

## **Industrial Disaster Preparedness – the APELL process for community information and awareness**

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### **Introduction**

We know from experience that the public is often unprepared for accidents at industrial facilities. As the tragic consequences of disasters are often determined in the first few minutes, the right or wrong actions of the public and of first responders makes all the difference to how many lives are saved, and how much pollution can be avoided.

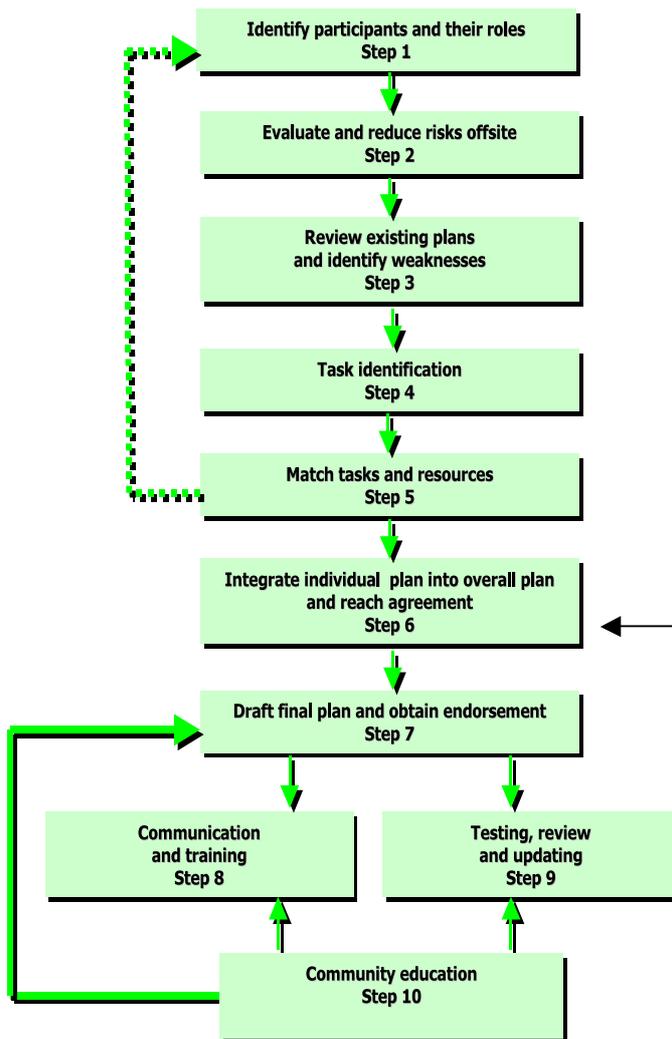
Industrial emergency legislation such as SEVESO II and its national equivalents increasingly tries to address the public communication aspect, without however always specifying the means by which it can be achieved. This is an important gap, since a two way information exchange can actually result in major improvements in risk reduction as compared to the one way information flow frequently adopted by many authorities.

Already in 1988, UNEP and the international chemical industry put in place a programme aimed at improving offsite emergency preparedness. This presentation briefly explains how the APELL programme works, and how it can be applied in the implementation of SEVESO II.

### **APELL – Awareness and Preparedness of Emergencies at Local Level**

As the name suggests, the programme achieves: **(i) a better level of preparedness by local emergency services, and (ii) an understanding by local people of how to react to an emergency.**

These outcomes are achieved if we can arrange a meaningful dialogue between industry, local authorities and local community leaders. This dialogue is managed by a local Co-ordinating Group that includes all important stakeholders. The Co-ordinating Group reviews the hazard situation, and then supervises some of the measures that are needed to address these hazards.



The Group can be established by anyone, but often it is useful to ask industry and/or the local emergency services to do this. Community groups can also convene a co-ordinating group if they believe there are significant risks that have not been officially addressed. Some groups have carried out their own hazard identification by using the UNEP Technical Guide “Hazard Identification and Assessment at Local Level”

The Co-ordinating Group, once established, follows a **10-step process** to identify all the risks and prepare a complete community emergency response plan. The Co-ordinating Group identifies parties who carry out the various steps, and also tracks progress. The key to success is to include everyone in the process who would be involved if an accident took place.

### What are the outcomes of such a process?

Like any safety programme, the outcome has to be measured in avoided damage. A smoothly functioning community emergency plan which is the outcome of the APELL process gives the community assurance that their interests have been taken into account, and will ensure a higher level of co-operation if and when something happens.

### APELL and Seveso II

There are several provisions in the Seveso II Directive related to information to the public. In particular the provisions of Article 13<sup>1</sup> include requirements such that the competent authorities should:

- communicate to the public about how to react in case of an accident
- make the Safety Report available for consultation by the public
- allow the public an opportunity to give its opinion on construction of new Seveso establishments or changes proposed to existing establishments

<sup>1</sup> Please refer to the attached table on Annex I

As with most European legislation the Seveso II Directive leaves the precise details of implementation in the hands of each individual Member State/Ascension Country. As such Seveso II does not propose a concrete mechanism or a procedure to achieve such dialogue.

APELL and other APELL-like approaches are available as models that could assist them in achieving effective implementation of the public communication requirements of Seveso II.

The whole APELL process is built on extensive two-way dialogue that will improve knowledge of the real hazard situation, public participation, risk communication and preparedness measures.

The idea of involving all stakeholders in this dialogue process is to give everyone the opportunity to speak out their minds, concerns and willingness to co-operate. This process allows people to know each other and to outline means of co-operation that will end up in a formal response co-ordination. There is no time to build this up when an accident takes place!

### **How has APELL worked in practice?**

The 1996 publication by UNEP on "APELL Worldwide" gives an overview of how the APELL approach has been adopted around the world. Not all the initiatives refer explicitly to APELL, but the use of a consultative approach to develop a community emergency preparedness plan is a common element of each. Since then other experiences further confirm the validity of the approach in industry, in transport and also for civil disaster hazards such as earthquakes.

Just a few examples will suffice.

- When a truck carrying hazardous chemicals overturned in the town of Schkopau just beyond the heavy chemical complex there, everyone already knew what to do. There was no panic. Information was broadcast about the accident. People stayed indoors out of easy reach of any possible toxic fumes. The local rescue services had been trained by the industry to deal with such an incident, and the company sent further technical assistance just in case. The spill was contained and prevented from reaching the local river, the residues were cleaned up, and the truck was removed. After final tests of air quality residents were told that they could return to normal activity. An information service was available to answer questions.
- The chemical complex of Fos in southern France has informed neighbouring communities how to behave in case of rupture of one of the tanks of chlorine or other chemicals on site. Warning sirens are recognised by citizens, and they know to stay inside and tune in to a special radio station for further instructions. Transport routes would then be under control of the local police while local emergency services are available to assist on-site rescue services.

- When a tailings dam containing cyanide contaminated water overflowed into the Danube River system at the Esmeralda gold mine in Baia Mare<sup>1</sup>, Romania in January 2000, some hours elapsed before the alarm was given. But then the emergency notification system put in place by the International Commission for the Protection of the Danube River (ICPDR) was activated. All downstream authorities in several countries were notified through the appropriate contact points previously established by the Commission. Towns and cities down the river knew when the polluted water would pass by their water supply system and shut of the pumps at the appropriate time. Numerous fish died along the way, but no people were poisoned, and no municipal water was contaminated.

The above examples of successful preparedness show what can be achieved in the best cases. It is also useful to reconstruct events at some recent disasters to speculate if the damage could have been reduced if the public had been better informed about hazard identification and emergency procedures. Among the numerous examples of disasters around the world, a few will suffice:

- the explosion at a fertiliser plant in Toulouse<sup>2</sup> resulted in 31 deaths, with hundreds injured in the surrounding community which had built up near the site. Information about this hazard had not been available during the process of urban expansion close to the plant.
- the fire and subsequent explosion of a fireworks storage depot in a populated suburb in Enschede<sup>3</sup>, Netherlands led to over twenty deaths, including members of the rescue services who attended the fire. No-one in the community was aware that the building contained fireworks
- thirty drivers and passengers were asphyxiated under Mt. Blanc<sup>4</sup> on the Italian border. Most had no knowledge of how to react to a fire in a long road tunnel.
- during a truck accident on a busy freeway near central Bangkok<sup>5</sup> the fire services washed the toxic chemicals from the overturned truck into the public drainage system. Flammable fumes in a closed drainage system are a major explosion hazard, and the chemical quickly spread throughout the canals in the downtown area to become a major environmental hazard. There was general ignorance of the hazard, how to respond to it, and what the hazards were of volatile chemicals in the drains.

The one common element in all of the above is that people did not know of the hazards to themselves or their communities, and were ignorant of what to do in case of an accident. In some cases the rescue services were not well prepared to deal with the incident.

### **Supporting the APELL Process – role of national authorities and industry**

Local people are not always aware that the APELL process exists, or do not understand how it works. National agencies concerned with SEVESO II have an important role to undertake a promotion campaign, and give practical advice to local partners. Other bodies who can undertake such promotion include the national safety authorities, and national industry associations.

## How can the APELL Process be promoted?

The best way to encourage local communities to adopt the APELL process is through a designated national focal point who undertakes the necessary awareness raising and information exchange.

It has been found that this is most effective in the framework of national policy or laws (some regulations such as Seveso II require community involvement in planning and in emergency response procedures but do not specify how this should be carried out.

Certain international instruments such as ECE's Convention on Transboundary Accidents also lay down requirements to signatory countries that could be satisfied by an APELL-type process. Conversely some laws such as Croatia's disaster legislation refer specifically to APELL as an implementation mechanism.

Recent Indian legislation on industrial accident prevention lays out in some detail the consultation requirements without however mentioning APELL by name.

The above would suggest that emergency legislation, if not explicitly mentioning the public consultation mechanism, could usefully be accompanied by an implementation document that describes processes such as APELL in more detail. Many planners and local communities really need such practical guidance in order to move ahead.

## Summary

Industrial accidents can have major off-site impacts on the community and environment. While reducing the rate of accidents must remain the key objective, it is also important for the community and the public emergency services to be well prepared for any potential disaster that may occur. Legislation should thus incorporate both prevention and preparedness, APELL is a valuable process for addressing the off-site issues. The 10-point action plan is based on an open dialogue with the community to agree on emergency measures, and to endorse risk reduction actions by the company.

Such a programme can be an important implementation instrument to the protection legislation we are now seeing on emergency prevention such as Seveso II.