JOB SPECIFIC TRANING (JST) – KEEPING IT SIMPLE

by

Michael E. Freed

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The Graduate School
University of Wisconsin-Stout
Menomonie, Wisconsin 54751

ABSTRACT

	Freed	Michael	E.
(Writer)	(Last Name)	(First Name)	(Middle)

Job Specific Training (JST) – Keeping It Simple

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Present day companies, just like the companies in the past, strive to maximize their profit and increase proficiency by finding the time and resources to train their workforce. This will be a never-ending story. One way in identifying new and innovative work methods is to benchmark companies that are outstanding or world class.

This paper benchmarks two internal facilities. The two internal facilities report to the Parent Company where the researcher is employed. The Job Specific Training (JST) program in use at the researcher facility was constantly under scrutiny from the quality department and the associates. The electronic data base, (filemakerpro) used to document, create and maintain the JST records was to be state of the art. With this system the JST records grew to 173 different job specific tasks, and made it very difficult to manage.

The site-specific procedure (257-003) was so generic it became uncontrollable. Too many people were making JST records. New records would be developed even if the task were the same as another from in a different area.

When it came time for the associates to assist in another department they were not always certain they had the appropriate training. The records were not easily accessible and not all associates were computer literate. The supervisor, in most cases, did not even know if the associate had the appropriate training. Supervisors also thought that it was too time consuming and inconvenient to look up the records.

When the audits (Third Party, Internal, and Process) are performed, one area that has consistently been hit with nonconformity is JST. The auditors would circulate within the facility and ask the associates if they were trained for the task they are working on. Their response was often one of uncertainty. When verifying the associate was trained, it took from five to thirty minutes to find the associate's JST records. If they did not show up in the electronic database the hard copy would have to be found, and, in some cases, they never were found.

The task team for conducting the benchmarking of the two internal facilities realized in a short time that it's facility would benefit from what had been observed. With a close evaluation of the JST's current program, and the positive areas identified from the benchmarking activity, an improved JST program could be developed and implemented in the researcher's facility. With a positive outcome of the development and implementation of the new JST system, the researcher can see additional benchmarking opportunities, in the future.

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CHAPTER 1

Introduction

The research for this field problem will be conducted at company X that has an 80,000 sq. ft facility with one hundred and sixty-six employees. Thirty of these employees are support personal. There is a full first shift with one hundred and fourteen people, second shift has forty people and there is a skeleton crew of twelve people for third shift concentrating on the bottleneck areas (test).

Over the years there has been a reoccurring issue identified through third party ISO 9000 audits, internal audits and random walk through audits. The issue has been the difficulty of accessing Job Specific Training (JST) records, verifying effectiveness and cross training of associates. Currently, there are 173 different JST records that are managed electronically and by a hard copy. The hard copy is the master document. When the auditor goes to verify associates JST records, the electronic file is pulled up first. If the electronic file does not show evidence of being trained the hard copy needs to be found. In many cases it has taken considerable time in locating the hard copy. When associates are being cross-trained they, as well as their supervisor, have a difficult time in remembering which areas in which they have been trained. Along with this, is the issue of enhancements or revision changes to the process/assemble that would require retraining. When the associates are cross-trained it normally occurs when there is a lack of work or absenteeism. Another issue that is addressed by the audits performed is the verification of effectiveness with Job Specific Training Records. An example of this is

when the associate is asked how they know what torque is required for a specific item and they are unable to find it on the print. This issue has been brought to the attention of the plant manager by the researcher. The researcher requested to form and facilitate a task group to identify a method in which to manage a job specific training (JST) program. The plant manager has given his approval and full support for this request.

Statement of the Problem

The purpose of this study is to develop an efficient method to manage the records of a job specific training (JST) program, which will reassure compliance of the quality system

Research Methodology

This study will be performed within the facility in which the researcher works. The researcher will begin by holding a management meeting for all departments outlining the issue of the associate's needs and assessments. A task group will be formed from this initial meeting which will include a cross functional group. This group includes a line supervisor, manufacturing engineer, quality engineer and human resources person. This research will not be involving human subjects or the utilization of a survey. The researcher will not be focusing on the human side of training, rather the system for handling Job Specific Training (JST) records. Two sister companies will be benchmarked in the areas of training and record retention for their JST program.

Research Objectives

The objectives of the study are to develop a system with the following features:

1. Easily accessible records.

2. Comply with the ISO 9000 requirements.

3. Identification of competent trainers.

4. Minimize administrative work.

Benefits of the Study

The identified system will manage a job specific training records program consistently. This may reduce or eliminate the nonconformity identified through the audits performed in the facility. This will also reduce the amount of administrative work needed to document the training. This program will foster a culture of responsibility and ownership by the associate.

Definitions and Terms

Job Specific Training (JST) – Training specific to each job performed by each associate.

Task Group – A group of individuals formed from cross-functional areas to address a specific problem.

ISO – International Organization of Standardization is worldwide federation of national standard bodies.

ISO 9000 – Provides guidelines for the selection and use together with the details of the quality management system.

Quality System – The organizational structure establishing, responsibility, procedures, processes, and resources for implementing quality management.

Verification of Effectiveness – Evaluation of a process to ensure effective results is achieved.

Benchmarking – The process of identifying, understanding and adapting outstanding practices from organizations anywhere in the world to help your organization improve its performance.

Level 1: Quality System Manual – Policy manual that applies to all facilities/business groups of the parent company, top-tier of the Quality System.

Level 2: Common Procedures – Procedures that are applicable to all automation facilities/business groups that report into the parent company.

Level 3: Facility Quality Manual – Procedures which are site specific, only apply to that facility.

CHAPTER 2

Review of Related Literature

Introduction

This chapter reviews, describes and explains the areas that were researched. The literature review will be comprised of procedural review along with the results of the benchmarking. This will aid in determining the action to take in resolving the problem statement. The researcher will be benchmarking two internal companies as well as auditing to training procedure. The ISO 9000 revision 2000 will also be reviewed along with the internal company procedures. There are three levels of procedures reviewed for this research. Level 1: Quality System Manual – Policy manual that applies to all facilities/business groups of the parent company, top-tier of the Quality System. Level 2: Common Procedures – Procedures that are applicable to all automation facilities/business groups that report into the parent company. Level 3: Facility Quality Manual – Procedures which are site specific, only apply to that facility.

ISO 9000:2000 Standard

ISO is a worldwide federation of national standards bodies. International Standards are drafted in accordance with the rules given in the ISO/IEC directives. The 2000 standard replaces the 1994 edition and is available from website: http://www.iso.ch. The standard provides a framework based on good business and operating practices. It

provides a framework for organizational, process, product, customer and supplier involvement. ISO 9000 is a system approach to conducting business.

The two elements that the researcher focuses on are 4.2.4 Control of Records, page 3 of the standard and 6.2.2 Competence, awareness and training, page 6 of the standard. In element 4.2.4 Control of Records, it states, “Records shall be established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system”. Records shall remain legible, readily identifiable and retrievable. A documented procedure shall be established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records. In element 6.2.2 Competence, awareness and training it states, “ The organization shall: a) determine the necessary competence for personnel performing work effecting product quality. b) provide training or take other action to satisfy these needs. c) evaluate the effectiveness of the actions taken. d) ensure that is personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives. e) maintain appropriate records of education, training, skills and experience”.

This standard requires that the organization identify competency needs for all personnel whose activities affect product quality. This task will include a large majority of the organization. Assessments of the training must be conducted and records must be maintained and easily accessed. These two elements are describing the minimum requirements for establishing an effective training system.

Level 1 Procedure

The Level 1 procedure for training and records retention is very broad. It tells what is required but not the specifics of how the tasks are to be performed. This was done for the main purpose of allowing the individual divisions to tailor the Quality System to their type of business. The Level 1 procedures will not be a key part of the researcher's review.

Level 2 Procedure

The Level 2 procedures are more specific in nature to what is required for documentation and training. They are still broad in nature allowing room for uniqueness as required by the need of each individual department. The level 2 procedures are giving the main structure in which to develop the requirements needed to accomplish the task at hand.

Level 3 Procedure

The level 3 procedure will be the primary focus out of the three levels of procedures reviewed. The level 3 procedures reviewed from the three facilities are similar in nature but uniquely different to meet the needs of the individual facility. These procedures are site and department specific. This allows for creativity, say what you do and do what you say, and make sure it is verifiable.

Benchmarking of Facilities

When benchmarking, one has to be humble enough to admit that someone else is better at something and wise enough to try to learn how to match and even surpass them

at it. The two facilities selected for the benchmarking are similar in size and manufacturing process. The first facility is located in the northern region of Wisconsin and the second facility is located in the southern region of Georgia.

Benchmarking is not number crunching, copying, spying or quick and easy. In the process of benchmarking the two facilities the researcher first needed to understand their processes and document measures. The researcher also realizes that team based problem solving and support form management is required. In comparing the facilities several questions had to be asked. They are as follows:

1. Who does your JST training?

2. At what level of the organization does training report?

3. What measurement criteria are used to measure your training effectiveness?

4. How do you determine when to re-train?

5. How do you determine new courses for development?

6. How do you identify what training is/should be provided for each individual? What method do you use to determine how much training should be provided for each person.

7. Where do you get you training material?

8. What records are maintained for JST training?

9. What time frame for record retention do you use?

10. How many different JST records do you maintain?

After the review of the answers to the above questions and auditing of both facilities, the northern Wisconsin facility had a better fit with the researcher's facility. The northern Wisconsin facilities JST program will be the main focus of the research, although some unique practices from the southern Georgia facility have been reviewed for use and or modified to fit into the researchers facility.

CHAPTER 3

Methodology

Introduction

The main purpose of this study was to identify a more efficient and effective way to manage the Job Specific Training system. This study started with the researcher calling a management meeting consisting of the floor supervisors, manufacturing engineer, quality engineer, human resource person and the plant manager. The topic of discussion was the shortcomings of the current JST system. A consensus was reached to form a task group to improve the current JST system. The task team consisted of two floor supervisors, a manufacturing engineer, human resource person and quality engineer. The quality engineer facilitated the task group.

Sources of Data

At the first meeting the objectives and statement of the problem was discussed. A brainstorming technique were used to get the ball rolling. By the end of the second meeting, the statement of the problem and objectives were redefined as shown below.

Redefined Statement and Objectives:

Statement of the Problem

The purpose of this study is to develop an efficient method to manage a job specific training (JST) records program, which will reassure compliance of the quality system.

Objectives

1. Easily accessible records.

2. Comply with the ISO 9000 requirements.

3. Identification of competent trainers.

4. Minimize administrative work.

Methodology for Study

The task group decided to benchmark a couple of companies for some innovative ideas on JST systems. Two internal companies were chosen based on best practices identified during corporate compliance audits that were published and sent to sister companies within the organization.

The task group agreed to use ten questions (mentioned in chapter 2) for conducting the benchmarking process. These ten questions led the task group in the direction of identifying which facilities JST records system or parts of their systems, best fits into meeting the revised objectives and problem statement.

Once the selection of the two facilities was completed, they were contacted, and asked if they would assist in improving the JST system. Both facilities were not only accepting of the idea, but also pleased that their JST system was recognized as a best practice. The task group set up times to visit and review the JST systems at each facility.

The results of the benchmarking were evaluated against the level three procedures. The level 1 and level 2 procedures were not used for this evaluation. The level 1 and level 2 procedures are two generic and not specific enough to be of value. Upon completion of the benchmarking activities at both facilities, the information was brought back to the researcher facility and evaluated by the task group against their current JST record system and level three procedures. At this point, the best system or combination of system components was identified. Once all of the components that make up the new JST record system have been written up and reviewed by the task group, it was presented in front of the management team for their review. This was to answer any question they might have and make any necessary changes. This is an extremely important phase in the implementation of the new JST record system. In making the management team part of the decision making of the JST record system, it made it much easier to implement and get everyone's acceptance from management to the associates.

One cell has been selected for a pilot run of the new JST record system. This pilot will aid in identify any issues in the system as well as ensuring all objectives have been meet. This pilot was run for approximately one month. The reason for this length of time was to get revision changes that affects the form, fit or function of the assembly and require re-training to test the new JST system. At the completion of the pilot, the new JST record

system will be implemented factory wide. The final test of the new JST record system is the compliance audit. Third party auditors (DNV) conduct this for the certification to the ISO 9000-revision 2000 standard.

CHAPTER 4

Findings

Each system was unique in its own right. The southern facility kept all its records electronically, by associate employee number/name. All lines were equipped with computers for the associates to have ready access to the JST records. This was the first facility that the researcher has audited, where every associate questioned on their JST records could go and use the computers. Everyone that was audited is computer literate. The following are the results to the ten question asked during the benchmarking:

1. Who does your JST training?

   Answer: Manufacturing engineering department does the initial training for all new processes. Once the initial training has been completed, the supervisor for the process is responsible for identifying trainers from the associates.

2. At what level of the organization does training report?

   Answer: Once the trainers are identified they report through the line supervisor.

3. What measurement criteria are used to measure your training effectiveness?

   Answer: The comfort level of the associate, the comfort level of the trainer and the test results measure the training effectiveness.

4. How do you determine when to re-train?

   Answer: Re-training is only done when the process is changed that affect the form, fit or function of the assembly.

5. How do you determine new courses for development?

   Answer: New training courses are identified through defect trends that are manufacturing related. Also when new product designs and processes are introduced to the line.

6. How do you identify what training is/should be provided for each individual? What method do you use to determine how much training should be provided for each person.

   Answer: There are several ways in which the training needs are identified. Through observation, trends in defects comfort level of the associate, previous job experience and education. How much training is needed depends on the individual.

7. Where do you get you training material?

   Answer: Training material is developed in house and obtained from other facilities that have been doing the same or like processes.

8. What records are maintained for JST training?

Answer: For every step in the process and unique tasks being performed.

9. What time frame for record retention do you use?

Answer: Until termination.

10. How many different JST records do you maintain?

Answer: There are 57 different JST records.

As far as the ten question goes there was not much difference between the southern Georgia facility and the northern Wisconsin facility except, for the following three questions.

6. How do you identify what training is/should be provided for each individual? What method do you use to determine how much training should be provided for each person.

Answer: The trainers are put through a train the trainer's course.

9. What time frame for record retention do you use?

Answer: Three years.

10. How many different JST records do you maintain?

Answer: There are 83 different JST records.

The northern facility kept hardcopies of their JST records. These records were kept at the supervisor's desk. All their associates had access to their files and were able to access their records.

The task group liked the southern facilities system the best. It was not economically feasibly to outfit every line with computers and conduct extensive computer training for all the associates. This is largely due to budget and manpower constraints. What the task group decided to do was take the northern facilities system and modify it to fit into the researcher facility.

The task group decided that a form for all JST processes would be developed, this form is shown in appendix A.

This form includes the department number, operation description, revision of the process, an area that identified common training requirements across the facility, special instructions, in training and approved operators, certified trainer, revision of the form, supervisor signature. This sheet is placed in the front of the documented work instructions for each process. Each operator must verify that his or her signature is on the sheet prior to working that operation. If their signature is not there they can not work.

The special instruction area and revision history is utilized when a unique process for training is required. This section of the form is only used when a unique process is called out or when a revision to the process has occurred that does not require training. When training is not required, the manufacturing engineer, assembly supervisor and quality

engineer all must agree. If one department decides training is required, training will be conducted.

The trainers are identified by the X in the box along side their name. The trainers will attend a train the trainer's course. This course was developed and is instructed by the manufacturing department. Every time training is required a new JST record will be developed and the old record discarded. Only current JST training records will be maintained. The revisions of the documented work instructions are on all JST records. This will ensure that the training matches the process and the records are up to date. All associates who work on that step in the process will have to be trained and sign their names on the JST record prior to working. Associates that cross train in other areas must check the JST record for their signature prior to working at that step in the process. If their name is not documented the associate must ask a trainer to instruct train them and fill out the JST record. The trainee is allowed to work even if they are not signed off. Their signature and start date must be filled in and the trainers must be in the area to oversee the work being performed. This is done so the trainer can audit the work being done and answer any questions that may arise. When the end date is fill out the associate can work with out the trainer overseeing the work.

The site-specific level three procedures for the facility that needed to be updated were the record retention and training procedures. The changes to the training procedure resulted in the addition of one JST form that will be used for all process in the facility. Definitions of the required fields were also updated and are shown below.

Department – area cell the training record pertains too.

Operation Description – description of the process.

Revision – revision of the process description.

General Training – general categories to be considered during training if applicable.

Special Instructions/Revision History – reserved for special comments as needed.

Approved Operators – document training history of trainees and trainers.

Supervisor's Signature – verifies notification of change.

In the record retention procedure, the length of retention was changed to only current records will be maintained. After the completion of the procedural updates the management team was assembled to review and approve the updates. The management team was pleased with the updates and the simplicity of the new JST record system. The management team approved the updates and gave their full support in implementing the new JST record system.

CHAPTER 5

Summary

This was a very time consuming project, but was well worth the effort. The task group was pleased with the results of their recommended JST record system improvements. Even though this took a lot of time away from the task group's regular duties, everyone saw the benefit and gave it one hundred percent. It is very important when developing a team that everyone is committed to the issue at hand. This commitment is seen through the results of the research and has been answered through to the statement of the problem and objectives as shown below.

Statement of the problem

The purpose of this study is to develop an efficient method to manage the records of a job specific training (JST) program, which will reassure compliance of the quality system

Research Objectives

The objectives of the study are to develop a system with the following features.

1. Easily accessible records.
2. Comply with the ISO 9000 requirements.
3. Identification of competent trainers.
4. Minimize administrative work.

We will start off with the response to meeting the research objectives.

1. Easily accessible records.

This was accomplished through placing the JST form in front of every documented work instruction, for each step in the process. Every operator who needs to know or verify that they are trained or need training for that particular process can do so by the presence of their signature on the JST form. Auditors can verify records quickly by looking in the front of the documented work instructions. This is more efficient than the old method of looking for the records and hoping they can be found which wasting the auditor's time. The supervisors found this extremely helpful. It put the responsibility on the operators to verify they are trained. The associates can no longer

use the excuse that they could not find their supervisor to tell them if they were trained or who should train them.

2. Comply with the ISO 9000 requirements.

This new JST record program makes it much easier to verify training records, identify the trainers and effectiveness of the training. All the documentation is right at the auditors finger tips. This allows for fewer probing questions that may lead the auditor down a different path then what was originally intended. The JST records program was implemented prior to the last ISO 9000 registrar's compliance audit. No discrepancies were found and the auditor did not have to wait while the records were found. The auditor did make a comment on the ease of verifying job specific training records.

3. Identification of competent trainers.

This is accomplished through a train the trainers program. This is a program where the trainers are trained to be trainers. An asterisk placed along side the signatures of those who has passed the course for a particular step in the process. This identification is assisting those who come from other lines to cross train. The associate looks for the asterisk beside a signature and has that individual start the training process. This method of trainer identification has put the responsibility on the associate. Rather then waiting for the supervisor to initiate the training process, the associate is now responsible for initiating the training with those that have the asterisk beside their signature.

4. Minimize administrative work.

This objective is most appreciated from the assembly supervisor. The JST records went from one hundred and seventy six individual JST sheets that had to be manually entered into an electronic database and the hardcopies archived until the associate terminated employment, to one generic JST form. This form does not have to be inputted in an electronic database. This form when updated is not archived. The only JST record kept is the current form in the front of each documented work instruction. When audited either internally or by the ISO registrar, the associate's JST records are readily available. The chances of the new JST record being lost or not entered into the electronic database has been virtually eliminated.

The problem statement "The purpose of this study is to develop an efficient method to manage the records of a job specific training (JST) program, which will reassure compliance of the quality system" has been answered. This new JST records program that has been developed, has already proven to be more efficient then the old system. By the elimination of the electronic database, the old records no are longer archived and the information is at the associate's fingertips. Whenever a question arises on whether an associate is trained or not and who the trainer is, the answer can be found in front of the documented work instructions on the JST form.

As far as complying with the new ISO 9000 revision 2000 standard, this JST records program has passed a registrars compliance audit with no findings or observations. This was a milestone for the company. Training has always been an issue when audited, whether by a third party or internal auditor. The new JST record assisted the auditor in

verifying who was trained, who the trainers are and competency of the associates. Also, the associates were able to confidently show the auditor their training records and what training was conducted.

Overall the new JST records program has been a big success for all parties involved. The key factors in making this a success was getting management to agree that the problem statement is an issue, all members of the task group were committed to the issue and all parties were made part of the decision making. Without these key factors, it would have been difficult to implement the new JST system and it may not have been as successful.

APPENDIX A

JST FORM

Training Sign Off Sheet

Department:	Operation Description	Revision

General Training encompasses but not limited to the following:
(Reference Intra procedure 257.003 for training produres)

Process	**Safety**	**Quality**	**Equipment**
DWIs	PPE	Quality Checks	Tools
Prints	Chemical Awareness	Status Identification	Fixture Usage
Line Aids		Non-Conforming Material	Handling Equipment
Assembly Techniques		Quality Plan	PM/Calibration
Distributor Return Process		FIFO	

Special Instruction Revision History

Notify the PSR assembly line of all changes (if applicable)

Approved Operators

*	Trainee Name	Clock #	Trainer Name	Clock #	Start Date	Finish Date

***-"X" indicates person is certified to train on this operation**

Revision Date 5/28/01

Training Sign Off Sheet

Department:	Operation Description	Revision

Approved Operators

*	Trainee Name	Clock #	Trainer Name	Clock #	Start Date	Finish Date

***-"X" indicates person is certified to train on this operation**

Supervisors Signature_____

Date_____

Change Number_____(optional)

Revision Date: 5/28/01