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FINANCIAL TIMES

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Managing Risk Before It Manages You

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This has got to be the worst day of my life," observed William Clay Ford Jr., Ford Motor Company Chairman as he contemplated the February 1999 natural gas explosion in boiler number six that had just levelled part of the River Rouge power house in Detroit, Michigan.

The disaster cut off power to the 1,100 acre facility and ultimately resulted in the loss of six lives with 14 more seriously injured.

While his remarks were directed toward the human dimension of the tragedy, from a corporate standpoint the prognosis must have appeared equally sobering. The Rouge complex powerhouse - the centrepiece of Henry Ford's dream of building entire cars in a single location - had supplied electricity, compressed air, mill water and steam to six assembly and parts plants employing 10,000 workers, and also to independently-owned Rouge Steel plant.

Although an engineering marvel of its time, the concentration of production at River Rouge had precipitated a risk manager's worst nightmare, as the effects of the integrated plant's shutdown rippled through Ford's internal supply network.

First hit was Rouge's own Mustang assembly plant, which had been working overtime with two 10-hour shifts daily cranking out the popular sports compact. Next came Rouge's metal stamping plant, supplying metal parts-fenders and similar products-to 16 of Ford's 20 North American plants. Results were predictable. Shifts were cut from 8 hours to 4 hours at the Wayne County plant, producing Ford Escorts and Mercury Tracers, at the Wixom, Michigan factory assembling luxury Lincolns, as well as at the Lorain, Ohio, facility making Ford Econoline vans. Also affected was the Rouge's frame plant, where lost production resulted in the elimination of scheduled overtime at truck plants in Kansas City, Missouri; Norfolk, Virginia; and Oakville, Ontario.

Even at these reduced levels, production was supported only by the buffers of existing inventories and supplies in transit that, once exhausted, would necessitate plant shutdowns. The implications of the powerhouse loss were even more serious for Rouge Steel, a much smaller company than Ford. And a

previously planned $240m replacement power house would not be completed for at least a year.

Operational risks, a corporate drama
While the economic effects of high-profile financial dislocations - like the default on Russian debt or the Asian crises currency devaluations - tend to attract most popular press attention, seemingly mundane hazards associated with day-to-day business operation-the company's operational risks-rarely make front page unless accompanied by some headline-grabbing catastrophe.

But, for most companies management of operational risk is where the action is. This landscape is both broad and in continual flux with risk exposures that include product and environmental liabilities, property and business interruption losses, workers compensation, and concerns about employee health and pension benefits.

For example, a recent change in liability law limiting manufacturer liability to 18 years has resulted in the production of single-engine light planes by Cessna, part of US conglomerate Textron, for the first time in more than 15 years. In Albuquerque, New Mexico, a jury awarded Stella Liebeck $2.9m in a dispute with McDonald's, the US fast food group, over spilled hot coffee. The US Occupational Safety and Health Administration recently considered limitations on the exposure of workers to cadmium which have been estimated would cost industry more than $160m a year. The Supreme Court upheld a New York Court decision that makes all manufacturers of the anti-miscarriage drug DES or diethylstilbestrol, jointly liable for the effects of a drug last prescribed in 1971. In another legal decision, the highest court in Texas ruled that a convenience store chain could be required to pay damages to the family of a murdered clerk, even though the crime was not witnessed and has not been solved. And, finally, employers are finding it difficult to provide affordable health insurance to their workers, as health insurers are becoming more selective in the policies they write.

As these examples show, the effective management of operational risks has become an increasingly important concern for businesses, particularly since a single event can involve multiple risk exposures. In practice, managing risks involves four distinct stages: risk identification, risk mitigation and avoidance, risk financing and, finally, crisis management.

Identifying Business Risks
Many potential workplace hazards are easily identified, as with cases of exposed machinery or electrical wiring in a factory setting, or slippery floors in an office or retail establishment. Other types of risk exposures may be apparent only to those formally trained, or with experience in a particular area of risk analysis. Much as standing under a tree during a thunderstorm might seem to be a reasonable move to those uninitiated in the hazards of lightning, many perils involve risk exposures that are not apparent to an untrained eye.

In the case of the Rouge power plant, for example, there were certainly engineering economies involved from consolidating

production of the electricity, steam and high-pressure air required by the various Ford Rouge manufacturing plants and by Rouge Steel. And this approach is by no means unique to Ford's US operations. For example, the Ford Dagenham complex located outside London is similar in design and in susceptibility to a Rouge-like debilitation.

But the operational risks of this approach have also turned out to be substantial. In addition to the costs of business interruption, Rouge Steel faces legal action by injured Ford employees as a consequence of its shared ownership of the powerhouse.

As in most states, Michigan law stipulates that workers compensation is the sole remedy for employees injured in the workplace, which limits employer liability for injuries sustained on the job. That makes it difficult for Ford employees to sue and collect from Ford, but the same protection apparently does not extend to similar suits filed by Ford employees against Rouge Steel.

Perhaps the most insidious, however, are the latent risks resulting from evolving legal rules or standards of care. A particularly topical case is that of the notion of contingent environmental liability. This encompasses unforeseen environmental risks in which the dollar amount of the exposure is unknown and changing, depending on events that have yet to occur.

The precedent for such actions has already been established by CERCLA, the 1980 Superfund hazardous substance clean-up legislation, which introduced strict, as well as joint and several liability, for cleaning up hazardous waste sites.

As a result of CERCLA, a business could have been in compliance with all applicable laws at the time of the waste disposal, or simply be the current owner of an existing site, yet still be strictly liable for the costs of cleanup, as well as the associated damages to natural resources. And, since the liability is joint and several, even partial contributors to the harm are fully liable for the entire amount, leading to the predictable tort search for "deep pockets." These liabilities are transferred to any successor corporation resulting from a merger or acquisition, and there has also been discussion about contingent liability transferring to a company's lenders, although this latter issue remains largely unsettled.

Daniel S. Sobczynki, Ford's director of corporate insurance, is a strong proponent of pro-active risk assessment. "The highest potential risks are those that are unidentified and unmanaged. It is critical to evaluate your risks and to learn from the lessons of others," he says. "The problem of learning from personal experience is that it gives you the lesson after the test has been administered".

Reducing exposure to operational risks Once the nature of a business risk is identified, the next step is to craft a cost-effective strategy to mitigate the company's exposure to the peril. Generally, this requires identifying tactics to reduce the probability of hazard occurrence, and timely actions that if

adopted would reduce the extent of any ultimate loss from an adverse event.

Installing sprinklers in a warehouse, for example, reduces the damages that might result from fire. The regular inspection of electrical wiring would serve to lower the risk of such a fire starting. Whether a particular risk mitigation strategy makes business sense from a profitability perspective, depends on whether it passes the cost-benefit analysis - i.e. whether the cost of implementation exceeds the expected reduction in loss exposure.

While such decisions may seem relatively straightforward from a business perspective, the real world is somewhat more complicated.

In cases ranging from Ford Pinto's alleged susceptibility to fires in rear-end collisions, through a later debate on the safety of the "side-saddle" gas tank design in General Motors' pickups, to the recent decision awarding $4.9bn to six people burned in an accident involving a 1979 Chevrolet Malibu, jurors have demonstrated a deep-seated prejudice against the use of cost-benefit techniques in situations involving a potential loss of human lives.

Indeed, in the Malibu case, the mere existence of a cost-benefit analysis by a GM engineer (the now-infamous 1973 "Ivey" memorandum suggesting that fuel tank fires were costing GM only $2.40 per vehicle, while a redesign would cost $8.59) was viewed by jurors to be evidence of a callous corporate disregard for customer safety-even though no evidence was presented that the analysis was requested by management, nor that they ever saw it.

Clearly, a business that implements a formal economic analysis of the costs and benefits of (theoretically) preventable fatalities does so at its own peril, at least in the current legal climate.

Financing the costs of resulting losses Even with reasonable precautions to reduce identifiable operational risks, companies will still be faced with residual risk exposures, along with the decisions of how best to finance the costs of any resulting losses.

Traditionally, businesses would retain risks involving small or fairly predictable losses, either treating them as a current business expense (a strategy adopted by retail establishments faced with shoplifting or employee pilferage), or by using a line of credit to cover the loss (as when a business borrows to replace a critical piece of machinery lost to failure).

Larger, or more uncertain, losses would generally be shifted to an independent insurer with established expertise in the specific claim line. In turn, the insurer would reduce its cost of bearing the risks assumed either by risk pooling (combining risks from numerous companies and using premiums paid by those who do not suffer the loss to indemnify those who do-known in statistical circles as the "law of large numbers") or by risk spreading (reselling portions of assumed risk portfolios in the

reinsurance market). In many settings, particularly involving smaller business, this approach is still the norm.

However larger businesses have adopted an increasingly aggressive approach to financing operational risks. Many have opted to perform functions internally that had previously been farmed out to independent insurers. Increased retention of risks allows the company to avoid the substantial frictional (such as insurance taxes and underwriting fees) costs associated with insurance purchases.

Larger businesses often have sufficient risk exposures to enable them to establish an internal self-insurance pool. Generally, this strategy is coupled with purchase of explicit catastrophic insurance protection to absorb any losses exceeding the company's target retention limit.

Of course, risk retention makes an effective risk management strategy all the more important to the company, since it ultimately bears the costs. One disadvantage of the retention approach is lack of an insurer's expertise in establishing reserves to cover losses and servicing of claims, but these can generally be purchased from insurers as stand-alone services.

This option is often utilised by businesses who self-insure the costs of medical benefits for their employees, yet hire a traditional insurer to handle the administrative tasks involved in processing claims.

Many businesses prefer the control risk retention confers in the claims litigation process. Such decisions would otherwise be solely at the discretion of the indemnifying insurer, whose interests in settling are not always aligned with those of the insured.

Some businesses with extensive operational risk exposures have opted to bypass the primary insurance market entirely, and place their risks directly with the international reinsurance market. The development of a new class of tools for risk securitisation means such companies may ultimately be able to circumvent even the traditional reinsurance markets.

One such device is the catastrophic bond which, depending on the particulars of the offering, places either the interest or the principal at risk, in the event of a stipulated catastrophe.

Although these tools have been used primarily by insurers as an alternative to reinsurance in shedding their hurricane or earthquake risk exposures, as the market matures it will likely become increasingly attractive to businesses wishing directly to shift their own operational risks.

Reducing Post-Catastrophe Losses In spite of the most diligent pre-catastrophe risk identification, mitigation, and financing programmes, accidents will happen.

When they do actions taken immediately following the event may have a critical impact-either advantageously or adversely-on

the magnitude of the ultimate loss.

In the turmoil immediately following the River Rouge disaster, Mr. Clay Ford Jr. gave his personal credit card to an aide, with instructions to find the families of the victims at the hospital and provide for meals, hotels, or anything else they required.

Close behind were Ford's human resource professionals, co-ordinating humanitarian assistance in conjunction with the United Auto Workers, the employees' union.

Ford's suppliers set aside their production schedules, working overtime to produce electrical switching equipment and to procure portable boilers for steam, while the Detroit Fire Department used one of its boats to refill the Rouge water mains and tanks, and Detroit Edison, the local power supplier, built an outdoor substation in a week-a task some say would normally take more than a month.

Within a week of the powerhouse explosion, all of Ford's River Rouge operations were back up and running, a triumph of effective crisis management.

Part of this success was undoubtedly attributable to the close relationship that had long been established between Ford, its suppliers, and the community.

Indeed, in southeastern Michigan, people often speak of working at "Ford's" (as in "Henry's"), so familial feelings run deep. But, management's actions after the tragedy also counted for a lot. Other businesses have also learned this lesson and sometimes the hard way. In 1986 when product tampering resulted in a death from Tylenol painkiller capsules which had been laced with cyanide poison, response from Johnson & Johnson, the healthcare group which makes the capsules was immediate. It publicly recalled all capsules and designed the generation of tamper-proof containers still in use to this day.

In stark contrast was the reaction of US insulation and building products manufacturer, Johns-Manville, once the world's biggest producer of asbestos, which collapsed under the weight of asbestosis claims in 1982. Johns-Manville's decision to ignore the risks of asbestos exposure to its workers, long after management may have suspected a problem, resulted in untold lives ruined by asbestosis and, ultimately, corporate bankruptcy.

Mr. Sobczynski puts it best: "Either manage the risk, or it will manage you, " he says, "and, when it does, the loss will happen when you are least prepared."

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