



## INSTILLING A STRONGER SAFETY CULTURE:

# what are the incentives?

Joshua Linn and Nathan Richardson

The *Deepwater Horizon* spill occurred because of a series of mistakes and risky decisions made by BP and its partner firms. But these events may not make up an isolated case—they may have been the product of an inadequate safety culture. A common narrative holds that it was acceptable at BP to increase the risk of a spill in order to reduce costs. This idea has permeated recent congressional hearings. The National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling has suggested that this lack of good safety culture was not unique to BP, stating that “failures in risk management ... place in doubt the safety culture of the entire industry.”

But just framing the industry as the bad guys is too simplistic. Oil companies don't want to spill oil and have incentives not to, ranging from public relations damage to, perhaps above all, legal liability. The safety culture of companies and the industry as a whole depends on these incentives.

Current incentives may not be strong enough, however. Under existing federal

and state law, liability is capped at far below the level of damages from a major spill like the recent one, and though such caps are not always binding, they do matter. Oil spills cause a lot of damage to third parties and to the environment, and unless the law forces them to do so, firms that spill will not pay these costs. In economic terms, these costs are not internalized. Firms have no incentive to avoid external costs—and, as always, incentives matter. The *Deepwater Horizon* spill has focused scrutiny on these incentives. Are they adequate to push industry to prevent, contain, and clean up spills—and more broadly, to push firms to adopt a stronger safety culture?

Improving safety culture has costs and benefits to the firm. The costs involved may include increasing worker training and using more expensive designs and equipment that reduce risk. The benefits of a stronger safety culture to the firm and to the public include avoiding lost profits from worker injuries and spilled oil and gas, and the reduced risk of environmental damage.

According to standard economic theory,

the social costs and benefits of strengthening safety culture should be internalized. But what policy measures can be taken to achieve this?

### **Liability Cap: Minus or Plus**

One potential prescription is to eliminate the liability cap. Estimates of the total damage from the *Deepwater Horizon* spill are in the tens of billions of dollars, while the federal liability cap for offshore facilities is only \$75 million. It is true that BP has waived this cap, and could in any case have been liable beyond it under federal law that eliminates the cap when gross negligence, willful misconduct, or a legal violation occurs, or under some state laws that do not impose liability caps. But federal and state caps do matter. If they did not, industry would not fight for them. Increasing or eliminating caps would increase firms' incentives to avoid spills as well as contain and clean them up.

Eliminating the federal liability cap does not, alone, provide sufficient incentives for safety culture, and it may not be feasible. Simply raising the liability cap is insufficient because smaller firms would declare bankruptcy instead of paying the cost of even a moderate spill.

Furthermore, it is also politically controversial, in part because it would disproportionately harm smaller firms. Some insurers have also claimed that it would not be possible to provide insurance in such a policy regime. Without evaluating the validity of these arguments, it is clear that there is considerable opposition to eliminating the liability cap.

### **Limitations of the Current Regime**

We propose four recommendations that, together, would address these problems. First, a separate liability cap should be determined for each well, based on the esti-

mated worst-case discharge from the well. Firms must already estimate such a scenario in the permitting process. This information, combined with expert damages analysis, would generate a risk-based damages cap for each well. This approach would provide similar (probably identical) incentives to eliminating the cap altogether.

Our second recommendation addresses the bankruptcy issue by requiring firms to demonstrate financial responsibility up to the level of the cap. Currently, the maximum financial responsibility requirement for an offshore operation is \$150 million, although it can be lower for some operations—a firm must have at least \$150 million in assets or equivalent insurance to drill. A firm just barely capable of meeting this requirement would leave the public with a multibillion-dollar bill for damage from a large spill. Small drilling firms therefore have insufficient incentive to adopt a strong safety culture, particularly in deep water.

To ensure that social benefits are fully internalized, the financial responsibility requirement for a firm should be equal to the highest liability cap of any of its wells. A financial responsibility requirement also has the benefit of reducing the cost ultimately borne by the public in case of a catastrophic spill.

Two more points are worth noting. There are arguments to be made for increasing financial responsibility above the liability cap to account for the possibility that a firm is responsible for multiple spills. In addition, raising the requirement could prevent small firms from operating independently. One possibility that has been discussed in Congress is to allow small firms to enter an insurance pool.

However, a poorly designed insurance pool could create a moral hazard problem, in which firms take greater risks because they are insured. Also, it is unclear why a

properly run insurance pool would be more viable than individually obtained insurance. If insurance pools are established, we recommend that premiums be risk based in order to reduce the moral hazard problem.

Our third recommendation is to require third-party insurance to fully cover financial responsibility requirements. Insurance would provide the additional benefit of third-party monitoring, which may serve as a useful complement to government monitoring. But it may be difficult for private insurance to cover such a large liability. One approach, suggested by the commission, would be to phase in the higher liability caps, giving the insurance industry time to adapt.

## Had a small firm, rather than BP, been responsible for the spill, the public would have been left with a huge bill.

Our fourth recommendation is to introduce risk-based drilling fees for the same reasons that we recommend risk-based insurance premiums. Under this policy, royalties, lease fees, or other regulatory fees for each operation would be calibrated to the level of risk. Auditors would determine the fees based on a firm's demonstration that it meets or exceeds regulatory standards, as well as a firm's safety record and the risk of the particular operation.

There would be several advantages to this approach. Imposing large fees on poorly performing or risk-taking firms would provide strong incentives for firms to maintain excellent safety records and to meet or exceed regulatory standards. And, if liability remains capped at relatively low levels, basing fees on the riskiness of an operation would address the lack of incentives for firms to avoid excessively risky activity. There may still be a need for risk-based fees

even if liability is uncapped or is set equal to the estimated social damages, depending on other regulation. Finally, setting the fees high enough would generate resources that could be used for government regulation of deepwater drilling, which is likely to be stronger and more costly in the future. Moreover, the burden of these costs would fall more heavily on the riskier or more unsafe firms.

### Lucky This Time

The *Deepwater Horizon* spill demonstrated multiple levels of failure in industry and government. In particular, it focused attention on the limitations of the liability regime, which provides insufficient incentives for

firms to reduce risk and adopt a strong safety culture. Although changes in industry structure and government regulation may also be justified, providing appropriate incentives would address a significant failure of current policy.

The spill has also revealed a surprising lack of safety incentives. In addition, low liability and financial responsibility requirements allow small firms to operate. Had a small firm, rather than BP, been responsible for the spill, the public would have been left with a huge bill. In that perverse sense, we should perhaps consider ourselves lucky.

Without policies to improve incentives, firms will continue to underinvest in safety culture. This makes another spill more likely—and the public may not be so lucky next time. ●