conformance to First Solar requirements
- Documented Contingency Plan
- Supplier Quality Audit (SQA)
- Qualification Approval: Supplier will be notified by First Solar upon successful completion of qualification requirements.

#### **Supplier Deviation Requests**

For any requirements the supplier cannot meet as defined by First Solar, a Supplier Deviation Request must be submitted. This includes, but may not be limited to: terms and conditions; material specifications; drawings; ASR requirements; and requirements of this manual.

- The Supplier Deviation Request will be reviewed by First Solar management and subsequently dispositioned. The supplier will be notified with results of the disposition.
- Supplier Deviation Request Form: FS-4-310-000-W160. Suppliers may request a copy from First Solar Supplier Quality.

# 1.7 MEASUREMENT SYSTEMS ANALYSIS (MSA)

Measurement System Analysis (MSA) is required to be performed to determine if measurement/test equipment has sufficient accuracy, precision, or resolution to adequately provide information about process performance, or the effects of process variation.

The recommended tool is Gage Repeatability and Reproducibility (Gage R&R). Gage R&R using variables data is preferred, although attribute MSA is allowed when applicable.

#### General Requirements:

- The supplier shall develop or obtain appropriate measurement and test equipment (M&TE) to control their processes and/or to inspect material. These M&TE items must be shown in the control plan.
- Gages used to inspect parts should be variable gages, where possible. If variable
  gages are not available, then attribute gages ("go/no go") are acceptable for use with
  First Solar approval.
- For all measurement devices identified in supplier's control plan, a Gage R&R
   (variable or attribute) is required, unless directed otherwise by First Solar. If the
   supplier has a number of duplicate custom gages, a gage study to determine bias
   and correlation must also be completed.

The First Solar guidelines for acceptance of Gage R&R (% R&R) are:

| % Error  | Result   |
|----------|--|
| < 10%    | The measurement system is acceptable.  |
| 10 - 20% | The measurement system is considered marginal. Supplier should take steps to improve, and/or to investigate alternate methods, and have a documented continuous improvement plan and timeline.   |
| >20%     | The measurement system Is not acceptable. Any gages with GR&R greater than 20% need First Solar approval. A deviation must be submitted and approved prior to any First Solar material being manufactured. Considerations will based upon the importance of application, cost of gage, cost of repairs, etc. |
|          | (3 Operators/10 Pcs/3 trials per part)   |

#### 1.8 MATERIAL CERTIFICATION

Supplier Material Certifications - First Solar Portal

Suppliers at a minimum will be required to submit a Certificate of Conformance (CoC), and may be required to submit a Certificate of Analysis (CoA) or via the First Solar online "COA/COC Portal." The CoA/CoC Portal can be accessed electronically via First Solar Analytical Portal Link.

- Please contact First Solar Supplier Quality representative to obtain login ID and password.
- At a minimum, each submission will require the following information: Location sent to (PBG, PGT1, PGT2 / KLM, KMT1, KMT2 / DMT1, DMT2 Delivery Site, etc.), First Solar Part number, Purchase Order Number, Lot Number, Shipment Number (Bill of Lading, Date of Shipment, or Invoice Number).
- If not required to submit via the portal, the supplier may be required to submit a hard copy certificate.
- The supplier's CoA or CoC documentation must be received by First Solar *prior* to receipt of material by First Solar, *and no later than 24 hours after material shipment from the supplier*.

For specific information on how to use the portal, please contact the First Solar Supplier Quality representative.

First Solar CofA Portal Search and Data Entry Procedure: FS-3-310-000-W101. Suppliers may request a copy from First Solar Supplier Quality.

#### 1.9 IDENTIFICATION & DELIVERY

Identification and Traceability

- First Solar suppliers are required to establish and maintain documented procedures for identifying products and materials used from receipt of raw materials and through all stages of production, packaging, storage delivery, and installation to First Solar.
- Suppliers shall develop, document, and implement an appropriate system with the capability to correlate material lot traceability to corresponding sub-supplier lot traceability.
- First Solar may require greater degrees of traceability depending on product (I.e. Julian date, tool/cavity designations, etc.) Additional requirements may be defined in First Solar material specifications or drawings.

#### Packaging and Labeling

- Package and product labeling must conform to First Solar bar code requirements where stated.
- All packaging & transportation solutions must conform to any International, Federal, State, and or local statutory guidelines/requirements of the destination/location that the material is being shipped to.
- If no other specification exists, finished steel products should be packaged using ASTM A700: "Standard Guide for Packaging, Marking, and Loading Methods for Steel Products for Shipment." This includes, but is not limited to: stamped, rolled, formed and tubular steel.
- First Solar Barcode Label Specification: FS-3-600-000-W9. Suppliers may request a copy from First Solar Supplier Quality.

#### **Logistics Documentation**

At a minimum, packaging lists must provide the following information:

- First Solar Site Name
- Delivery Address
- Pack List Number (Number as referenced on Supplier Invoice)
- First Solar Material Master or MM#
- Quantity being Shipped
- Description of Material
- Purchase Order Number
- Company contact person and number

At a minimum, The Supplier must supply a packaging list in each shipping container

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#### 1.10 CHANGE NOTIFICATION

Change Notice Requirements

First Solar requires a minimum of ninety (90) days advanced notification of intended changes by a supplier or sub-tier supplier. The supplier must obtain written approval for any of the following changes in advance of implementing any changes. This includes, but is not limited to:

- Changes from a sub-tier supplier
- Location of manufacture, including a change in location within the original site
- Equipment used to manufacture, monitor or measure
- Method of manufacture
- Materials used in manufacture, including type of, or source of materials
- Packaging or labeling configuration
- Storage conditions or storage locations
- Testing of material, including changes in the test method
- Any other change related to material supplied to First Solar
- To submit a Change Request to First Solar, the supplier must use the Supplier Change Request (SCR) form.
- First Solar Supplier Change Request Form: FS-4-310-000-W23. Suppliers may request a copy from First Solar Supplier Quality.

#### 1.11 PROBLEM SOLVING

# Methodology: Effective Problem Solving and Root Cause Analysis

First Solar strives to clearly define the expectations we have of suppliers, to provide a process to deliver on these expectations, and provide a method for corrective action when expectations are not met. To that end, First Solar requires suppliers to implement a formal (documented) problem solving and root cause analysis process. At a minimum, the steps shown below must be included in your problem solving and root cause analysis process. Problem solving and root cause analysis requires the use of data collection and analysis to validate an effective and robust solution has been implemented. The steps are:

#### **Identify Team Members**

Identify a lead person who is accountable for the process, and any support team members

#### Problem Definition

Describe the symptoms of the problem that First Solar is seeing. Specify the problem by identifying – In quantifiable terms- who, what, when, where, how, how many – as applicable.

Containment Action(s)

Define and implement containment actions to isolate the non-conformance until a permanent corrective action is available. Containment is an immediate measure used to protect First Solar until the root cause is determined and the permanent correction can be implemented and verified. Supplier must provide the means to conduct containment activities throughout the entire supply chain, including locations where the product is used.

**NOTE**: In any case where the supplier is not capable of providing adequate containment of material, First Solar will take measures to contain product as needed, up to, and including contracting a third party to execute containment.

#### Identify Root Cause(s)

Identify all potential causes which explain why the non-conformance occurred. Isolate and verify the root cause for: Occurrence, Detection, and Systemic aspects \_ 3 WAYs approach

Occurrence: Why did this situation occur?

Detection: Why was this situation overlooked? and

Systemic: Why did the system allow it to occur?

#### Identify Permanent Corrective Action(s)

Identify a corrective action(s) that will resolve the non-conformance and will not cause undesirable side effects. Define a contingency action, if necessary, based on the risk assessments. This step describes what you will do to address: **Occurrence**, **Detection** and **Systemic root causes** 

Choose on-going controls, including mistake-proofing methodology, such as the use of process or design features to prevent manufacture or shipping of nonconforming product/service.

#### Implement and Validate Permanent Corrective Action

Implement the permanent corrective action(s.) Define on-going controls to ensure the root cause is eliminated. These controls must be documented in the control plan, FMEA and process flow diagram as applicable. Once implemented, measure, monitor and evaluate the effects. If necessary, implement contingency actions.

#### Identify Preventive Action(s)

Modify systems, practices and procedures to prevent additional or similar non-conformances. Choose on-going controls, including mistake-proofing methodology, such as the use of process or design features to prevent manufacture of nonconforming product/service.

Apply lessons-learned to similar products, systems and/or manufacturing locations to prevent additional non-conformances.

#### Closure

The supplier shall, at a minimum, review and revise control plans, FMEA, process flow diagram, and work instructions to document changes made as a result of corrective and preventive actions. The supplier must provide written evidence of closure to First Solar.

Required Steps, Closure Times

Initial Response is required within 24 hours of formal notification.

 The supplier must respond with a containment plan recommendation within 24 hours of initial First Solar notification of the nonconformance.

Containment plan must be implemented with 72 hours of formal notification.

Closure of the Non Conformance is expected within 60 days of identification of root cause.

The supplier is expected to provide periodic status updates during the corrective action process.

- The supplier must update First Solar upon identification of root cause and permanent corrective action.
- The supplier must provide updates to First Solar with status of corrective measure(s) and implementation status.

The supplier must provide updates to First Solar upon closure of the issue.

First Solar Problem Solving Guide & Template (8D) - Global-QA-FORM-SUP-07663. Suppliers may request a copy from First Solar Supplier Quality.

#### 1.12 SUPPLIER MONITORING & FEEDBACK

#### Performance

Supplier performance is monitored and measured based on a number of categories, including: Commercial, Quality, Delivery and Technical performance. Suppliers may be asked to participate in a formal, proactive long-term improvement process, Supplier Quality Continuous Improvement (SQCI), where improvement targets are set and results are measured over time.

Poor or inadequate performance by a supplier may lead to a supplier being placed on a performance improvement plan (PIP), and ultimately de-sourced if improvement targets are not met.

#### Supplier Audits \_ Supplier Quality Audit (SQA)

On-site quality audits will be conducted at the supplier location(s) on a periodic basis or/and requested by **ASR** process. The audit may include sub-supplier locations as well. Frequency may be determined, in part, by the following factors:

- Criticality of product or service provided
- Supply base risk
- Quality performance
- Delivery performance
- Previous audit performance

#### Areas Audited/Evaluated

- Quality Systems
- Production Systems
- Materials Systems
- Environmental Health & Safety Systems
- Capacity Analysis
- Control Plan/Process Audit

Suppliers are required to generate and implement specific action plans to address any audit nonconformance identified by First Solar.

#### 1.13 CONTINUAL CONFORMANCE

Continuous improvement is fundamental to our business and meeting our customers' rising expectations in terms of quality, reliability, delivery, and cost controls. As a First Solar supplier, you are integral to our mission success and will be expected to continually strive to improve your products, processes, and systems.

Suppliers are required on an annual frequency to provide documented evidence of conformance to all applicable First Solar requirements outlined on the Supplier Continual Conformance form. Some common examples of Continuous Improvement programs are:

- Cost reduction projects (examples include the use of Six Sigma, Lean Six Sigma, Value Analysis/Value Engineering)
- Waste reduction projects (examples include the use of Kaizen events, Setup Reduction, Value Stream Mapping, Standardized Work, Process Flow)
- Variation reduction projects (examples include the use of Six Sigma, Standardized Work, Statistical Process Control (SPC))
- Factory reorganization projects (examples include the use of 5-S Programs, Single Unit or Cellular Manufacturing, Focused Factory, Kaizen events)
- Inventory reduction projects (examples include the use of Kanban systems, Single Unit or Cellular Manufacturing)
- Yield Improvement projects (examples include improvements to Equipment Uptime/Downtime, First Pass Yield, Rework reduction, Scrap improvement, On-Time Delivery)
- Non-manufacturing process improvement projects (examples include Customer Service, Accounting, Purchasing, Warranty returns, Quality Control)

First Solar is committed to developing a steady and healthy supply chain, and so are willing to engage with suppliers to develop best practices across supplier sites and to share First Solar methods of improvement.

Suppliers are expected to present and discuss their Continuous Improvement process and results with First Solar.

#### 1.14 COMMUNICATION STRATEGY

Effective and efficient communication is a key driver in a positive supplier-customer relationship. As a First Solar supplier, you are integral to our mission success and will be expected to provide a documented communication strategy that is inclusive of the following entities:

- Top Management Representatives
- Quality Representatives
- Manufacturing Representatives
- Engineering/Design Representatives
- Quality Representatives
- Supply Chain Representatives
- Logistics Representatives

First Solar manufacturing operations are a 24hour, 7 day a week operation. As a First Solar Supplier your communication strategy will need to include contacts that are available 24hrs a day 7 days a week

# 2 Appendix A

# 2.1 FIRST SOLAR FORMS / DOCUMENTS

First Solar Supplier Quality Systems Audit: FS-4-310-500-W2

First Solar Advanced Supplier Readiness: FS-2-310-000-W24-2

First Solar Supplier Deviation Request: FS-4-310-000-W160

First Solar Supplier Change Request: FS-4-310-000-W23

First Solar Barcode Labeling: FS-3-600-000-W9

First Solar CofA Portal Search and Data Entry Procedure: FS-3-310-000-W101

Control Plan Template

Process Failure Mode Effect & Analysis (FMEA) Template

Supplier Qualification & Test Plan Template

Problem Solving Guide & Template (8D) - Global-QA-FORM-SUP-07663

Third Party Inspection Approved Vendor List (Region Dependent)

Supplier Continual Conformance Form FS-4-600-000-TMP2

Supplier Capacity Verification FS-4-310-000-W25

Electronic copies are available upon request from your First Solar Supplier Quality representative.

# 3 Appendix B

# 3.1 FIRST SOLAR ACRONYMS

| ASR – Advanced Supplier Readi | liness |
|-------------------------------|--------|
|-------------------------------|--------|

CIP - Continuous Improvement Plan

CMS - Change Management System

CoA/CoC - Certificate of Analysis, Certificate of Compliance

ETA – Engineering Test Authorization

FMEA - Failure Mode and Effects Analysis

ISO – International Organization for Standardization

MSA - Measurement System Analysis

M&TE - Measurement and Test Equipment

NCP - Non-Conforming Product

PIP - Performance Improvement Plan

Q&TP - Qualification & Test Plan

QCR - Quality Concern Report

SCR - Supplier Change Request

SCC - Supplier Continual Conformance

SDR – Supplier Deviation Request

SPC - Statistical Process Control

SQA - Supplier Quality Audit

SQCI - Supplier Quality Continuous Improvement

SQE - Supplier Quality Engineer

SQM - Supplier Quality Manual

# **Revision History**

| 1.1 Introduction                                   | Updated First Solar's Vision Statement. Leading the World's         |
|--|---|
| 1.1 indoduction                                    | Sustainable Energy Future. Our MISSION is to Provide Cost-          |
|  | Advantaged Solar Technology, Through Innovation, Customer           |
|  | Engagement, Industry Leadership, and Operational Excellence         |
| 1.3 Supplier System Requirements                   | Updated recommendations for: ISO 14001: Environmental               |
|  | Management Systems; and ISO 45001: Occupational Health              |
|  | and Safety Management Systems.                                      |
| 1.4 Environmental, Social, and Governance          | ESG Section with RBA Requirements inserted.                         |
| ·  | Clean Energy Buyers Institute inserted                              |
| 1.5 Process Definition and Capability Requirements | Updated requirement: Suppliers will prepare a documented            |
|  | contingency plan which sets out the steps the Supplier will         |
|  | take to avoid and mitigate the effect of any reasonably             |
|  | foreseeable interruptions to the provision of the Parts or          |
|  | Services. (Inclusive of a commercial agreement with a third         |
|  | party inspection service for each ship to location)                 |
| 1.5 Process Definition and Capability Requirements | Clarification of "Short Term" vs "Long Term":                       |
|  | Short Term: (Defined as within a specified lot of material or       |
|  | less than 6 lots of material)                                       |
|  | Long Term: (Defined as over >6 lots of material)                    |
| 1.6 Supplier Qualification Process                 | Updated Capacity Plan & Capacity Analysis: Capacity Plan            |
|  | and Capacity Analysis (Which meets the First Solar Annual           |
|  | Quoted Volumes)   |
| 1.6 Supplier Qualification Process                 | Updated contingency plan requirements: Documented                   |
|  | Contingency Plan  |
| 1.7 Measurement System Analysis                    | Clarification of GRR Requirements                                   |
| 1.8 Material Certification                         | Update of Minimum requirements for CoC with potential for CoA       |
| 1.8 Material Certification                         | Updated Location Sent: to (PBG, PGT1, PGT2 / KLM, KMT1,             |
|  | KMT2 / DMT1, DMT2 Delivery Site, etc.)                              |
| 1.9 Identification & Delivery                      | Updated packaging solution requirements: must conform to            |
|  | any International, Federal, State, and or local statutory           |
|  | guidelines/requirements of the destination/location that the        |
|  | material is being shipped to.                                       |
| 1.9 Identification & Delivery                      | Updated packing list requirements: At a minimum, The                |
| · ····································             | Supplier must supply a packaging list in each shipping              |
|  | container   |
| 1.11 Problem Solving                               | Update 3WAYs approach for problem solving technique;                |
|  | update 8D report template of FSLR                                   |
| 1.13 Continual Conformance                         | Formalization of continual conformance requirements                 |
| 1.14 Continuous Improvement                        | Addition of "delivery": Continuous improvement is                   |
| ·  | fundamental to our business and meeting our customers'              |
|  | rising expectations in terms of quality, reliability, delivery, and |
|  | cost controls.  |
| 1.15 Communication Strategy                        | Formalization of Communication Strategy requirements                |
| 2.1 First Solar Forms/ Documents                   | Addition of Third party Inspection Approved Vendor List             |
|  | (Region Dependent   |
|  | Supplier Continual Conformance Form FS-4-600-000-TMP2               |
|  | Supplier Capacity Verification FS-4-310-000-W25                     |
| 3.1 First Solar Acronyms                           | SCC - Supplier Continual Conformance                                |
|  | SQA - Supplier Quality Audit  |
|  |   |

|       | SQM - Supplier Quality Manual            |
|-------|--|
| Cover | Updated Cover Photo with S6 Module Photo |