Supplier Quality Manual

Corporate Headquarters
385 W Rolling Meadows Drive
Fond du Lac, Wisconsin 54936

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An Introduction to Wells Vehicle Electronics

Over 100 Years and Still Going Strong - A Brief History

Original Corporate Headquarters


Current Corporate Headquarters

Founded at the dawn of the automotive industry by Robert Wells, Wells Vehicle Electronics was a pioneer in the development and assembly of premium-quality electrical parts for vehicle manufacturers and many of their largest component suppliers.

The company's reputation for manufacturing precision and exceptional product quality and performance led the U.S. Army to select Wells as supplier of the revolutionary Norden bombsight, which played a crucial role in Allied success during World War II.

Following the war, Wells expanded its original equipment engineering and manufacturing operations and, in 1956, introduced the Wells brand to the thriving automotive replacement parts market. Over the next half-century, Wells products became a leading choice of professional technicians and do-it-yourselfers in the automotive, motorcycle, marine, power-sport, commercial vehicle, and lawn & garden markets.

Wells today is more than a premier global manufacturer of vehicle electronics; it is also one of the most respected brands in the motor vehicle aftermarket, with tens of thousands of precision-engineered components available through an extensive network of replacement parts distributors and retail locations.

In addition to the Wells corporate headquarters in Fond du Lac, Wisconsin, Wells operates facilities in Centerville, Iowa; Reynosa, Mexico; and McAllen, Texas.

Wells Vehicle Electronics is a subsidiary of NGK Spark Plug Co. LTD.

For additional information about the company, its products, and services, go to the www.wellsve.com web site.

ABOUT THIS MANUAL

This manual is 'distributed' via the Wells Vehicle Electronics website. The manual and its contents are the intellectual property of Wells Vehicle Electronics (hereafter referred to as Wells), which also controls its content and revision. Its only authorized use is to communicate necessary information to approved suppliers of Wells and to potential suppliers who have been asked to quote product or services for Wells. The document is issued and maintained by the Wells Quality Department.

The online copy is considered the only controlled and authorized version. It is the supplier's responsibility to periodically check for revisions to this manual and other supplier-related documentation using the following link (www.wellsve.com/supplier-portal). For brevity, the Supplier Quality Manual will be referred to as the supplier manual or manual.

POLICY AND VISION

Our quality policy states: “Wells Vehicle Electronics is committed to providing our customers with quality products that meet or exceed their expectations. We strive to foster an atmosphere of continuous improvement and mutual respect among employees, suppliers, and customers.”

To keep this promise, it is critical to recruit and retain suppliers that share the same values and commitment to customer satisfaction. We desire to partner with suppliers that demonstrate proactive and consistent leadership in achieving customer satisfaction. We believe that a positive relationship with our suppliers should be mutually beneficial and provide a competitive advantage in a challenging world market.

SCOPE

This manual and the requirements therein, apply to all suppliers who provide components, assemblies, or services that are directly used in the manufacture of finished goods or for re-sale to Wells customers. While many of the requirements are specific to suppliers providing OE products, it is the expectation that all suppliers meet the requirements listed. Exemptions are noted where applicable. Suppliers providing OEM finished end assemblies are exempt.

PURPOSE

The primary purpose of this manual is to clearly define and communicate Wells’ requirements and expectations to its suppliers and potential suppliers. It also provides useful information to assist our suppliers in meeting those requirements. The focus is not only on part quality, but also the supplier’s overall quality system, and overall level of service.

This manual defines both requirements and recommended practices. To differentiate between requirements and recommendations, key words are used throughout this manual. Requirements are identified by the use of the words “shall”, “must”, or various forms of the word “require”. Guidelines and recommendations are identified by the words such as “should” or “recommended”.

1. GENERAL REQUIREMENTS

a) FIT FOR USE

Wells operates under the premise that the supplier is fully responsible for the products and services they provide. Further, that purchased parts are defect free and fit for use by Wells and its customers. It is expected that incoming product can be “shipped to stock” without risk to Wells. However, if Wells, at its own choosing, performs incoming auditing, any such audit does not relieve the supplier of its obligation to ship only 100% conforming product or of its responsibility to remedy situations that arise from the shipment of nonconforming product.

b) COMMUNICATIONS - LANGUAGE AND MEASUREMENT STANDARDS

Wells operates using the English language. Therefore, all official communication with Wells shall be done in English. Documents may display the native language if the English translation is also shown. In these instances, the English text is the valid version.

Wells Engineering is transitioning to the metric measurement system for engineering designs. However, there are still legacy documents that are in the English measurement system of inches. Therefore, suppliers shall report and describe measurements and provide reports in the same measurement format utilized by the Wells engineering drawing.

c) ACCESS TO FACILITIES

By prior notice, suppliers shall allow WELLS access to their facilities for the purpose of evaluating and auditing the supplier’s quality management system and operations. Audits may be multi-layer in scope, covering product, process, risk assessments, and corrective action verification. The supplier is to make available appropriate documents upon request and provide personnel to facilitate such audits.

d) CONTINGENCY PLANNING

Suppliers shall maintain a contingency plan for potential catastrophes or disruptions of product flow to Wells Vehicle Electronics and make this plan available upon request. The supplier shall notify and advise Wells at the earliest possible time in the event of such a disruption and communicate their contingency plan.

e) QUALITY SYSTEM CERTIFICATION

Suppliers shall maintain an effective quality system that encompasses all key processes and systems needed to meet customer requirements and ensure customer satisfaction. Wells expects its suppliers to perform reviews of the quality system and continually strive to make improvements in quality, delivery, support, and pricing.

In selecting new suppliers, Wells looks for organizations that are already registered to a recognized quality management system, such as the most recent versions of ISO 9001 or IATF 16949. In order to comply with IATF 16949:2016 requirements, current suppliers (not already ISO certified) must be willing to follow a transition path which will lead to certification. This applies to suppliers within the scope of this document. Certifications must be obtained through an accredited Registrar. Suppliers of non-OE product may be exempt from certification requirements at the discretion of Wells management.

f) SUPPLIER SELECTION & QUALIFICATION PROCESS

(1) Potential suppliers will be identified primarily by Wells Procurement. Evaluation of potential suppliers will be conducted by a cross functional team which may include Procurement, Quality, and Engineering representation and will examine areas such as….

- an assessment of the selected supplier's risk to product conformity and uninterrupted supply of the organization's product to their customers
- relevant quality and delivery performance
- an evaluation of the supplier's quality management system
- multidisciplinary decision making
- an assessment of software development capabilities (if applicable)
- volume of automotive business (absolute and as a percentage of total business)
- financial stability
- purchased product, material, or service complexity
- required technology (product or process)
- adequacy of available resources (e.g., people, infrastructure)
- design and development capabilities (including project management)
- manufacturing capability
- change management process
- business continuity planning (e.g., disaster preparedness, contingency planning)
- logistics process
- customer service

(2) The supplier may also be required to……

- supply a copy of their Quality Manual
- provide basic company information and capabilities
- provide a copy of their ISO registration

- complete the Wells' **Supplier Assessment Survey**
- allow an on-site assessment audit of supplier's facility and quality system
- create an account on the Supplier-Portal web site and become familiar with all applicable documentation and site content.

g) SUPPLIER PERFORMANCE

1) Wells evaluates supplier performance using internal company metrics that may include:
   - product conformance
   - delivery disruptions (including yard hold and stop ships)
   - delivery schedule performance
   - number of occurrences of premium freight
   - competitive pricing
   - supplier's promptness and effectiveness at reacting to and providing remedy when requirements are not met (containment, recovery, corrective action)

2) Suppliers who continue to have unacceptable performance or fail to show improvement may be subject to, but not limited to the following:
   - Conference calls or on-site meetings with Wells management
   - On-site audits by Wells
   - Limited access or denial of new business
   - Reductions in current business
   - Eventual loss of all business

h) BASIC QUALITY SYSTEM REQUIREMENTS

As mentioned previously, Wells expects the supplier to maintain a quality management system that conforms to the ISO 9001 or IATF 16949 standards. The following are either additional requirements or a restatement of the ISO requirements that Wells considers critical to any basic quality system. Suppliers not providing OE parts are expected to have robust systems in place that meet the intent of the following:

1. **Document Control:** The supplier shall control and maintain all levels of quality management system documents as defined in ISO 9001 or IATF 16949 standards. Suppliers shall maintain a written quality policy manual, standard operation procedures, work instructions, and controlled records. The supplier must have a record retention system for quality records related to products produced for Wells. These records include (but not limited to) the following….
   - Drawing and Specification Controls: A documented system to control drawings, specifications, and changes to those documents.
   - Production Part Approval Process (PPAP) submission documentation
   - Incoming, in-process, and final inspection/testing records
   - Non-conforming material / Deviation records
   - Corrective action records

- Inspection and test equipment calibration records
- Internal audits and management review of the quality system
- Material certification with product/lot traceability documents
- Training records

2. **Statistical process control (SPC):** SPC techniques should be utilized, where appropriate, to provide statistical evidence of process control and capability. Verification of capability may be required for specified KEY product or process characteristics. This is discussed in more detail in a later section.

3. **Inspection and Test**: Suppliers shall have a system to ensure and verify the quality of incoming materials, product in-process, and product at final inspection.

4. **Material Control**: The supplier shall have a lot traceability method that ties the materials and processes to the date of production. It is important that discrete production lots are identified on the containers/boxes. In some cases, Wells may require material certifications for initial lots or for each shipment.

5. **Measurement and Test Equipment**: Gages and test equipment used in the production of product for Wells is to be maintained and calibrated using methods and standards traceable to the NIST or equivalent international standards. A documented and effective system must be utilized. Usage of calibrated gages or equipment must be traceable so that remedial action can be taken, and impact/risk evaluated when necessary.

6. **Internal Auditing**: A documented and effective internal audit system is maintained. Audits are performed by trained auditors. Audits findings are documented, and corrective actions reviewed by management.

7. **Management Review**: Regular management reviews are performed to verify that the quality system is functioning effectively. Quality metrics are monitored, and corrective actions completed to promptly address identified deficiencies.

8. **Notification of Change**: Supplier-initiated changes have the potential to result in unforeseen and possibly serious repercussions, even if they were made with the best of intentions. Therefore, Wells must be notified by the supplier of proposed changes so that risk analysis can be performed, and informed decisions can be made. The supplier shall notify Wells of proposed changes by submitting the Supplier **Change Request Form** (available at www.wellsve.com/supplier-portal). This form shall be forwarded to the designated contact at Wells for disposition prior to making the proposed changes.

   Changes that require notification and approval: Note: this applies to suppliers providing parts produced specifically to Wells' design specifications.

- Supplier-initiated design or specification changes (tolerance, material, etc.).
- Permanent Tooling Changes (new, replacement, altered tooling)
- Re-sourcing (changed source of materials or changed sub-tier supplier)
- Re-location (facilities, equipment, tooling)
- Other significant process changes
- Change that requires re-submission of PPAP
- Change that results in cost-savings
  Note: Refer to the AIAG PPAP manual for additional details.

9. **Production Part Approval Process (PPAP)**:
   The PPAP process provides evidence to the customer that the supplier has taken the necessary actions to provide reliable processes, controls, and conforming parts or services. The PPAP process is defined and published by the Automotive Industry Action Group (AIAG). PPAP Manuals can be obtained at *www.aiag.org*.

   In general, Wells adheres to the AIAG PPAP prescribed methods and guidelines for PPAP submissions. Therefore, suppliers are to also rely on the AIAG methodology and forms for direction on how to submit proper PPAP documentation and parts, with exceptions noted in this manual or on the PPAP Checklist.

   Wells utilizes a **PPAP Submission Checklist** form for requesting and dispositioning PPAP materials. Wells will initiate the form and specify the submission level and sample quantities required. The form will then be sent to the supplier. The supplier will complete their sections of the form and return it to the Wells requestor, along with the electronic PPAP files and sample parts. Instructions for using the form are included in the document. This document is available for download and review at www.wellsve.com/supplier-portal.

   PPAP General Rules:
   - Suppliers providing manufactured production components or assemblies to Wells' designs are to provide PPAP samples and documentation as directed by Wells representatives.

   - Level 3 PPAP is considered the default for new OE parts or new tooling. However, this may be modified, by the requestor, based on circumstances specific to the part or supplier involved. Similarly, custom requirements will be determined for re-submissions, part revisions, and various process changes as appropriate. Any modified or alternate requirements should be considered Level 4 (customer-defined). As directed in the AIAG PPAP Manual, the supplier will retain and update all required PPAP documents. PPAP documentation is to be controlled per record retention requirements and be available upon request.

- If PPAP is required, the supplier is **not** to ship production orders to Wells without PPAP approval. Written waivers to ship must be obtained from Wells Purchasing or Engineering, if final approval is not yet given.

- PPAP samples are to be produced using tooling, equipment, and processes that are representative of normal production output.

- PPAP sample parts (used for dimensional layout, capability studies, or testing) are to be individually and sequentially labeled/numbered (without using permanent markings). The numbered parts are to correlate to the data reported in the documentation. For dimensional inspection results, the Wells print is to be sequentially numbered, to label each feature and note (except for reference dimensions). If the dimension has multiple locations (such as 4x), all locations are to be measured and reported.

- Submission samples are to be clearly identified (labeled) as “PPAP SUBMISSION SAMPLES” – both inside the shipping container and on the outside. Sample parts are to be forwarded to the requestor or designee, as instructed by the requestor or buyer. Sample quantities for each submission will be specified on the Checklist.

- PPAP submission documentation (including PPAP Checklist) should be forwarded to the Wells requestor electronically and as soon as it is available. This is requested for the purpose of expediting the review and approval process. When PPAP documentation is sent electronically, a copy of the PSW (part submission warrant) is to accompany the samples for identification purposes. If for some reason, the documentation cannot be sent electronically, it must then be shipped with the sample parts.

- The supplier shall make every effort to provide PPAP submissions that meet all requirements. However, if for any reason this not possible, any non-conformance or omission is to be clearly documented on the PPAP warrant and associated correspondence. The supplier is requested to provide an explanation for the discrepancy and an action plan to explain what is being done to address it.

PPAP Disposition:

- After receipt of PPAP submission, the requestor will coordinate a cross-functional review of the submission and obtain disposition.

- **Approved**: Approvals will be sent to the supplier via the Warrant form.

- **Interim or Conditional Approval**: To be used to allow shipment of material on a limited time or piece quantity basis. In this situation, the supplier is expected to initiate containment actions to ensure that interim approval material does not exceed

agreed to conditions. An action plan for correcting the nonconformance is also required. Material that exceeds the interim conditions or fails to comply with the action plan, will be rejected.

- **Rejected**: Notification will be sent to the supplier via the Warrant form along with an explanation for the rejection and instructions on how to proceed. The completed PPAP checklist should be used for this purpose.

  Important: PPAP approval does not in any way relieve the supplier of their responsibility to meet all customer requirements; including contractual agreements, purchase order requirements, or print specifications. PPAP approval is not to be construed as a deviation for non-conforming product.

10. **Key Product Characteristics (KPC):** Important control characteristics may be identified by Wells. KPCs are part or process features that significantly affect fit, form, function, reliability, or are regulatory. When in doubt, the supplier should make inquiry to Wells Engineering or Quality regarding the selection of KPCs.
    For details, refer to the following documents at www.wellsve.com/supplier-portal.
    - **Key Characteristics (KPC/KCC definition)**
    - **Predefined Symbols**

11. **Process Capability**: For KPCs, the minimum capability index is 1.33. The Ppk index should be used if there are less than 100 variable data points in the study. If there is adequate data (long-term) data, the Cpk index should be reported. If the study results are below these minimums, the supplier may be required to submit a containment and improvement action plan to Wells with the study. After review, an action plan will be determined to address the deficiencies.

12. **Analysis of Measurement Methods**: Gages used for capability studies are to be qualified using Measurement System Analysis as defined by the AIAG MSA manual. Wells may require Gage R&R studies. Unless otherwise specified, the “Long Method” format of gage R&R is to be utilized.

    Per AIAG MSA Manual:
    Gage R&R ≤ 10%: measurement systems is acceptable
    Gage R&R of 10% to < 30%: measurement system must be reviewed by Wells
    Gage R&R ≥ 30%: measurement system needs improvement

13. **Containment of Non-Conforming Material**
    Discovery: When non-conforming material is discovered at a Wells facility or by a Wells customer, the supplier will be notified by means of a Non-Conforming Product (NCP) document (Refer to Example NCP form at www.wellsve.com/supplier-portal).

If the supplier first discovers non-conforming material and has evidence that a quantity of the material has already shipped to Wells, the supplier shall immediately notify Wells in writing.

Upon notification or discovery, the supplier is to take immediate and all necessary actions to contain and quarantine affected or suspect material at all locations. Containment actions must be comprehensive and effective, examining all potentially affected product in the supply chain such as: work-in-process, finished product at the supplier's facilities, product in transit, and product already at Wells.

Containment and Recovery Plan (CARP): Upon notification or discovery, the supplier will apprise Wells in writing of the status, quantities, lot numbers, ship dates, etc., of the affected product. The plan will also detail the methods (and time frame) to remedy the situation in a way that prevents loss or risk to Wells. The plan is to be forwarded to the Wells contact who provided notification of the quality problem or to the assigned purchasing agent. Upon receipt, Wells will review the plan and obtain input from other stakeholders. If the plan is determined to be inadequate, the supplier will be notified and a revised plan will be agreed to.

Response Time: The supplier is to provide an initial response within one working day (for western hemisphere suppliers) or 2 working days (for suppliers outside the western hemisphere) after notification or discovery of the problem. If additional investigation time is needed to provide a complete CARP, the supplier is to promptly notify the Wells contact/agent and requesting more time, while also providing as much information as possible. Urgency is required in completing this task. A final follow-up report is expected after the plan is executed. This information should be incorporated into the supplier's corrective action report (SCAR).

Break-Point Identification: After non-conforming product has been identified, all parts/materials that have been sorted, reworked, deviated, or otherwise certified as 100% good product, must be clearly labeled as such until a formal corrective action has been received, evaluated, and approved by Wells.
Label Example: "100% sorted material – Reference Wells NCP # 5699"
Label Example: "Deviated material – Reference Wells Deviation # 5700"

IMPORTANT: Expenses related to containment and recovery activities are the responsibility of the supplier, including expedited shipments. Failure to complete these critical steps will likely result in additional expenses to the supplier and may negatively affect the supplier-customer relationship.

14. Disposition of Non-Conforming Material

Wells will notify the supplier of non-conformances via the Wells' Non-conforming Product (NCP) form.

In general, the supplier is expected to assist in the disposition process and provide resources as necessary to promptly remedy the situation to Wells satisfaction.

In most cases, it is preferable to return non-conforming material to the supplier. In this case, the supplier will provide return authorization and re-imbursement for materials returned as well as shipping costs.

If the material must be returned, the supplier will expedite replacement material as needed and will use all necessary means to meet production needs and prevent production or shipping delays.

In some cases, it may not be practical to return parts to the supplier. In these situations, other options need to be evaluated. If sort or rework options are possible, the supplier will be asked to provide personnel (or arrange contracted services) to sort or rework the material at Wells or at a designated location.

In some cases, the discrepancy may be such that the material may be used "as is" via a deviation agreement. The supplier may request a deviation if they have reason to believe the problem will not affect fit, form, function, reliability or regulatory requirements. To initiate the process, they must submit a deviation request to Wells with all pertinent information. Refer to the Wells Deviation form for further details (available at www.wellsve.com/supplier-portal).

IMPORTANT: The expenses to carryout final disposition of non-conforming material, are assignable to the responsible supplier.

15. Supplier corrective action Report (SCAR)

Actions taken to contain and recover from a non-conformance are to be documented and included in a supplier corrective action report (hereafter referred to as a SCAR) that uses the Eight-Step Problem Solving format (8D) or other recognized problem-solving methodology. Please contact your Supplier Quality representative to discuss alternatives.

Important: The SCAR default due date for submitting corrective action(s) is 30 days: (Unless otherwise specified)

Extensions: If the supplier cannot complete all corrective actions by the due date, they shall request an extension (in writing) to Wells and forward it to the requestor of

the SCAR. With the extension request, the supplier is to also forward a "partial" corrective action report. The report is to contain up-to-date information of actions implemented and "projected" completion dates of action not yet completed. The completed SCAR is to be submitted no later than the extended due date.

Wells will review and disposition completed corrective action reports. If the corrective action report is deemed inadequate, the supplier will be notified and asked to correct the deficiencies within a designated time frame.

Important: Failure to respond to a corrective action request by established due dates is not an acceptable practice. If a supplier continues to disregard this important responsibility, Wells' management will take the necessary actions to remedy the situation.

8D Elements: The supplier may use their own 8D form as long as it contains the following basic elements.

- Team members
- Problem description and details
- Containment actions taken (see containment &recovery plan)
- The root cause(s) of the problem and verification
- Possible permanent corrective action
- Corrective actions implemented and verified
- Preventative actions
- Team Approval and authorization

8D Objective Evidence: The supplier is expected to audit and verify that implemented changes are effective in preventing further reoccurrences. Objective evidence of verification activities is to be included in the SCAR, such as…

- Updated Control Plan
- Updated FMEA
- Revised Work Instructions
- Training Records
- SPC data, capability studies, control charts
- Mistake-Proofing

GLOSSARY OF TERMS - ACRONYMS AND DEFINITIONS

AIAG: Automotive Industry Action Group - AIAG is an industry organization that, among other responsibilities, provides administrative support to the DaimlerChrysler/Ford/General Motors Supplier Quality Requirements Task Force and distributes related manuals and publications.

8D: Eight Step Disciple for Problem Solving - A disciplined method for problem solving which emphasizes analysis for determining the true root cause and verification that the corrective action is effective in eliminating the root cause (referred to as 8D).

KPC: Key Product Characteristic - A dimension, material property, physical feature, etc. which has certain, highly probable, or possible effect on the product in terms of safety, operation or performance. These characteristics typically require enhanced monitoring, mistake-proofing, and/or statistical demonstration of control and on-going capability. Also referred to as KPC or CPC features.

NCP: Wells' acronym for a Non-Conforming Product Report. This report describes the non-conformance and related information. This form is forwarded to the supplier as formal notification of a quality problem.

PPAP: Production Part Approval Process - PPAP determines if customer engineering design records and specifications are understood by the supplier, and that the supplier's process has the potential to meet these requirements. Refer to the AIAG manual for a complete description.

REFERENCE DOCUMENTS (available at *wellsve.com/supplier-link*)

PPAP Submission Checklist (MS Excel)

Supplier Change Request Form (MS Word Document)

Supplier Assessment Survey (MS Excel)

Non-Conforming Product Form - Example (PDF Document)

DOCUMENT REVISION HISTORY

Date:	Rev. Level	Section/Reason for Revision	Revised by:
12/08/17	REL	New manual released	Randall Hein
01/17/18	A	Changed web portal link. Removed requirement to complete Acknowledgement form and return (incorporated into site). Enhanced PPAP requirements (added interim approvals) to agree with PPAP Checklist. Added PPAP document retention note.	Randall Hein
02/26/18	B	Clarified definition and difference between submission levels 3 and 4 (on Page 9, second paragraph) as related to PPAP checklist. Requestor modifications to checklist requirements.	Randall Hein
8/20/19	C	Scope update. QMS cert exemption. Quality system requirements updated to clarify need for robust system. Clarify SPC requirement as “where appropriate”. Clarify PPAP requirements on page 9. Remove 1.67 capability requirement. Rewording of SCAR section.	Tom Vulovic