
Outsourcing Metrology Services

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In today's ever aggressive bottom-line protection, cost-cutting environment there are no sacred cows. This is especially true for internal support services. These services are enablers in the development and building of products but are not considered direct contributors as are engineering and manufacturing departments. Internal support services are often viewed as generic commodities that may be easily replaced by another comparable commodity in cookie cutter fashion. cursory assessments of internal support services generally show them as being unsophisticated in mission and complexity. As a result of first tier evaluations, internal support services are often categorized as low hanging fruit, ripe for outsourcing with the potential to reduce both headcount and cost to an organization. Metrology support services are frequently lumped in with other internal support services, i.e. janitorial, grounds maintenance, payroll accounting, etc., and as such are vulnerable to the mindset associated with previous outsourcing successes for these types of services.

Outsourcing Notification

To individuals working in an internal Metrology department, the initial notification of outsourcing candidacy will undoubtedly cripple morale. Granted that an outsourcing trend throughout a company can be foreseen as inevitable, it is only when news is formally announced that the impact to personnel really hits home. As can be expected, personnel reactions can range from anger to disbelief. It is assumed in most cases that formal notification of a department's outsourcing candidacy reflects upper management's decision to evaluate the feasibility for outsourcing rather than a final, cast-in-stone decision to outsource. It should be clearly communicated that being a candidate for outsourcing means that an evaluation will be conducted and that nothing is final until the fat lady sings.

It is recommended that management communicate their availability for one-on-ones so that department personnel can discuss their concerns in private. As bleak as the news of outsourcing candidacy is initially perceived, it can not be over emphasized that accurate, timely communications are vital for departmental personnel to clearly understand what challenges are in store and what is expected of them.

With that being said, it is inevitable that news about a Metrology department's selection for outsourcing candidacy will be found out by its customers. Grassroots customers will often voice their concerns to department personnel who are not in the best position to adequately address their concerns. It is recommended that management proactively communicate with customers to help squelch unfounded rumors and ease customer anxieties as well as requesting that their questions / concerns be forwarded

to them or their designee. Information regarding existing Metrology services takes on a different meaning when conveyed by customers and may be viewed in the context of an unsolicited customer survey.

Outsourcing Team

Essential to the outsourcing evaluation process is careful consideration and selection of personnel who will participate in the process. Outsourcing team personnel typically will include one or more persons from upper management (and/or members of their staff) as well as the manager of the Metrology department. It must be noted that the Metrology department manager is normally the most familiar with existing operations and that their role on the team, as difficult as it may be for them, is indispensable in creating an accurate Statement of Work (SOW) and evaluating supplier responses.

A procurement specialist is a requisite member of the outsourcing evaluation team to oversee the development and evaluation of a formal outsourcing Request for Proposal (RFP). The procurement specialist should be familiar with a company's procedures in creating and releasing a RFP as well as the methodology and tools used to weigh and evaluate supplier responses. Normally the procurement specialist will disseminate the RFP to suppliers and act as the focal point for all supplier questions and submitted responses.

Users of internal Metrology services often referred to as major stakeholders, should also be invited to participate in the outsourcing evaluation process. These major stakeholders typically will represent one or more internal customers that are the biggest users of Metrology services and/or are most impacted by outsourcing the Metrology

department. Their participation helps to insure customer concerns are taken into consideration when developing and evaluating the outsourcing RFP as well as adding legitimacy to the outsourcing process by being independent of the Metrology department's chain of command.

Outsourcing Evaluation Timetable

Establishing a timetable for deliverables is vital for keeping the Metrology outsourcing initiative on track, helping ensure necessary activities are not overlooked and for assigning tasks to team members. It is advantageous if the outsourcing team's procurement specialist has an existing boiler plate or a previous timetable of a similar outsourcing initiative to use as a starting point. During the first couple of team meetings it is beneficial to brainstorm about tasks and proposed timetables so that all team members understand what each task entails as well as initiating dialog about timetable contingencies. Normally during these brainstorming activities, tasks are evaluated to ascertain which team members are best suited to perform them based on their knowledge and experience with Metrology operations, the outsourcing evaluation processes and availability to adequately commit time to satisfactorily perform them. Often, several team members will be assigned to work concurrently on different aspects of the same task in order to not overly burden any one team member. This strategy also helps to speed up the process.

After assigning tasks to team members, time schedules on deliverables should be created. Schedules should be both flexible enough to allow for unforeseen delays and rigid enough to ensure tasks are performed in a timely manner. It is acknowledged that management directive may override flexibility in favor of a rigid schedule reverse engineered from a required delivery date. All team members should be cognizant of time expectations associated with their assigned tasks. It is recommended that team members periodically revisit the timetable so that assumptions thought valid in its creation still hold true. Team members should be encouraged to throw up a red flag if they become backlogged or become aware of circumstances that will delay a deliverable. In this way contingencies can be pursued if necessary and other team members given a heads up about delays that may affect their ability to complete a task.

It is highly recommended that a centralized depository for all documentation be created. This depository should be readily accessible by all team members. Having a centralized depository helps to ensure all the latest document revisions are being used as well as providing a convenient place to archive e-mail correspondence and past document revisions so that they can be easily retrieved. Microsoft SharePoint or similar types of applications are ideally suited for centralizing and archiving documentation.

Statement of Work (SOW)

The primary document used to define RFP evaluation criteria is the SOW. The SOW should reflect all the services that the internal Metrology department performs in supporting their customers. It is critical that the SOW be written without any bias, reflecting facts of the operation and not opinions. The task of writing the SOW will usually fall on the shoulders of the Metrology department manager. It is beneficial that the SOW's author make an initial pass at compiling all the services provided by the internal Metrology department and grouping them in broad categories like; Calibration, Repair, Logistics, etc. This initial work can then be shared with department personnel in order to brainstorm and capture services that are missing as well as identify services that are incorrectly defined or require additional verbiage to be complete. This activity often reveals aspects of a Metrology department's operations which are value add to customers but perceived by department personnel as routine and as such may not stand out as a separate service. Some such cases are;

- Inspection, Measurement and Test Equipment (IM&TE) rental / lease tracking
- IM&TE warranty tracking
- Support of customer internal quality audits
- External vendor interfacing and Purchase Order (PO) generation
- Providing IM&TE consulting and training
- Miscellaneous parts / expendables replacement (charges absorbed by the Metrology department)

Specific information about an internal Metrology department's accreditation should be clearly articulated in the SOW especially if accredited calibration support is required by customers in order for them to maintain their own accreditation i.e. safety laboratories, electromagnetic compliance (EMC) laboratories, etc. The SOW's final review should be from both a department personnel perspective as well as from a customer perspective. It is highly recommended that the SOW be reviewed by personnel not particularly versed in Metrology operations in order to weed out verbiage that may be unclear to the average reader acknowledging some Metrology specific jargon will likely not be understood. The finalized SOW should be as complete as possible in order for prospective RFP responders to have a good picture of what they will be committing to.

In addition to traditional calibration and repair services many Metrology departments provide other services which are value add to their customers. Specialized testing and product characterization are a natural extension of a Metrology department service portfolio as many of the IM&TE used for calibrations and repairs can also be used for testing and characterizing product performance. An example of a non-traditional calibration and repair

service is signal integrity. Signal integrity is an important issue given the ever increasing high frequency operation of product (phenomena that can be ignored at lower frequencies often become 1st order effects at higher frequencies) and employ essentially the same IM&TE used in RF & Microwave calibrations. Because of the specialized nature of non-traditional calibration and repair services such as signal integrity, a SOW focusing on traditional Metrology services will often not include these services as many prospective RFP responders would likely not have the capabilities and expertise to support them. These specialized services may require a separate RFP or at the very minimum an investigation as to what it would mean for costumers to absorb these services internally and/or subcontract a portion or all of them to a competent supplier. Any non-traditional calibration and repair services a Metrology department provides to its customers should be addressed in the final outsourcing decision.

Additional RFP Content

The SOW being primarily focused on operational and technical issues is not intended to address business aspects of the outsourcing proposal. Business requirements are normally conveyed in a Master Service Agreement (MSA) which spells out such provisos as billing cycles, contractual responsibilities and conflict resolution to name a few. A company's MSA template will often contain a variety of stipulations applicable to many different procurement scenarios and as such should be edited specifically to the Metrology outsourcing proposal. The outsourcing team's procurement specialist will normally champion the MSA in order to ensure company procurement mandates are adequately communicated to prospective RFP responders. In addition to the SOW and the MSA, an inventory of IM&TE that will be serviced under the RFP is usually provided. Note, other documents relating additional stipulations may be included in the RFP and will be broadly inferred as being part of the MSA for this article.

Evaluating RFP Responses

Once the SOW and MSA has been finalized, compiled within the RFP and submitted to prospective RFP responders hereby known as suppliers, the task of how to systematically evaluate RFP responses must be addressed. It should be noted that identifying candidate suppliers will normally be championed by the Metrology department manager due to their familiarity with commercial calibration services. Selection criteria for candidate suppliers may include physical location, scope of accreditation, industry reputation, past experience and professional judgment to name a few. During the time allotted for RFP response assemblage, suppliers are normally allowed to pose questions about the RFP

for clarification. It is recommended that all supplier correspondence be handled by the procurement specialist. In this way suppliers have a single interface for all communications and members of the outsourcing team maintain an impartial stance.

It is assumed the outsourcing team's procurement specialist is versed in a company's practices and tools for evaluating supplier responses and as such will usually champion the outsourcing team in creating different weightings to sections of the RFP so that responses can be objectively evaluated. It is beneficial to categorize sections of the RFP as to what makes sense to help facilitate weighting assignments as well as creating broad evaluation categories to address items such as overall cost, supplier financial health, etc. The outsourcing team will undoubtedly engage in several consensus exercises to establish RFP weightings with each member balancing cost with SOW and MSA compliance.

Once weightings have been assigned, the task of identifying X-factors will need to be performed. X-factors in this context are factors which, depending on RFP responses, may need to be considered in order to maintain an expected level of support for internal customers. An example of an X-factor may be the need to procure additional IM&TE equipment as spares so that product development cycles are not adversely effected by longer IM&TE calibration turnaround times. X-factor estimates are often made in the guise of professional judgment sometimes referred to as a tongue in cheek Scientific Wild A __ Guess' or SWAG reflecting the best information available at the time.

After RFP responses have been received it is advantageous for each member of the outsourcing team to independently grade responses (normally in a scale from one to ten with a higher number indicating a greater degree of compliance with RFP requirements). These grades are then mathematically massaged using the aforementioned weighting assignments to give a baseline objective comparison of RFP responses. Supplier RFP exceptions and any applicable X-factors should then be considered in creating a favorability ranking of responses (response ties may require additional information / clarification in order to determine the better RFP response).

Awarding the RFP

Awarding of the outsourcing RFP to a supplier usually will not be granted until one final evaluation is made. This last evaluation is to determine whether, in the long run does it makes economical / operational / technical sense to outsource the existing Metrology department given the favorability ranked RFP responses. Although it may seem like a done deal given the time and expense to solicit and evaluate outsourcing RFP responses, if existing Metrology department services are shown to be superior it would simply be a bad business decision to outsource the

department given that mandatory headcount reduction is not the impelling factor to outsource.

The awarding of the RFP to a supplier will set in motion a transition timetable as specified in their RFP response. During the transition period the awarded supplier will come on-site and begin preparations for outsourcing implementation. Customers are normally provided the transition timetable to avoid confusion and help them prepare for possible changes in support logistics. It is acknowledged that during the transition period emotions may run high given that some or all Metrology department personnel may not be staying on with the awarded supplier. Past the transition period it is understood that most companies will establish some type of surveillance program to ensure that the awarded supplier is complying with outsourcing RFP requirements.

Conclusion

Any initiative to determine the feasibility of outsourcing Metrology services requires a team effort to systematically develop and objectively evaluate an outsourcing RFP. It is essential that RFP tasks be identified, assigned and associated with realistic timetables. It can not be over emphasized that the outsourcing evaluation process is a very stressful time for Metrology department personnel and as such it is important that management personnel be cognizant of inevitable esprit de corps deterioration. Needless to say, as with any business initiative, a well thought out game plan is worth a multitude of bandaid fixes.

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