CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

TRIP REPORT

SUBJECT: Southern Methodist University "Vendor Certification" Seminar

AUTHOR: Bruce Mabrito

DATE/PLACE OF TRIP: September 28-29, 1989 in Houston, Texas

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BACKGROUND & PURPOSE OF TRIP: The Edwin L. Cox School of Business at SMU offered a two-day seminar on "Vendor Certification" which supplements the total quality control (TQC) and just-in-time (JIT) management techniques. The purpose of this trip was to obtain information on the vendor certification concept, learn of its methods of implementation, and to determine if parts of such a process could be applied to the Center quality assurance program.

SUMMARY OF PERTINENT POINTS: The vendor or supplier certification process is a relatively new concept which has goals similar to the JIT process: 1) to ensure that the entire cycle from design through customer shipment meets the quality standards established by the organization; 2) to have the smallest possible quantity of material being processed at any one time, to permit superior control; 3) relationships with suppliers are critical to achievement of the goals and a higher level of trust must be established between partners; and 4) to better control and simplify the movement of material between functions or activities.

The key vendor certification process steps are: 1) to establish supplier selection criteria; 2) perform supplier surveys and audits; 3) have a supplier quality agreement between the vendor and vendee; 4) proceed through the five phase supplier certification process; 5) implement the program; and 6) supplier ratings are to be maintained.

SUMMARY OF ACTIVITIES: The seminar was divided into two days, the first day bringing together the "mind-set requirements" for TQC and JIT, the engineering demands on the process of production, the basic principles of quality, the concepts of Deming, Crosby, Juran, and Ouchi, plus an approach to statistical process control. The second day covered the vendor certification process step-by-step and in great detail. I am attaching specific pages from the seminar booklet which convey concepts important to TQC/JIT and vendor certification.

IMPRESSIONS/CONCLUSIONS: After a full introduction to the vendor certification process, and discussions regarding its implementation and successes, I conclude that vendor certification is both a philosophy and a

process by which the vendor-vendee relationship is clearly identified, refined, and a formal "quality agreement" established. This process involves a substantial reduction in the total number of suppliers and somewhat of a linking of the organizations so that they have a high degree of reliance upon one another. An example of this is that a vendor may be required to supply a batch of components from an hour to a day in advance of their need. In some cases, this approach effectively means that one company may be "warehousing" for another, if it has not refined the timeliness of its production process. Of particular interest was the concept of an approved vendor list (AVL), a qualified vendor list (QVL), and a certified vendor list (CVL), with some organizations having all three, but with the CVL being quite short and products from a CVL not requiring any receiving inspection or delay before entering the manufacturing and production flow.

PROBLEMS ENCOUNTERED: None.

PENDING ACTION: I am reviewing our approach to subcontractors to determine if the Center can utilize the concept and process of a vendor certification program. In some ways the supplier surveying and auditing methods associated with vendor certification are more complex and expensive than the nuclear industry auditing process, since it can involve personnel from engineering, production, quality, and purchasing disciplines. The instructor, Mike Gozzo, stated that there has been interest by a few government agencies (not specified) in trying to possibly adapt a vendor certification program to products manufactured for the U.S. government, however there are inherent road blocks to that effort.

RECOMMENDATIONS: The Center may be able to establish a supplier certification process with its subcontractors, based partly upon the vendor certification concept, provided it provides equal or higher quality and productivity levels than are currently achieved and meet the 10CFR50 Appendix B requirements. Any changes to the Center subcontractor qualification process would be reflected in the Center Quality Assurance Manual.

SIGNATURE: Bruce Mabrito

Bruce Mabrito, Director of QA

REFERENCES: Key references from the Vendor Certification seminar are attached, and the SMU notebook is in Mabrito's office.

CONCURRENCE SIGNATURE AND DATE:

John E. Latz
President

October 5, 1989
Date

BASIC PRINCIPLES

TOTAL QUALITY CONTROL REQUIRES:

1. A process control by which to check, measure and report

   - SPC – Statistical Process Control
   - AQL – Acceptable Quality Level
   - SMC – "Statistical management control."

2. A program that is easily visible to all levels of operation

   - Glass Bowl Theory
   - Quality Reporting

3. Compliance of material requirements and specifications

4. The support of management

5. A new mind-set and culture

6. A clear line of authority (To the person responsible, without approval at the very Top Level of management)

7. An openness to corrections

8. A spirit that fosters new projects/changes

In order to have the awareness of quality, the assembly/process has to be measured. The determination of what is to be measured, coupled with the method or technique to be used will give the data which can be reported. ~~In the cases where statistical method is used it is called~~

BASIC PRINCIPLES CONT'D

In the cases where statistical method is used, it is called SPC, SMC or AQL. All of these refer to the use of math applications to determine where the process is in relation to what is measured. Hopefully this will be reflective of that which is required to ensure a quality part.

The results should be visible to all personnel. This can generally be accomplished by a large sign placed in an highly travelled area. The goal should be clearly identified so comparisons can be made of actual-to-goal.

Compliance of materials is having the equipment and tools to do the job correctly.

The support of management is critical for all levels of the organization. If the levels of the organization don't recognize that management is involved, then the support and contributions will be limited.

As has been discussed previously, a new mind-set and culture has to be initiated for all levels of the organization. The concept of zero defect requires:

1. **Conformity** - meeting all requirements

2. **Process** - delivering only what you want

3. **Measurement** - being able to measure the quality of the program

4. **Tracking** - knowing the results and how they compare to the goal

RESOURCES REQUIRED CONT'D

The Resources Required typically can be defined as:

CULTURE CHANGES: The environment for supplier certification requires that the attitudes be changed to reflect a partnership relationship with each supplier that is involved with the Total Quality Control Program. Mutual trust between the parties must be achieved and this is difficult for US industries to understand and accept due to the background of the past 100 industrial years.

TOTAL COST APPROACH: The lowest bidder will get the award, due to the penny saved attitude. Yet the total cost should not be based on the financial quotation, but analysis of the quality and delivery cost impacts, if it does not happen.

LOT-FOR-LOT RULE: The control of material is easier when only one lot is available at any given time. For instance make only what is sold, produce the quantity scheduled, have on the floor only one pallet of material, etc.

GENERALIST, NOT SPECIALIST: At times it is better to be a generalist in order to see the entire picture, than concentrate on just one aspect of the problem, project or activity.

SIMPLISTIC CONTROL TECHNIQUES: Remember the KISS principal which is *keep it simple stupid !!!.* The easier that something can be explained the better chance of success, and the simplistic approach generally is the one that works the best.

SMALL WORK CELLS: The groups which are the smallest, yet committed, achieve the most. Large groups of people in most instances can not be effective.

The middle management of the company should drive the program with support from both upper and lower levels of management. This means that the broad concepts of JIT and TOTAL QUALITY CONTROL need to encompass all the areas of manufacturing and this includes the workers and unions if applicable. ~~Simplifications of management levels such as what the~~

SUPPLIER SELECTION

HOW TO INVOLVE SUPPLIERS IN THE QUALITY PROCESS

Define who should be in your selection team. Representatives from

Engineering

Manufacturing

Purchasing

Finance

Quality

Shrink your supplier base to a reasonable number that you can work with efficiently

Educate your suppliers to your Supplier Certification Program

Survey your suppliers constantly

Draft a plan using the 80/20 principle to determine what suppliers to use

Establish a Supplier Quality Release Representation (S.Q.R.R.)

Key questions to ask when selecting a supplier

1. How complete is their Quality Control System?
2. Can they meet the capacity you want?
3. Do they meet your cost goals?
4. Who are their major suppliers?

SUPPLIER SELECTION CON'T

Supplier Capabilities

Measure the capabilities of the supplier through the survey team:

A one-person survey

A team capability survey

Identify the supplier's philosophy towards your and other clients

Take the time to find out the goals of the supplie

Ask questions and then ask more questions regarding what you see

Other considerations

Supplier certification

Objective/performance data

Long-term business vitality

Geographic location

Business ethics

Consistent standards

SUPPLIER CERTIFICATION

I. SUPPLIER SELECTION CRITERIA

II. SUPPLIER SURVEY AND AUDITS

III. SUPPLIER QUALITY AGREEMENT

IV. SUPPLIER CERTIFICATION PROCESS

PHASE 1 HISTORY, STATUS, DOCUMENTATION
PHASE 2 PROGRAM REVIEW AND PROCESS
PHASE 3 FINALIZATION
PHASE 4 QUALIFICATION
PHASE 5 AUDIT AND MAINTENANCE

V. IMPLEMENTATION PROCESS

VI. SUPPLIER RATING

VENDOR CERTIFICATION

Marriott by the Galleria
Houston

September 28-29, 1989

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