Tactic 2  
Determining the Costs and Benefits of  
Process Improvement and EHS Management

Step 1. Prepare an action plan using the Systems Approach tools

Whenever you have an EHS process improvement project, there should always be a written action plan in place. This action plan should have management approval before the work on the EHS process improvement project takes place.

The first work task in every EHS process improvement action plan is to conduct a baseline survey of the process work step that will be focused on during the project. It is important to select the measurements that will be conducted to determine if the project is successful and whether it meets its target and objective.

Also in this first work task, the EHS process improvement team will determine the monetary benefits of the project.

Step 2. Establish a computerized tracking system to account for the costs of the project

1. There is a type of computer software used by many companies called a “computerized maintenance management system” (CMMS). Determine whether your maintenance department has this CMMS software installed. A large number of vendors make this software. In larger companies, the CMMS may be an element in the “enterprise resources planning” (ERP) software. There are more than 400 CMMS software products available as tracked by the magazine, Maintenance Technology. Prices for this software can range from about $400 upwards to $10,000. Some companies have been developing open source CMMS using the Linux operating system to have the benefits of CMMS without the costs. There is also a freeware product known as CWorks by Clueword DotCom.

2. Determine whether you would be allowed to use this software to set up your own accounts. The software assigns unique work order tracking numbers to each team project. If your company does not have the software or if they will not allow you to use the software for this purpose, there is freeware available that can be used to track your project costs and benefits. It is called CWorks and it can be obtained on the Internet at http://www.cworks.com.my. Please check with your Information Technology (IT) specialist before downloading this software on your company computer. The author of this publication offers similar software that is available, with security, through the Internet without downloading any software. There may be other alternatives available through company project management specialists. The purpose here is to avoid the use of spreadsheets that are not connected to a computer system that management approves of when they approve the project.

3. Establish a work order number for each EHS process improvement project.

4. Charge time and expenses by work task as stated in the action plan and by work activity. To charge by activity, you will need to enter a set of project management activities that will cover the nature of the work that the teams will be conducting. The Attachment has a listing of work activities that you could start with. Check with accounting on how to charge people’s time to this project management software. Most companies charge a “job category rate” with tax and fringe added. Everyone that works on the project would charge at their category rate, not at their salary rate.
5. Make sure that all of the resources asked for in the action plan are charged to the project just as you charge the time.

6. Establish a protocol and schedule for entering the cost data into the software on a regular basis. The cost of the data entry should be charged against the project.

**Step 3. Establish the benefits and their allowable costs**

1. If the EHS process improvement leads to the conservation of a resource that is used (e.g., energy, water, or a material), the unit cost of that resource(s) needs to be agreed on when the project is approved by management and will be applied against the project costs in the cost benefit analysis. If the EHS process improvement leads to the reduction or elimination of a work step loss (e.g., discharge, emission, waste, spill, noise, odor), the unit cost of that loss needs to be credited to the project as a benefit in the same manner as the resources used.

2. There are potential benefits in activity cost reduction. However, management is often reluctant to give credit for these benefits unless “headcount” is actually reduced. (See Tactic 3, activity-based management tool, for suggestions in gaining some credit for this category). There are also potential “intangible” benefits associated with EHS process improvements. We have introduced a tool for placing a monetary value on these intangible benefits using a technique known as “real options.”

3. Establish rules for the project teams on how they have to document the amount of benefit claimed by each project. Once they have produced this documentation, the teams are allowed to take a credit against their expenses using the CMMS software.

**Step 4. Report to management on the cost and benefits on a regular basis**

1. Each EHS project team should receive monthly statements from the CMMS software on their costs and benefits. They should reconcile these results with the project management paperwork they are maintaining.

2. Each EHS project team should report to management on a regular basis (i.e., at least on a quarterly basis).

3. Adjustments should be made to the CMMS reporting system to respond to EHS project team reconciliation efforts and management corrections.

4. Each team should check to see if there have been significant variations in the benefit amounts during the course of the project so that they can request that a change be made when reporting to management.

**Step 5. Provide an internal audit function to the cost/benefit calculation procedure**

1. It is a good idea to have the facility accountant perform an internal audit of the project management system at least on an annual basis. Adjustments to the monetary amounts (if any) could be made at the final EHS project review meeting with the management oversight committee. It is imperative that management comes to have the confidence in the project accounting financial information provided by this system. It is also important that accounting feel comfortable with this as a project accounting system and not as what they fear to be a “second set of books”!

2. It may be necessary to have a determination made as to whether this system is subject to the Sarbanes-Oxley financial reporting requirements.
ATTACHMENT

Project Activity Codes

Most CMMS software packages have certain activity codes already built into them. You should check their list against the standard project management activities that will be accounted for in the EHS process improvement projects. It is important to have a list of activities that are likely to be used and to communicate that listing with the people working on the different teams and providing resource assistance to these teams. Potential categories of activities are:

◆ Working on draft action plan
◆ Making measurements on projects
◆ Measuring project performance
◆ Setting team meeting time
◆ Planning activities
◆ Conducting pilot studies
◆ Negotiating for resources
◆ Providing feedback to others
◆ Taking corrective actions
◆ Preparing project documentation
◆ Inspecting work in progress
◆ Preparing progress reports
◆ Auditing completed work
◆ Conducting quarterly management review meetings
◆ Writing procedures
◆ Providing training
◆ Receiving training
◆ Managing the budget
◆ Managing the team
◆ Entering data into CMMS
◆ Conducting demonstrations
◆ Preparing final report
◆ Determining other project management task