

Using Incentives to Reduce Overtime Expenditures

Regan H. Campbell

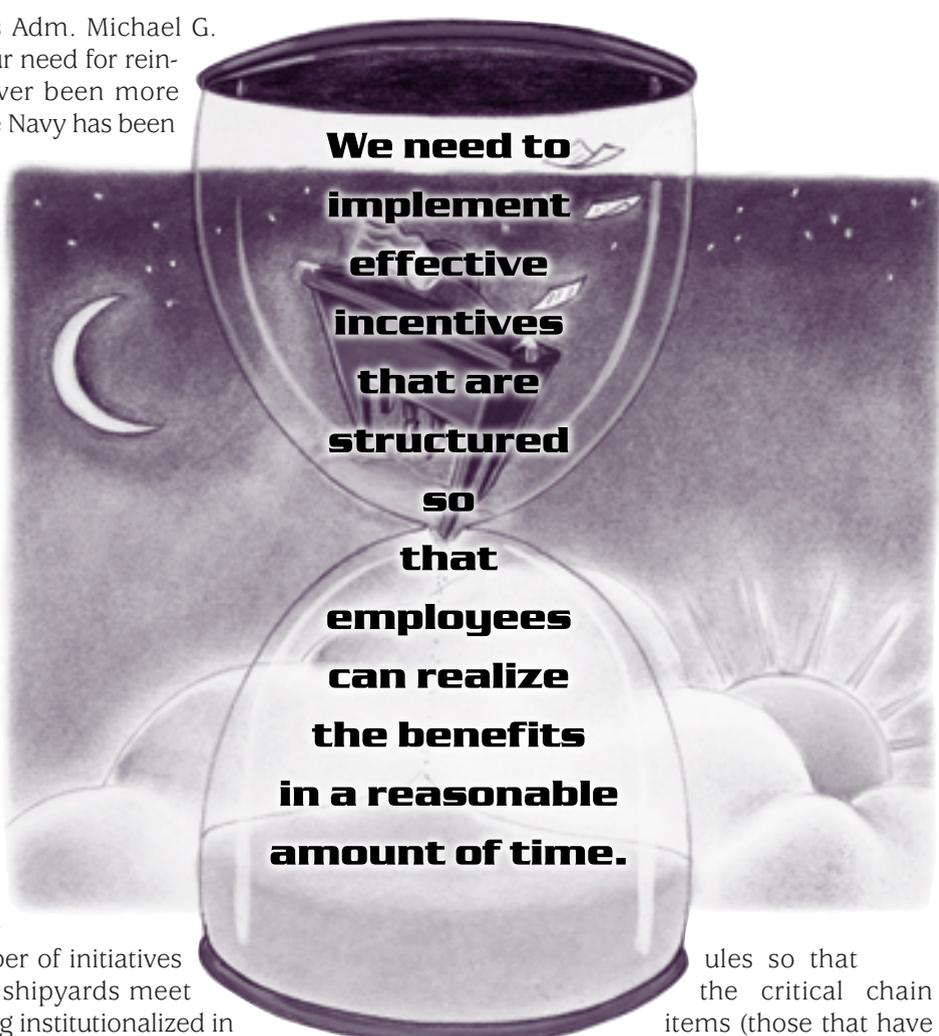
Chief of Naval Operations Adm. Michael G. Mullen has stated that “our need for reinvestment dollars has never been more acute.” Because of this, the Navy has been exploring ways to reduce costs. One means is through the implementation of Lean Six Sigma, the Theory of Constraints, and value chain mapping. These concepts, rooted in the Toyota business model, are designed to reduce costs and remove constraints that prevent the completion of work in a timely manner. In implementing these processes, the Navy has identified a number of goals for the various commands and field activities. Specifically for the public naval shipyards, the Navy has mandated three goals:

1. All availabilities on or ahead of schedule
2. All availabilities reduce cost by 25 percent
3. All availabilities reduce overtime to between 5 and 10 percent.

These goals are aggressive relative to the current performance of the public shipyards; however, a number of initiatives have been developed to help the shipyards meet them, and these initiatives are being institutionalized in cooperation with the four public shipyards.

The Daily Priority List

One of the major initiatives developed to achieve the goals is the daily priority list. The DPL, based on Lean Six Sigma and Theory of Constraints principles, is designed to foster timely completion of events with little multi-tasking (finish what you start) and quick resolution of problems. In this system, the schedule is the key input, so it must be continually updated and refined to reflect an accurate picture of the project. The DPL is designed to identify the shipyard- and project-specific priorities from the sched-



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ules so that the critical chain items (those that have the least amount of buffer in the schedule) can be addressed for every project in the shipyard. Prioritizing work will allow the resources to be allocated to the right project(s) for the right task(s) at the right time. It will also reduce the costs, as overtime will be limited to those tasks that impact the critical chain. Clearly, the DPL tool seems appropriate for meeting the goals identified: projects ahead of schedule and under cost with reduced overtime. In fact, several availabilities completed recently that used the DPL were delivered early and below their allocated costs, among them *USS Stennis*, *USS Nimitz*, and *USS Jackson*.

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Although there are merits to using the DPL on projects and within shipyards, there could be a major problem with its long-term implementation: the reduction of overtime at the shipyard. Specifically, the goal is a reduction of overtime from ~ 30 percent to between 5 and 10 percent. The reason for this reduction is that overtime in excess of ~ 10 –15 percent is not budgeted, and there are no funds to be allocated to cover the additional costs associated with increased overtime.

Overtime is sometimes looked upon by industry as a means to avoid the high costs associated with hiring and training new employees, especially for a short-term workload requirement. However, if the workload requirement is long-term, then the use of overtime increases costs, since employees are typically paid at the rate of time-and-a-half instead of straight time.

At naval shipyards, a lack of resources frequently necessitates working overtime for extended periods of time, which defeats the purpose of using overtime as a cost-saver. Portions of this overtime are spent on noncritical jobs that have a great deal of buffer in the schedule. To understand the magnitude of this change, consider a “typical” submarine engineered refueling overhaul, which takes approximately 400,000 worker days to complete. Of those 400,000 days, 120,000 (30 percent) are performed as overtime, with workers receiving time-and-a-half. Reducing the amount of overtime by 80,000 days to 10 percent by hiring more employees and converting the work from overtime to straight time would save \$16 million, which could be considered the cost of avoidable overtime.

How to Handle Overtime

From the perspective of an economist or game theorist, providing time-and-a-half for overtime work can be seen as creating a financial incentive for employees to be less productive during regular working hours. This could be an unconscious response or a more formalized response from a union, such as a slowdown (in which work progress is deliberately slowed) or a work-to-rule tactic (in which workers perform their tasks exactly as they are required to but no better).

Some managers state that the workers should be happy with reduced overtime because it provides them with more time with their families. Although this may be an incentive for some, it is not an incentive for all—for one thing, not

everyone has a family. At the Navy’s shipyards, many blue-collar (and some white-collar) workers depend on overtime pay to maintain their quality of life. Many prefer overtime to a second job because it provides them with more competitive pay and does not necessitate their learning new skills. Overtime is a very real part of the blue-collar culture; these employees have expectations about the level of overtime they will work when they take a job. As such, a reduction in overtime is not an incentive to these workers; in fact, it is a disincentive and may actually be seen as punitive.

Some managers believe that overtime is a privilege given by management to meet their needs, not a right. This may be true, but it doesn’t provide employees with the motivation to keep performing at an efficient and effective level. In fact, by not acknowledging the desire for



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overtime, naval shipyards may inadvertently cause employees to work *less* efficiently, so in the long term, the strategy of not acknowledging the desire for overtime may lead to reductions in performance and morale at the naval shipyards.

Implementing Effective Incentives

Clearly, if we expect the DPL initiative to work, we need to implement effective incentives that are structured so that employees can realize the benefits in a reasonable amount of time because they will benchmark against receiving overtime funds in their paycheck every two weeks. In other words, using an incentive that will reward workers at the end of a two-year project will likely not foster the results the shipyard is looking for, whereas rewarding workers every quarter or every six months may foster positive results. The Navy (and the rest of the DoD) has experience with this, as many contractors who have incentive contracts are rewarded for performance every six months.

There are a number of ways to provide incentives that can promote a strong work ethic by making individuals aware that there are consequences for poor quality and rewards for great work. Incentives can be in the form of major corporate awards (e.g., Navy Superior Achievement Award) or in terms of individual raises and bonuses for early completions. Funds could also be designated to purchase new equipment requested by the shipyard. The Navy often uses these types of awards to promote performance. Financial rewards can be very powerful means to motivate but may put a strain on the Navy's finances, particularly since we are trying to cut costs. However, when compared to the cost of an overrun on schedule (it is estimated that each additional day of work in a naval shipyard costs \$100,000), it may be worthwhile to use bonuses to ensure timely or early completion of projects.

Other nontraditional means of rewarding employees include providing additional vacation days, parties at milestones, additional training so employees can develop different skills, and educational opportunities such as college classes.

Additional vacation or reduced work hours allow employees to spend more time with their families or on hobbies. It would require a financial commitment from the Navy to support this effort, which may be difficult to achieve in a cost-cutting environment. However, as mentioned above, the cost of this expense would be substantially less than the cost of a project overrun.

Low-cost incentives are a party, picnic, or other celebration at the successful achievement of a milestone. This not only recognizes the success of the group, but also provides an opportunity for team building. Team cohesion and team success can be powerful motivators for employees if they believe in the team leadership and the

team mission. Once team cohesion is achieved, employees are willing to work hard for verbal praise or small tokens of recognition.

Providing training to naval shipyard employees to enable them to build upon pre-existing skills or learn new skills can increase workers' promotion potential or marketability. It could also allow employees to switch to different shops or codes that have better conditions or career progressions. Finally, it could afford some employees the opportunity to train for nuclear positions at the naval shipyards, which tend to pay better than non-nuclear positions. These training opportunities could be offered at a relatively low cost through the training commands already located at the shipyards.

Offering new educational opportunities can also increase the promotion potential and marketability of an employee. Educational opportunities could be offered in two ways: providing more college classes at the shipyard or certifying the skills already learned for college credits. Both of these initiatives could be spearheaded by the training commands.

Providing additional college classes at the shipyard should be a relatively low-cost incentive, as the training commands already offer some college classes. In terms of additional college credits, the only cost to the Navy would be the additional paperwork and effort to certify classes as having been satisfied. Thus, both are potentially very good alternatives to consider.

Culturally Appropriate Incentives

Depending upon the naval shipyard and its internal culture, some of the specific incentives listed above are likely



Depending upon the Naval shipyard and its internal culture, some incentives are likely to be more successful than others.

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to be more successful than others. For instance, employees at Naval Shipyard A may be more concerned about financial rewards because the cost of living in that area is higher than at Naval Shipyard B. Given these local differences, a shipyard should be authorized—within constraints—to determine what motivates its employees. In fact, different projects at a shipyard may need to use different incentives, based on the composition of their respective work forces. Projects should be given the latitude to decide what incentives work best for their employees. It will take some time to formalize these details; however, any start in incentivizing will likely save the naval shipyards time and money in the long run, as employees will maintain their motivation to deliver quality products in a timely manner.

Perhaps incentives will be less of a concern in the future, as new employees in the naval shipyards are not socialized in a culture that requires overtime. At that time, it may be possible to reduce incentives. At present, however, it is crucial to explore options for ensuring continued performance from our existing employees so that we can maintain the knowledge base and talent at our shipyards. By instituting incentives, the Navy can ensure that the naval shipyards are able to meet the goals outlined by Naval Sea Systems Command: reduced overtime, reduced costs, and successful completion of work in the scheduled time.

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