



Supplier Requirements Guide

Watlow's Facilities...

Headquarters

St. Louis, Missouri, USA

Technology Centers

Fenton, Missouri, USA

Los Gatos, California

Kuchl, Austria

Manufacturing Facilities

Columbia, Missouri, USA

Hannibal, Missouri, USA

Richmond, Illinois, USA

St. Louis, Missouri, USA

Winona, Minnesota, USA

San Jose, California, USA

Queretaro, Mexico

Kronau, Germany

Shanghai, China

Singapore

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1.0 Introduction

Watlow is the largest custom designer and manufacturer of industrial electric heaters, sensors and controllers; with offices and manufacturing facilities around the world, providing customers with thermal expertise for numerous applications, including semiconductor processing, energy processes, diesel emissions, foodservice equipment, life sciences, refrigerated transportation, and many others. Watlow's suppliers have always been and will remain critical to our continued success!

Watlow's customers define value. Watlow's behaviors are focused on ensuring that we produce high quality products that meet and exceed their expectations. Since Watlow's suppliers directly support the value stream that starts and ends with the customer, our supplier's alignment to, and their thorough understanding of Watlow's expectations, vision, and what we value is vital to Watlow's ability to meet our customer's needs in the end.

2.0 Objectives and Scope

The objective and scope of this document is to define the fundamental expectations applicable to every Watlow supplier throughout the world who is providing goods or services to any Watlow location or function.

For the purposes of this document, those organizations that provide goods and/or services to Watlow hereafter will be referred to as "supplier" or "suppliers".

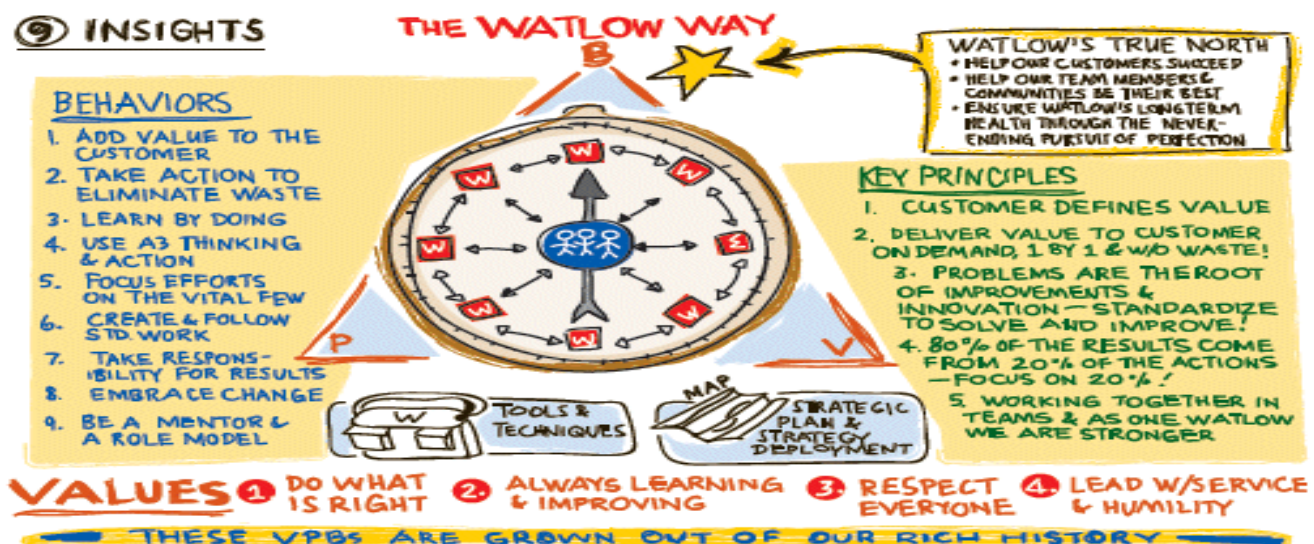
3.0 Watlow's Purpose, Values, and Vision

The purpose of any organization should help to describe and explain why the organization exists in the first place. Watlow's purpose is; "Enriching Lives through Inspired Innovation".

Watlow's key core competency remains our engineering expertise. Our engineering and innovations have provided thermal solutions throughout our history that have "enriched" the lives of people throughout the world, whether or not they were aware that Watlow provided the key components responsible for a variety of applications, which in some way serve each of us and our families every single day.

Watlow's values are included as a primary component of what Watlow refers to as the "Watlow Way" and are aligned to our purpose. The Watlow Way (pictured below) is a pictorial summary of the values, behaviors, principles, tools, and strategies that when applied to our work are intended to help us achieve our "true north" goals...

Watlow's vision, "The world's leading companies start with Watlow for all their thermal needs", indicates that Watlow is ready to meet the most demanding challenges, provide unparalleled performance (product and service), and thrilling our customers with our products, experience, and service. In order for Watlow to offer a product and provide the service our customer's value, we also need suppliers that are prepared and ready to do the same!



4.0 General Conduct Expectations

Watlow has established a Code of Conduct policy applicable to all Watlow employees and many of the expectations in that policy can also be extended to and expected of Watlow's suppliers.

The following provides an outline of those general expectations of which we insist our suppliers help support and align to as we conduct business together.

Honesty

- We will act with honesty in all we do!
- We will comply with all laws, regulations, and policies that govern the conduct of business
- We'll ensure all transactions are handled honestly, recorded accurately, and will avoid conflicts of interest, both real and perceived

Respect for Each Other

- We will respect the rights of all employees to fair treatment and provide equal opportunity in employment to all
- Discriminatory conduct or harassment of anyone will not be tolerated
- We will refrain from acts of retribution or retaliation against an employee reporting/questioning a conduct issue
- We will maintain a safe and healthful work environment for our employees, operating our facilities in compliance with all laws and regulations applicable

Fair Dealing

- We will comply to all applicable antitrust laws and avoid even the appearance of any agreement in violation of these laws
- We will outperform our competition fairly and honestly
- Our promotional material is truthful, accurate, and supported by sound data without false references to competitor's product
- Bribes and kickbacks are absolutely prohibited
- Suppliers and business partners are selected strictly on objective criteria including quality, technical excellence, cost, delivery, services, and ability to maintain supply needed
- We should not seek improper or unfair advantage by providing or accepting gifts or entertainment, however it is permissible to give and receive modest and infrequent gifts and entertainment as long as they are lawful and cannot be perceived as a bribe, payoff, and reflect good taste and judgment, avoiding any gift or entertainment that could be perceived as an attempt to influence a business decisions
- We will avoid even the appearance of conflict of interest

Proper use of Assets

- We will diligently protect all confidential information and intellectual properly entrusted to us, including the intellectual property of others

Good Corporate Citizenship

- We will protect the environment and the health and safety of our employees, contractors, guests, and neighbors wherever we operate throughout the world, along with abiding by the norms and laws related to ethical international business

5.0 Becoming a Watlow Supplier

Watlow utilizes a documented process within our quality system that defines how to select, evaluate, and approve a new supplier for Watlow. Objective criteria including quality system capability, process maturity, technical excellence, delivery, services, value add capabilities, and cost are all variables that the team assigned to select the supplier will apply in determining the best partner, whether the supplier is a new or an existing Watlow supplier.

The Watlow supplier selection process is focused on finding strong partners, suppliers dedicated to superior performance, those willing to work with Watlow to ensure alignment to and understanding of Watlow's expectations, and those that desire a long term mutually beneficial relationship.

Quality System Requirements

In general, all Watlow suppliers must be registered, or at a minimum aligned and compliant, to an internationally recognized quality system standard, such as ISO9001, TS16949, etc.

- Each Watlow division/site or supplier selection team is empowered to establish minimum quality system expectations for those suppliers they will utilize
- If a supplier is not registered or compliant, Watlow still may choose to invest in working with the chosen supplier to "develop" key quality system elements as a condition of approval and initial use

There are certain situations where ISO/TS registration/certification is required of our suppliers. The following outlines these expectations and how they will be communicated or made applicable.

- ISO9001 or TS16949 registration/certification is required for suppliers that are supplying product to Watlow sites with TS16949 registration.
 - This requirement will be communicated by Watlow upon initiation of the new product offering and/or through specific verbiage on Watlow's Purchase Order, or Design Specification/Drawing documentation as appropriate
 - All purchased products or materials used in product shall conform to applicable regulatory requirements
 - It is required that all vendors maintain certification to the latest ISO9001 standard, with the goal of supplier conformity to the latest TS16949 standard

Each Watlow division/site or Watlow supplier selection team reserves the right to require formal registration is in place to either approve or utilize an already approved supplier which was approved by another division/site without such registration.

Regardless if registration is required or not, it is expected that all Watlow suppliers have fundamentally sound quality systems in operation. Quality systems allow a supplier to continuously drive improvement; emphasizing defect prevention and waste reduction. Quality systems also help ensure there are processes, procedures, work instructions, and records defined and maintained for ALL activities typically required to conduct business in a reliable and consistent manner.

Notes:

- Any change in approval/registration status of a third party registration by an accredited registrar must be communicated to Watlow in writing, typically sent to your Watlow purchasing or quality contact as soon as possible once the change of status is known
- Once a supplier is approved by one Watlow division/site, other divisions/sites may choose to use a supplier without further qualification, but do reserve the right to conduct their own risk assessments (RFI/RFQ, audits, part qualifications, etc.) prior to approving the supplier for use by the site
- Prior to utilizing a supplier's material/part/component following Watlow's supplier approval process, additional engineering part qualification/approval evaluations/testing may be conducted, which may be in conjunction with or in addition to any previous supplier selection/approval efforts already conducted
 - As such, it is possible that a supplier may be approved as a Watlow supplier, however their parts may not be qualified for use in Watlow product

6.0 Watlow's Supplier Development Principles

Watlow's Supplier Development activities are intended to always be a collaborative effort between Watlow and our suppliers which can take place at anytime during the life cycle of the product. Although the objective is to ensure "proactive" engagements with our strategic suppliers whenever possible, "reactive" work is sometimes needed in order for Watlow to deliver the value expected by our customers.

Therefore this "guide" document has been developed to help outline to our suppliers the required and desired attributes expected of our suppliers. The following represent those fundamental expectations that must be built into each of our business systems. A brief description of each expectation is noted on the following pages.

- Safety
- Documented Quality System
- Training
- Perfect Quality
- Perfect Delivery
- Product Quality Planning
- Process Control
- Corrective/Preventative Action System – Problem Solving
- Change Control and Communication
- Innovation
- Responsiveness
- Continuous Improvement

6.1 Safety

Watlow provides, and expects our suppliers to provide, a safe and healthy working environment for their employees.

All of Watlow's suppliers are expected to conform to all governmental requirements mandated for their business, processes and maintain safety records. It is also expected that Watlow's suppliers have appropriately documented safety prevention and safety sustainment programs in operation at their facility, with regular training and audits conducted to verify compliance to those documented programs and applicable processes.

The safety and well-being of our supplier's employees and that of Watlow's employees and customers when visiting a supplier's facility and/or applying the supplier's product must never be compromised.

6.2 Documented Quality System

Although registration of Watlow's suppliers to ISO, TS, or other internationally recognized quality systems is always desired, such registration is not always required. However, if a supplier is not registered, Watlow does expect that there is a "system" in operation and documented that defines the key processes, specific work instructions, and records needed to conduct business consistently throughout the organization.

If a supplier's quality system is not registered, it is Watlow's recommendation to align and conform to the expectations of ISO9001:2008, or latest equivalent, including execution of internal audits on a regular basis.

6.3 Training

Continuous education is vital to sustaining an organization that is prepared to meet and overcome the challenges of today and the future.

Routine training on concepts critical to employee safety, product quality, and process conformance (manufacturing and administrative) usually will serve as the foundation of a company's training program. In addition, training should also have an eye on recognizing and facilitating employee development. Proactive training is always the preferred approach; however retraining may also be necessary. Records of all training should be maintained.

6.4 Perfect Quality

The quality target will always be zero defects.

All products supplied to Watlow are expected to conform to all procurement documentation requirements established prior to delivery, unless formal approval from Watlow to deviate to any stated requirement is authorized. Supplied product that does not conform to stated requirements will be deemed “non-conforming” and will be dispositioned in accordance to Watlow’s standard procedures.

When supplier non-conforming material is discovered, Watlow will typically issue either a Supplier Notification (awareness expected to trigger the supplier into appropriate corrective/preventative action without needing to provide report to Watlow) or a Supplier Corrective Action Request (SCAR) (request for corrective and preventative action which requires full report identifying root cause and corrective and preventative action plans).

Our suppliers are expected to address their quality issues as a priority at all times to contain the issue and initiate appropriate corrective and preventative action.

6.5 Perfect Delivery

The on time delivery target is that 100% of all orders are received at Watlow no later and no more than three days earlier than the Watlow dock date expected and noted on the purchase order.

Changes to purchase orders can and will occur during the course of normal business. Our suppliers are strongly encouraged to request an updated purchase order from Watlow whenever a change or modification is made and agreed upon between the supplier and Watlow buyer. This can help ensure accurate data is in Watlow’s system, vital for Watlow production planning and for analyzing a supplier’s on time delivery performance.

6.6 Product Quality Planning

Ensuring the product meets a customer’s expectations generally starts early in product requirements planning. Recognizing and addressing the risks and variables, starting with the supply chain on through delivery of the product to the customer that can affect the quality of the product being produced, is expected to be a priority during development.

Watlow typically does not dictate that our suppliers must conform to any particular product quality planning methodology or tool usage, such as the Advanced Product Quality Planning (APQP) Core Tools used in the automotive industry. However, we do expect that each of our suppliers have processes in place that will allow them to proactively assess the various risks to product quality and then design into the value stream the countermeasures needed to ideally eliminate/minimize those risks from ultimately affecting product quality.

In the cases where Watlow will require certain quality and other methodologies and tools be applied to the product being supplied, Watlow’s Supplier Development Engineers will typically work with those suppliers as needed during product development.

6.7 Process Control

Although the term “process control” usually alludes to the control of the processes used to manufacture something, it is critical that all processes applicable to doing business are “controlled” appropriately.

In regard to manufacturing process control, the expectation is that the process used to build the product is a closed loop process, completely documented, defines the needed materials, equipment, and includes customer specific expectations, process parameters, test requirements, and acceptance criteria. Performance metrics should also be in place to verify if the process is yielding what is expected.

Non-manufacturing or administrative type processes should also be documented, defining the actions required to execute the process, along with any checks needed in order to achieve and verify the expected outcome. Although sometimes difficult to quantify, performance metrics can also be applied to administrative processes.

Ensuring manufacturing process control is in place is a primary focal point for Watlow's Supplier Development function during new product development or when in a fix-up mode with a supplier. Working with our suppliers to ensure that the appropriate control measures are defined, documented, and parts are subsequently produced to what is documented is part of what we call our process "lock-down" activity. Preparing and readying our suppliers to meet our expectations for a particular project is a primary objective of nearly every supplier development project.

6.8 Corrective/Preventative Action System – Problem Solving

Corrective action systems are part of the foundation of any quality system, whether the quality system is registered or not. It is expected that all of Watlow's suppliers have a documented and implemented process/processes that manages both internal (issues owned internal to your organization) and external (issues owned by suppliers) supplier corrective actions. These systems must also support processing requests for corrective actions originating from your customers.

At a minimum, the corrective action process must facilitate achieving the following:

- Thorough Definition of the Problem
- Effective Containment of the Problem
- Identification of the Root Cause of the Problem
- Identifying and Implementing the Corrective Action Plan
- Identifying and Implementing the Preventative Action Plan

The goal of any corrective action system is to help organize and manage the activities needed to address and fix the issue permanently. But the outcome of the process (corrective/preventative action) is of value only when the actual "root cause" or "root causes" are identified and those are what the corrective/preventative actions addresses directly.

Watlow expects our suppliers to have robust corrective action systems and be able to identify a "true" root cause for all problems addressed. There are many quality tools available to facilitate getting to "root cause", including Five Why's, Cause Chains, and Fishbone Diagrams to name a few. Using these tools in all problem solving work is expected, as Watlow often expects to "see the work" on how root cause of an issue that impacted Watlow or our customers was derived. The output of the use of these tools can provide that appropriate details supporting the decisions being made to qualify or disqualify potential root causes as the corrective action work evolves.

6.9 Change Control and Communication

Watlow recognizes that a continuous improvement philosophy encourages product changes, sourcing/sub-contractor changes, and process and manufacturing improvements. However, to ensure against any unforeseen impact to Watlow or its customers, Watlow expects that our suppliers have appropriate processes in place to manage those changes and to recognize when Watlow requires notification or needs to approve the change before proceeding with the implementation of the change.

In order to facilitate the management and control of our supplier's changes that can impact Watlow and our customers, Watlow has established a process (QSP-7.4.10, Supplier Change Control and Communication Requirements) that will apply to those suppliers of material that will be used in Watlow products which are subject to Watlow's and to various customer's most stringent change control expectations. Depending on the material being supplied, the process defines what types of changes will require nothing to be communicated, what changes Watlow will require notification of, and those changes that will require Watlow's approval well in advance of the change actually being implemented on our parts.

In general, for those suppliers that are not notified through a purchase order, print/drawing, or specification that they must comply with Watlow process QSP-7.4.10, the general expectation is that any change to form, fit, function, end of life, etc., be communicated to Watlow as far in advance of the change as possible. The advanced notification will allow Watlow the opportunity to consider what actions may be necessary (requalification, testing, customer notification) before needing to utilizing the new version.

Ensuring that Watlow's suppliers understand, are aligned, and have prepared to conform to Watlow's change control and communication requirements is also a key activity in most supplier development projects. If these requirements are needed, Watlow will advise as early as possible in the process (ideally as early as the first

request for quote) and suppliers can expect this to be a focus of all new product development activities, especially for those suppliers providing Watlow with a “custom” part, assembly, or material.

6.10 Innovation

With Watlow’s diverse supply base, establishing specific expectations in regard to what Watlow expects in regard to innovation from our supply base is challenging. But since innovation came manifest itself in many forms within a company, there are usually many things that can factor into determining if a company is “innovative”.

For example, the constant pursuit of continuous improvement helps to drive organizations to “get better”. Having something that is “better” often times equates with something being innovative. Having better processes, better products, better services, and better technologies are often associated with being “innovative”.

Watlow strives to be an innovator for our customers and the markets we serve. We also acknowledge that our suppliers will be a critical factor in our ability to take our products to the next level and for Watlow to achieve “innovator” status. As such, we need suppliers that also have an eye of the future of their products, constantly striving to improve their products and investing in the development of the processes and technologies that will provide their customers with “stuff” their customers never imagined they needed, and now can’t live without!

6.11 Responsiveness

Watlow considers all suppliers supplying parts for our products to be a part of our own value streams, part of our manufacturing system, and an integral part of our overall operations. Because Watlow’s suppliers are so integrated into our value stream’s success, we strive to ensure that communication with our suppliers is always efficient and timely.

Responsiveness of our suppliers is of value to Watlow. Watlow can’t deliver value to our customers if our suppliers are not able to respond to our needs. Emails, phone calls, purchase order acknowledgements, meeting requests, data requests, and many other things that routinely happen between Watlow and our suppliers require all parties involved, including Watlow, to be efficient and timely in their responses to each other in order to maintain effective levels of responsiveness in our work together.

6.12 Continuous Improvement

ISO/TS registered quality systems expect continual improvement of the effectiveness of the company’s quality management system through the application and results of the processes defined by the quality system’s elements (audit results, analysis of data, corrective and preventative actions, and management review). Utilizing process outputs to drive improvement actions is an example of a “closed loop” system, utilizing feedback to drive the changes necessary to stay in control or improve.

Watlow expects the same out of our suppliers. Some may call it Lean, Plan Do Check Act, Six Sigma, etc., but the objective is that we expect our supplier to have a culture and the systems in place that values the investments needed to drive continuous improvement and utilizes those resources to drive the desire to continuously improve into the daily work of all their employees.

7.0 Exceptions to this Document

This document establishes the general expectations of Watlow’s suppliers, which may or may not be defined by other procurement documentation, such as purchase orders, terms and conditions, design specification/drawing, supply agreements, or other specific contractual agreement with the supplier.

If there are any exceptions or additions to what this guide defines which are mutually agreed upon, those details shall be defined in one of those documents noted above.

8.0 Approvals

Vice President of Supply Chain
Engineering Manager- Supplier Development

9.0 Revision History

Revision Date	Section	Description
May 19, 2008	Purpose and Scope Quality System Added Revision and Approval Record Cover Page	Added specifics for TS16949 supply chain requirements Added specifics for TS16949 supply chain requirements Added Revision and Approval Record Removed word "Corporate" from cover page
June 13, 2008	Added Sub-Tier Supplier Right of Entry	Sub-Tier Supplier Right of Entry requirement
October 9, 2009	All	Overall content redesign and reformat
January 11, 2011	All	Update past due SCAR expectations, supplier development detail, and clarify grammatical usage in multiple sections
June 23, 2011	5.3 and 4.1	5.3 Modified TS16949 heading to remove 2002 reference and added reference to Conflict Minerals in Section 4.1
December 4, 2013	All	Transition content to supplier requirement guide document
January 10, 2014	all	completely revamped