

Preventive Emergency Planning

Rick Reibstein

Massachusetts Office of Technical Assistance

Presentation to NCBEN

November 1, 2011

TUR Planning

Large quantity toxics users in MA have to do toxics use reduction plans. Must track chemicals carefully and report on use (only NJ and Eugene OR also require chemical input reporting)

Chemical use reporting reduces losses in process and leads to greater attention to risks – but could be better on the latter if combined with emergency planning.

Planning consists of identifying options for using less, or safer substitutes. The law does not have bans on chemical use. Instead, it requires consideration of technically feasible options, including a fair comparison to current practice, looking at costs and savings over the life-cycle. Companies often see, as a result, that there are options that make sense.

The program has led to voluntary reductions by LQTUs of hundreds of millions of pounds of toxics.

One-plan project

In 1998, Region One US EPA asked OTA to demonstrate the integrated contingency planning guidance put out by the National Response Team in 1996.

In 1999, OTA funded two consultants to develop “one-plan” emergency plans for two companies (all winners of competitive bidding).

EFFECTIVE RESPONSE

The concept of the one-plan is that companies should not be doing emergency planning for regulatory compliance reasons, developing large binders that aren't useful in an emergency.

Several different laws require emergency planning, a company may have several different plans. They need ONE GOOD ONE.

PREVENTIVE PURPOSE

OTA told EPA we would accept the grant on the condition that we be allowed to also demonstrate the concept that plans should not just lead to effective response - but should also be used for preventing accidents from happening in the first place.

The Integrated Plan

The one-plan: has it taken over the world? (Was it ever marketed?)

Requiring a “Cross-walk” frustrated streamlining aim.

(Alternative: train inspectors to look for the equivalent components).

Or: Make a senior manager sign a certification statement identifying the various plans and that they meet the relevant requirements.

Suggestion: TIME TO REVISIT, REVIVIFY this idea, and take the opportunity to make it strongly preventive.

THE ICP: CORE PLAN AND ANNEXES

The CORE PLAN:

Fits in your glove compartment. Can be read quickly. Aids quick and right action. An effective and rapid response.

The ANNEXES: document preparedness. Ensures it gets done, enables an inspector to check.

Prevention is annex 7.

Prevention should be a ***primary purpose***.

The annexes should have two purposes: to ensure the core plan is good, and ***to make sure you never need to use it***. *This part needs beefing up big-time! Move from the periphery to the center.*

The Change we Need

From taking the chemical use as a given, and doing hazard analysis about how it is used, to ***options analysis for input substitution and chemical use efficiency***. The TUR plans have demonstrated the effectiveness of this.

Preventive Plan needs to examine *source of hazard*, not just manage it.

The plan that doesn't prevent accidents *just limits damage*.

Input substitution: begin with Functional Analysis.

Plan should ask, what does the chemical do?
Why do you need it?

Can you make a change upstream that eliminates the need for that function? Can you use or do something else to accomplish the function?

Examples: solid acid catalyst for HF; aqueous ammonia (or ammonia on demand from urea) for anhydrous; chlorine bleach, UV and Ozone, prevention of fouling, for chlorine gas.

Merging P2 and Emergency Planning

Good Pollution Prevention (P2) planning (a broader term for TUR planning) aims to reduce pollution at the source (the use of the chemical), to *use less toxics to do the job and have less toxic waste - and releases.*

Good Emergency Planning reduces the incidence as well as the severity of accidents. But it will be most effective by addressing the root cause – the use of the chemical. A good plan ensures reactives are stored safely. Better: eliminate the reactive. *The question is: did the plan even examine options for doing that?*

Many P2 plans ignore what good emergency planning does – incident history, “what could go wrong” analysis, or involve any sense of the potential for a costly response.

Emergency planning rarely involves the careful consideration of alternatives, or having a fair comparison to current toxics use, or the savings from reduced pollution, getting out of regs, faster process, better quality.

Emergency planning might be conducted by safety and facility. P2 planning might be conducted by environmental, health, and hopefully production supervisors. They may never talk!

Results of One-Plan project

At EEM, emergency planning and P2 planning teams took a walkthrough together, and found themselves looking at large acid tanks. Emergency planners pointed out that the tanks were right by a river, and not far from houses and schools. They showed the booms and discussed how and when an evacuation would be necessary. The P2 team said: we have been suggesting to management FOR YEARS that we should investigate the option we identified for regenerating acid.

The option had been turned down by management because the savings in waste management and purchasing were not significant – acid is cheap. But now it became clear that if regeneration worked the large storage tanks would go away.

The emergency planners said, we have been suggesting we do something about this terrible risk for years, but the attitude seemed to be that there's never been an accident, how real is this?

NEITHER effort alone was able to convince management. Putting together the perspectives gave a clearer picture of the benefits of reducing the problem at the source. Acid now being regenerated. *Tanks are gone.*

At Franklin paint, the hazard analysis was conducted as part of Annex 7 (prevention), which essentially became the core of their effort – the ICP led to a far greater recognition of a lack of inhouse capacity to respond, and that the most effective approach was to concentrate on prevention.

It led to whole-facility approach rather than piecemeal. Had never considered Hazard analysis or RISK REDUCTION before, had never considered reducing risk AT THE SOURCE before.

The process led them to realize how risky their chemical storage was (little containment), made them see how close their flammables were to ignition sources. It caused them to seriously look at PRODUCT REFORMULATION.

Contacted local authorities and worked with them – saw this as extremely beneficial. The limited ability of the locals made them focus more on PREVENTION. (“With little recourse in the case of a serious spill, fire or explosion, a facility like Franklin Paint must make every effort to identify opportunities for TUR, P2, safety improvements, and minimization of risk”).

Because Franklin made paints to the requirements of local and state agencies, they had few options to change on their own from solvent-based to water-based. They initiated a petitioning process to request such changes.

They now offer many nonsolvent, (and nonlead!) paint varieties.