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**CLOSING A PLANT:  
A PRACTICAL “HOW TO” FOR  
THE OPERATIONS MANAGEMENT STUDENT**

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## **ABSTRACT**

Operations Management textbooks provide little to no coverage of operations shutdown for plant closing. As a result, this topic is frequently excluded from Operations Management courses. Two elements missing from most Operations Management courses are a textbook chapter covering the closing process and in-class exercises/activities related to applying that process.

This presentation addresses the key topics needed for a textbook chapter dealing with the operational aspects of closing a facility. Such topics include employee impact (and dealing with employee retraining), the WARN act (including ERISA issues), inventory disposition, and quality control.

A discussion of class activities related to these topics is also presented. We provide educators with a best practices approach to teaching students how to handle the operation of the plant in this difficult time. There are activities that the operations manager should start doing, stop doing and keep doing. A frank, practical experience-based perspective is given.

## **OPERATIONAL ISSUES AND CONSIDERATIONS**

Since the operation of the plant is the primary concern of the operations manager, considerations for the best manner of running those operations to close are important. Inventory, capital projects and staffing are relevant concerns of the operations manager and should be included in operations management instruction. Providing future operations managers with the ability to plan for a plant closing will provide them with the opportunity to minimize problems related to the closing.

Sound inventory management advises the Operations Manager (OM) that all inventory items do not deserve the same amount of attention. Using Pareto's Law, inventory items are classified as A, B or C based on their annual dollar volume (Heizer & Render, 2004). If days on hand is used for classification, the C items could be scheduled for counting in the days or weeks preceding the shutdown or when the item is scheduled for final use or transfer.

The objective is to establish the degree of control over each item. Criteria other than annual dollar volume can be used to determine the classification. Inventory with on hand balances that significantly exceed the targeted shutdown date or have no reasonable expectation of a customer requirement should be classified as A items. Inventory with high demand or transferability to a surviving plant should be classified as C items. All inventories must be dispositioned. The A items are the most ready for disposition. There are a finite number of disposition options: Sell, Scrap, Rework, Return to Supplier, or Donate.

High dollar value Maintenance and Operating Supplies Inventory (MRO) items are often kept on the balance sheet rather than expensed. As these parts are installed or used they are removed from the balance sheet and expensed. If the accuracy of the MRO inventory is questionable, the OM should begin the process with a full physical inventory. Can the OM realize this value through the sale, return to supplier or transfer to ongoing operations?

Capital expenditures justified and approved under the assumption of an ongoing operation need to be re-evaluated under the assumption of a date certain for shutdown.

The decision to abort or complete a capital project is a one project at a time process. Organizations often classify capital projects by their justification: Employee Safety, Regulatory Compliance, Product Quality, Cost Improvement, or Replacement of worn asset. The OM should review capital projects in the same manner.

Consideration should be given to an earlier shutdown or outsourcing of the involved processes or products. If environmental compliance is an issue consideration should be given to outsourcing the process. If product quality can no longer be maintained without capital improvements, the product is a candidate for early shutdown or purchase from an external source.

Cost improvement projects should be reviewed against their payback period. In light of the plant closing date these savings may no longer be valid. For projects justified as replacement of worn assets, consider temporary repair, leasing or early shutdown of the asset.

Upon completion of the capital project review the next step for the operations manager is to re-assess staff needed to implement the remaining projects. Initially the project managers will be involved in canceling equipment purchases, stopping construction crews, returning materials and dismantling equipment. After these tasks have been completed, it may be appropriate to begin severing employment or reassigning staff.

### **HUMAN RESOURCE MANAGEMENT ISSUES AND CONSIDERATIONS**

Focusing on the organization's human capital should begin long before the closing. Organizational decision-makers must focus on employee-centered activities as

they plan for separating those employees. Involving HR in closing efforts helps fulfill the role of HR in reconciling “bottom-line outcomes with employee well-being” (Rynes, 2004, p. 211).

Plant closure may exact substantial damage on the employee-employer relationship. Separated employees experience concern over the uncertainty of their futures. Advanced notice and a thorough explanation of the reasons for closing can increase employees’ trust in the organization and perceptions of procedural justice (Brockner, Konovsky, Cooper-Schneider, & Folger, 1994). Advanced notice is more likely when the reason for the layoff or plant closure is endogenous (e.g., organizational changes) rather than exogenous (e.g., economic downturn) and when managers feel they have more control over notifying their employees (Gilliland & Schepers, 2003).

Managers who feel they have more control over the notification and who view the affected employees as valuable contributors in the past tend to have more interpersonal sensitivity, which increases the employees’ perceptions of just treatment (Gilliland & Schepers, 2003). Thus, employees offered explanations and advance notice may be less likely to diminish effort or engage in dysfunctional behaviors as they wind up their tenure at the plant.

Other research, suggests that advance notice provides opportunities for sabotage and exacerbates early turnover among employees (Tang & Crofford, 1999). Working with Human Resources, management might develop a list of potential high risk employees. Dysfunctional behaviors may be mitigated by assigning employees tasks immediately that help them prepare for the shutdown (LaRusso, 1989).

Admired companies often tout that their people are their most important asset. Interestingly, plant closures make this mantra even more compelling; key personnel should be retained and transferred to other jobs in the organization (LaRusso, 1989). In order to act expeditiously, however, the company needs a current inventory of its employees' talents. Updated performance appraisals can assist in placement activities.

For employees who are not willing to relocate (Tang & Crofford, 1999) or whose skills are not needed, an outplacement center can help employees find other work. A majority of employees value outplacement services, and the organization can reduce supplemental unemployment benefits payments (Tang & Crofford, 1999). In addition, companies may offer retraining benefits with monetary incentives (Tang & Crofford, 1999). These options address the angst experienced and contribute a more positive perception of the company in the community. Providing employees with time off for job searching or interviews is another way the company can help to ease the pain, while showing a commitment to the human assets.

Jennings (1996) suggests that companies prepare detailed job descriptions, have employees sign separation questionnaires attesting to their injuries, and send exiting employees for medical exams to decrease the likelihood of employees filing false claims for Workers' Compensation payments. Paying employees a bonus for completing their employment accident free might help improve awareness and caution, while deterring employees from considering the "benefit" of work related injuries.

Like other resources, human resources can be inventoried and redeployed. Providing advance notice, outplacement activities, and career management options may

help preserve the employee-employer relationship and reduce the emotional ramifications of closing a facility.

### **LEGAL ISSUES AND CONSIDERATIONS**

When planning for a plant closing, federal and state statutes that impact the closing of a plant. The Worker Adjustment and Retraining Notification Act (WARN) is the federal statute requiring employers who employ 100 or more employees to provide notice of a “plant closing” or “mass layoff” to (1) all affected employees or the labor union representing unionized employees; (2) the applicable state dislocated workers agency, and (3) the chief elected official of the local government in the area in which the plant is located.

“Plant closings” include both permanent and temporary shutdowns of a single employment site or an operating unit within a single employment site that results in 50 or more employees being laid off during any 30-day period. The plant closing provisions are also triggered when incremental layoffs result in an aggregate of 50 or more employees being laid off during a 90 day period. A number of state and local governments have enacted their own plant closing requirements. Some of those laws cover smaller workforce reductions and some have more onerous notice requirements.

If the employees of the facility being closed are represented by a labor organization, the National Labor Relations Act (NLRA) will also have an impact. Under the NLRA, a unionized employer is required to bargain with the employee’s union regarding the effect of the plant closing on the bargaining unit. In addition, employers

may be required to bargain with the labor representative about the decision to close the plant.

The Employee Retirement Income Security Act (ERISA) governs retirement and welfare plans offered by private sector employers. The law prohibits employers who offer covered benefits from retaliating against employees who are eligible for benefits and from interfering with an employee's rights to benefits under a covered plan. Courts have held that selecting a plant for closure in an effort to keep employees from becoming eligible for benefits violates ERISA. (Millsap, 2004).

Courts have concluded that this fiduciary duty of employers may include notifying employees of impending plant closures to allow employees to make informed decisions on whether to accept early retirement or related benefits. ERISA will also impact the rights of employees to collect funds from the company's pension plan following a plant shutdown (Brown, 1980). Finally, if the plant closure results in an employer ceasing to contribute to a multi-employer pension fund, the employer may face withdrawal liability pursuant to Multi-employer Pension Plan Amendments Act of 1980.

If an employer attempts to get employees to sign releases in connection with the plant closing, the employer must be aware of the Older Workers Benefit Protection Act (OWBPA). Under that statute, to obtain a release of potential age discrimination claims from a worker who is over the age of 40, the employee must be given compensation to which he would not otherwise be entitled and the release agreement must (1) be in writing, (2) specifically mention the Age Discrimination in Employment Act, (3) advise the employee to consult with an attorney, (4) give the employee at least 21 days to

consider the agreement (45 days if the agreement is part of a termination incentive program), and (5) give the employee seven days to revoke the agreement after signing.

In addition, if the employer provides an early retirement incentive in advance of the plant closing, the employer will be required to provide employees with additional information, including the class of employees eligible for the incentive and any potential adverse action if an employee declines the incentive.

If an employer is completely closing a plant on a date certain, the closure is unlikely to cause concern under federal or state discrimination laws. However, if the plant closure is achieved over time through a series of reductions-in-force (RIFs), employers must consider the methodology used for RIF selections and the impact of that methodology on protected classes under federal and state discrimination law, particularly Title VII of the Civil Rights Act of 1964 and the Age Discrimination in Employment Act of 1967.

The plant closing decisions must take into account potential tax implications under the Internal Revenue Code, particularly tax implications arising from the employer's employee benefit plans and any severance agreements entered with employees as part of the reduction-in-force process.

Finally, depending upon the industry, employers should be aware of potential issues arising under federal and state environmental laws or specific regulatory schemes applicable to a particular industry.

## **CLASSROOM ACTIVITIES RELATED TO PLANT CLOSINGS**

While there are an infinite number of potential classroom activities that can provide students with a better understanding of plant closings and their roles as managers, we present but a few here, and encourage the reader to rationalize additional methods.

One activity would be to break the class into small groups each representing the different personnel groups of the operation (management, human resources, labor, legal council, etc.). Have each group discuss and formulate an action plan based on their role in the operation related to the pending closing. Then have the groups interact, so that as each presents its plan of action, the other groups react with plans of their own. This type of group interaction can teach students not only to develop a plan, but also to be ready and able to adapt the plan in response to the actions of others in the process.

Another activity to help students better prepare for understanding and dealing with plant closings is simulation. Using computer simulation, probabilistic models for each decision can be simulated, allowing the student manager to face the uncertainty of labor reactions, customer and supplier relations, and potential legal aspects of the closing. Through simulation, the students can practice dealing with the uncertain outcomes, and making decisions based on their surroundings.

## **CONCLUSIONS**

While plant closings tend to have a negative impact on most involved, operating the closing facility must be handled with a combination of strategy, compassion, and caution. Taking into consideration all of the potential operational issues and concerns,

the operations manager must consider all potential problems and issues related to the closing, and make strategically planned decisions to minimize cost and grief, while maximizing the effectiveness of what is typically an inefficient and ineffective work force.

By incorporating these elements essential to closing the plant within a general operations management course and text, we are confident that future generations of operations managers will be better prepared to handle the tough decisions related to closing a facility, resulting in an easier transition for the employees, while minimizing the losses for the company.

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