

The New & Improved Guide: Effective Communication Between Customers & Labs

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In 2011, I published and presented a popular topic about the challenges of effective (and efficient) communication between customers and their labs. So many people told me how frustrated they had been on both sides; customers requesting service from labs and labs trying to figure out what their customers were asking. The only instructions sent with the equipment may be “please calibrate this”. Calibrations are often delayed because of missing or incomplete information. Additionally, customers may not receive equipment calibrated for how they intend to use it. Part of my previous paper & presentation included a template letter that anyone can customize to clarify their calibration, test, or repair service requests and make for smoother interactions with their service vendors. The feedback was of excitement and relief from both customers and service vendors. Now they had tools to standardize and cover their communication needs.

This guide has been updated to include new and revised requirements of ISO/IEC 17025:2017 and is intended to continue the efficient and effective communication between you and your service vendors; whether it is for requesting testing, calibration, or repair. For this paper, we will use the example of requesting calibration. One can easily substitute “testing” or “service repair” in place of “calibration”.

1. INTRODUCTION AND VIEWPOINT

This paper is written from the perspective of customer who is in direct contact with outside calibration vendors. While it is recognized that some communications may go through multiple departments (both for the customer and for the provider), these experiences and solutions may also be applied to any company needing outsourced calibration services. It is imperative that both the customer and the vendor take equal responsibility for communicating with one another to ensure the customer’s requirements are met. Both the customer and vendor should be familiar with the requirements of ISO/IEC 17025:2017 section **6.6 Externally provided products and services** and section **7.1 Review of requests, tenders, and contracts**. This paper addresses common frustrations between customers and their external calibration labs and offers solutions for effective communication.

2. BACKGROUND

2.1 Understanding Your Needs

Perhaps you believe (mistakenly) that just by finding an ISO/IEC 17025-accredited calibration vendor, sending them your equipment, and saying “please calibrate this”, that they would know what you wanted and that your calibration requirements would be satisfied. In return, you would get a calibration certificate and a sticker.

Perhaps it was only after multiple phone calls, delays, or reviewing calibration reports and finding that your requirements were not being fulfilled that you realized that you needed to better communicate your calibration requirements to your vendors. By completely understanding your own requirements, you will be able to better communicate with your calibration service providers so that you would receive what was needed the first time. By communicating specific requirements upfront, it will save time, money, and resources for both the supplier (vendor) and the customer (you).

2.2. What Are the Issues?

What are frequent and common issues that you have encountered and what do you need to know?

If company is ISO/IEC 17025-accredited, you must use ISO/IEC 17025-accredited calibration vendors.

In the beginning, after finding an accredited vendor, you sent the equipment to them and asked them to “calibrate it” or “give us an ISO 17025-calibration”.

Vendors might call back and ask if:

- Do you want an ISO 17025-accredited calibration?
- Do you need to just meet the requirements of ANSI/NCSL Z540.3 or something else?
- In what measurement units should the data be reported? (e.g., the gauge displays in bar, mm of water, mm of mercury, psig, kpa, but you only need it to report in bar.)
- Do you want As Found & As Left data?
 - As Found data are data measured before any adjustments are made to the equipment.
 - As Left data are measurement data *after* any adjustments are made to the equipment

Why would you need As Found & As Left data? If the As Found data are out of tolerance, then, unless you have timely & supportive data otherwise, you would have to assume that it has been out of tolerance since its last good, known & documented in-tolerance measurements.
- Do you want uncertainty data?
- Do you need any data or just a Pass/Fail statement?
- How many data points do you want – single points or multiple points?
- Do you want all parameters calibrated or just a few of the total possible parameters?
- Do you want the entire range calibrated or only what is used?
- What are your accuracy requirements – are they to calibrate to manufacturer’s specs or is there another standard that applies?
- Is there a method or procedure that needs to be followed? (You may be better off finding a calibration vendor accredited to calibrate to a specific method, such as ASTM E4, rather than each of the parameters that may make up the requirements of ASTM E4.)
- Should the vendor immediately notify you if the equipment needs repair or adjustment or is found to be out-of-tolerance?
- Is a calibration or repair warranty available? Is it needed?
- Did you send accessories with the equipment that needs to be returned, such as instrument manual, power cord, other cables, etc.?
- What is your calibration interval? (When does it need calibration again?)
- What turn-around time do you need? (By what date do you need the equipment back?)
- Is a rush calibration needed? Can they supply a rush calibration and if so, what is the rush fee?
- How would you be paying? What were their accepted methods of payment? What are their payment terms? Are you a tax-exempt organization and does tax-exempt status that needs to be documented?
- How do you want the equipment shipped back? Is there a shipping account number you would like it charged to? Do you need it shipped back in the packaging in which it was sent?
- To who’s attention should it be returned?

3. YOUR ANSWERS

How to address these questions? You will need to find the answers for yourselves, such as:

- How your people are using the equipment and their accuracy needs. In some cases, you may find that they only used it for some but not all parameters, or that the accuracy needs were different (perhaps more or less stringent) from the manufacturer specs.
- Seek input from all equipment users as to how often they needed it calibrated and their accuracy needs. Different users may use the equipment for different test methods; each with different requirements.
- Research different competent calibration vendors and compared costs and services to ensure that you can both stay on budget and receive the calibrations you need.

- For example, some calibration vendors said they charge extra for calibration measurement uncertainty data versus their stated 'Calibration and Measurement Capability Uncertainty'. (That is a topic for another paper and discussion.)
- How do you use the measurement uncertainty data? How would the uncertainty data help you? Will you use the uncertainty data in developing the uncertainty budget for the next step in the traceability chain?
 - One of the ways one can use uncertainty data to make sure that a piece of equipment can meet the accuracy requirements for which it is used. This is where Decision Rules are applied.
ISO/IEC 17025:2017, Review of requests, tenders and contracts;
"7.1.3 When the customer requests a statement of conformity...the specification and the decision rule shall be clearly defined."
 - Another way you may use uncertainty data for example is to evaluate an instrument between calibrating in-house versus sending it out for calibration.
In this instance, you may find that by calibrating it in-house, you do not have the reference standard accurate enough to be able to have a measurement uncertainty that was lower than the accuracy specification at certain parameters or levels.
So, after finding out that the user did need it at that parameter & level, research vendors to whom you could send it.
Herein lies the need for the actual 'uncertainty data' for a calibration and not the vendor's 'best measurement uncertainty capability'.

4. THE SOLUTION: THE CALIBRATION / SERVICE REQUEST LETTER

Have you found you are being asked the same questions and giving the same types of answers each time you send measurement equipment out for calibration? Are you drafting entire new request letters each time or would a template that could be used for any outsourced service – calibration or repair?

There are at least 2 steps for any company when sending equipment out for calibration:

- Step 1 is completed before the equipment is sent out
- Step 2 is completed upon equipment receipt back from outsourced calibration or service.

Step 1. Vendor Status

- Retrieve a copy of your Outsourced Service Request template from your controlled document system.
- Review the approved vendor's status:
ISO/IEC 17025:2017, Section 6.6.2 *"The laboratory shall have a procedure and retain records for:*
d) ensuring that externally provided products and services conform to the laboratory's established requirements...before they are used..."
 - Whether you have previously used the selected vendor or not, check their scope of accreditation **on the accreditation body's website** each to make sure they are still accredited for that equipment or parameter.
 - Record their accreditation scope status, accreditation provider & number, date (this form was) completed and by whom, and date the equipment is sent out.
It may also be useful to keep a copy of their accreditation scope at the time you requested the service as a record of their status.
- If necessary, contact the vendor for return authorization, turn-around estimate, quote for purchase order, and/or discuss calibration details.
- Perform and record any required operational or accuracy checks prior to sending out.
- This Pre-Shipping log can be completed using your own software, other electronic means, or by hard copy
- Review and request your requirements under **ISO/IEC 17025:2017 section 6.6.3**

PRE-SHIPPING LOG

Equipment ID _____

DOCUMENT THE VENDOR'S STATUS

Vendor's name: _____ Location: _____

Does Vendor's Scope of Accreditation include parameters to be calibrated? Yes No NA

Is Vendor Approved? Yes No

Comments: _____

Date Equipment sent out: _____

Completed By: _____ Date Completed: _____

Step 1-2

SERVICE REQUEST LETTER

The second part is the Service Request Letter: complete the mailing/shipping section, including "Attention To:" Enter in equipment information, including instrument type, manufacturer, model, serial number or other unique ID, calibration interval, and the requirements and/or specifications for calibration. Using check boxes, select the requirements for ISO/IEC 17025-accredited calibration, As Found & As Left data, uncertainty data (for your equipment's calibration), attention for return, return shipping vendor & account, payment information, return of shipping box, accessories sent with equipment, etc.

Include a copy of this letter on your company letterhead with the equipment sent to the calibration provider, even in addition to copies of service request letters/quotes/forms provided by the vendor.

To: Company Name: _____ Date: _____

Company Address: _____

Company Phone: _____, extension _____

ATTN: _____

Enclosed is/are the following _____ for Calibration/Repair/Other _____

Instrument Type: _____ Model: _____ Calibration interval: _____

Serial number: _____ Other Unique ID: _____

Calibrate to Manufacturer's Specs/Standard/Other (provided): _____

Statement of conformance required?

Please use the following Decision Rule when making statements of conformance (if different than calibration vendor's Decision Rule): _____

<Copy & paste the grouping above for as many pieces of equipment to be sent in to one vendor at a time>

Please:

Provide an ISO/IEC 17025-accredited calibration including As Found, and if necessary, As Left, data

Please provide uncertainty data

_____ <use for other comments or remarks>

Return to Attn: _____

Return via FedEx/UPS/Ground/Air/Pre-Pay & Add/Other, Account # _____

Please return in shipping box provided.

For payment: Contact me for payment info/Charge to card on file/Refer to PO#/Other: _____

Please let me know if you encounter problems or delays.

Sender's Contact name, title, company, address, contact info

5. Upon receipt of equipment back from calibration:

- Check the operation of the equipment. ISO/IEC 17025:2017, section 6.4.4 *“The laboratory shall verify that equipment conforms to specified requirements before...returned into service.”*
- Review the calibration certificate for compliance to the original service/calibration request.
 - Are all requested parameters calibrated?
 - Are the accuracy requirements met?
 - Was everything returned – did you get back what was sent out?
 - Do the data make sense – are there calculation errors?
 - Are the stated Passes or Fails in conformance with your requested decision rules?
 - Does the calibration certificate meet the requirements of **ISO/IEC 17025:2017, 7.8 Reporting the Results?**
 - Does the reported equipment ID match the ID of the equipment sent in?
 - Does the calibration sticker have the proper information and is the information correct; ID? Calibration Date? Calibration Due Date?
 - Are there any comments about calibration (adjustments or repairs made, in spec, out-of-tolerances, etc.)?

6. WHAT IF?

What happens if you find that you did not receive something requested or agreed upon in the contract? First, contact the service provider at once. Maybe it was an oversight, it's in the mail, or there's an error that can be corrected on an amended certificate. Be open to discussing the issue. Maybe it is something that you and/or they can learn from to improve in the future. That feedback is an important part of continuous improvement. If you find that you are still having difficulty or not receiving what you need, let them know you will be contacting their accreditation body. Sometimes that is necessary.

7. CONCLUSION

By developing a standardized form that can be quickly completed, you will find that this process and template can streamline your service requests. You will find that you will not forget to ask/request any pertinent information. You may have less rework and have saved time and money in callbacks and recalibrations.

REFERENCES

ISO/IEC 17025:2017, “General Requirements for the competence of testing and calibration laboratories”

When you have more questions or need solutions to your measurement headaches, please contact us!

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