

## Most accidents are never reported

A few big ones make the news.



Flourite Dam Failure, Stava, Italy, 1995



Dam Failure, Aznalcóllar, Spain, 1998



Cyanide Spill, Baia Mare, Romania, 2000



Tailings Spill, Baia Borsa, Romania, 2000



Mercury Spill, Yanacocha, Peru, 2000

# Explaining APELL for Mining

Background to

## Awareness and Preparedness for Emergencies at the Local Level

The mining and metals industry is working continuously to advance safety and security measures at company operations. Despite all the measures being undertaken, the industry accepts that there can never be complete "zero risk" at any one operation. So, in addition to risk management, the industry acknowledges that emergency preparedness plans need to be incorporated into their existing management policies and processes.

It is widely appreciated that when an incident like a tailings dam collapse occurs, there is a risk that it may affect the environment and communities beyond the operation's boundaries. Communities are affected either by exposure to direct and indirect risks or psychologically by the panic and fear of unknown impacts and consequences resulting from the incident. Both real and perceived risks damage social confidence and trust in the industry and impacts on its licence to operate.

**"Co-operation between stakeholders should be developed before an incident, not after. That would give a chance to establish roles and responsibilities, action plans, etc. and also to build trust between parties"**

**Lars-Åke Lindahl, Swedish Mining Association**

The impacts and fears can be substantially reduced if surrounding communities and emergency services have been previously informed of possible hazards and briefed about risk management measures and crisis management plans.

The APELL process was designed to create such public awareness, and to ensure that community services are adequately prepared to respond in the event of any possible emergency.

The process provides a structured way of including the community in the development and implementation of such plans and has the flexibility to complement voluntary codes of conduct in environmental management and community outreach programmes.

## What is the role of mining associations in promoting “APELL for Mining”?

The International Council on Mining and Metals (ICMM) has been working with UNEP to ensure a wider application of good practice within the mining and metals industry. To promote effectively the APELL process we believe that mining associations have a major role to play in:

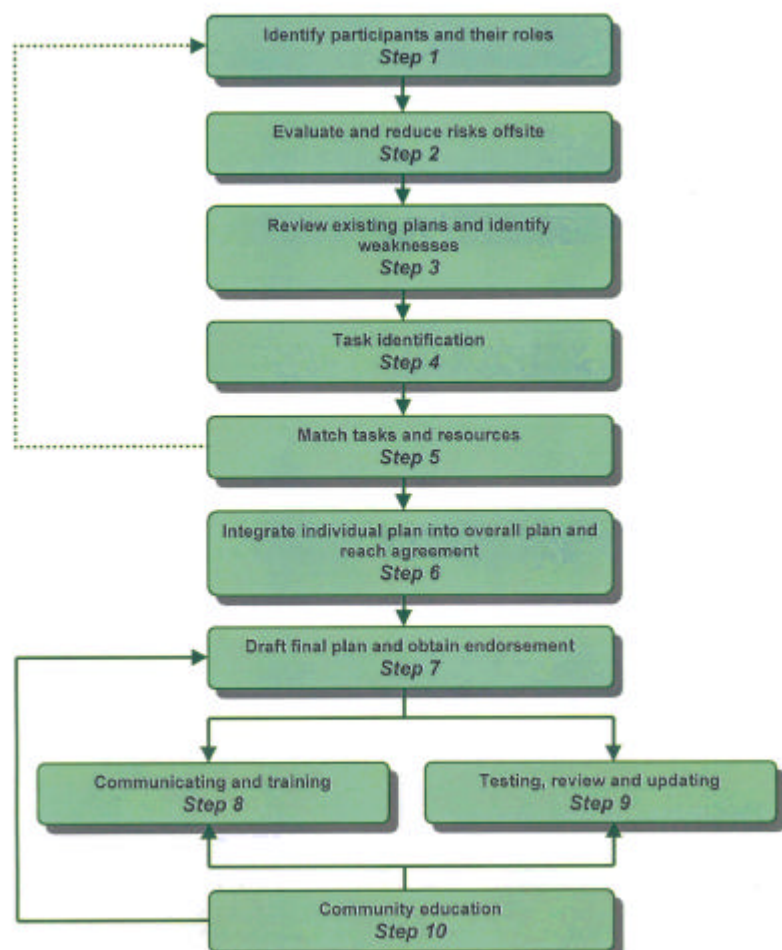
- Supporting and promoting the principles of APELL amongst their members to help improve their emergency response capabilities;
- Promoting open communication on safety, social and environmental matters with interested parties, both inside and outside the industry;
- Developing a series of guiding notes and checklists to help member companies improve their emergency response capability in line with APELL;
- Creating opportunities for companies to share views and exchange experiences in emergency response;
- Regularly reviewing the frequency and impacts of mining related accidents among member companies and proposing appropriate mitigation measures.

## What are some identified hazards and risks at mining operations?

- **Tailings Dams** (cyanide, heavy metals, contaminated wells)
- **Waste Dumps** (volume of flow of waste at failure, acids, chemicals, mercury, heavy metals, spent solvents, coolants)
- **Transport to and from Site/Loading** (sodium cyanide, process reagents, oil and fuel, solvents)
- **Pipeline Failure** (metal bearing solution, wastewater, hazardous waste)
- **Subsidence**
- **Spills of Chemicals** (cyanide, acids, solvents, mercury, heavy metals)
- **Fires and Explosions** (methane accumulation, explosives)
- **Risks at Closed Mines** (chemical leaks, water contamination, collapse)
- **Natural Disasters** (earthquakes, flooding, landslides)

## The APELL process

### THE TEN STEPS OF THE APELL PROCESS



## APELL for Mining-background

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APELL (Awareness and Preparedness for emergencies at Local Level) is a people-oriented communication and co-ordination process that promotes the involvement of external stakeholders -host communities in particular- in emergency response planning. The programme originated with the chemical industry, where it has a long history. It has since been extended to ports, transport and, most recently, to mining. A handbook "APELL for Mining", was published in 2001.

## What are the benefits of having APELL for Mining?

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In addition to minimising the risks and consequences of mine related incidents, the implementation of the APELL process has many other benefits. These include:

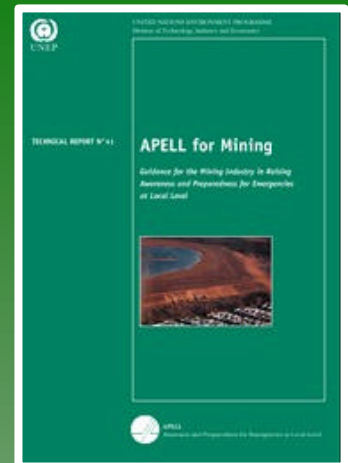
- a more vigorous industry emergency response capacity;
- better integration of internal and external response teams;
- more informed communities, which should generate the confidence, trust and support companies need for sustainable operations;
- stronger relationships between mine operations, local communities and other stakeholders.
- avoidance of potential conflicts that may arise through poor communications with the community; and
- a reduction in the probability of incurring costs associated with an accident or other harmful events.

## The "APELL for Mining" handbook

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This handbook, published by UNEP in 2001 with assistance of major companies provides a framework for the preparation of an Emergency Response Plan that can be used by mine management, emergency response agencies, government officials and local communities. It introduces the generic objectives and organisational framework of a programme, covers risk factors specific to the mining industry, and describes how APELL can be applied to the mining industry. Case studies illustrating the consequences of mining accidents are also presented, underscoring the vital nature of sound preparedness for emergencies.

The handbook can be downloaded from: [www.uneptie.org/pc/apell/publications/](http://www.uneptie.org/pc/apell/publications/) or purchased in hardcopy or CDROM format from Earthprint ([www.earthprint.com/show.htm](http://www.earthprint.com/show.htm)), or ([www.icmm.com](http://www.icmm.com)) under the "Publications" section.



## Who should use the handbook?

- **Mine management (operational managers, corporate staff)**
- **Within companies, external affairs, community relations, communications and environmental, health and safety specialists**
- **Emergency response agencies and community groups**
- **Governments**
- **Industry associations**

## What are the indicators of a co-ordinated preparedness in practice?

- **Existence of partner links and/or public liaison group on risk management,**
- **Co-ordinated emergency response plan (inventory, addresses, joint practice, meetings),**
- **Community information about hazards arising from the mine operation,**
- **Published hazard evaluation for the local community**
- **Hazardous substances transport and storage code for operators,**
- **Regular company public reporting of workplace and community hazards.**

## The Mineral Resources Forum ([www.mineralresourcesforum.org](http://www.mineralresourcesforum.org))

The MRF-Environment is a neutral Internet framework for information on the theme of minerals, metals and sustainable development. It promotes the exchange of knowledge, experience and expertise on the impacts of mining, mineral processing and metals on the natural environment; the mitigation of environmental damage; and planning for mine closure and disposal of hazardous wastes.



[www.mineralresourcesforum.org/docs/pdfs/UNEPminingpubs.pdf](http://www.mineralresourcesforum.org/docs/pdfs/UNEPminingpubs.pdf)

### Further information from:

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The International Council on Mining and Metals (ICMM) was formed in 2001 with a broad mandate to offer strategic industry leadership towards achieving continuous improvements in sustainable development performance in the mining, minerals and metals industry. ICMM provides a common platform for the industry to share challenges and responsibilities as well as to engage with key constituencies on issues of common concern at the international level, based on science and principles of sustainable development.

ICMM's goals are to:

1. Offer strategic leadership to achieve improved sustainable development performance in the mining, minerals and metals industry.
2. Represent the views and interests of its members and serve as a principal point of engagement with the industry's key constituencies in the international arena.
3. Promote science-based regulations and material-choice decisions that encourage market access and the safe production, use, reuse and recycling of metals and minerals.
4. Identify and advocate the use of good practices to address sustainable development issues within the industry.

About UNEP Division of Technology, Industry and Economics, DTIE...

The mission of UNEP DTIE is to encourage decision makers in government, industry and business to develop and adopt policies, strategies and practices that are cleaner and safer, make efficient use of natural resources that incorporate environmental costs, ensure environmentally sound management of chemicals, reduce pollution and risks for human and beings and the environment, enable implementation of conventions.

### Links to other emergency preparedness programmes in mining

Valuable information of all aspects of disaster management in mining can be obtained from the Internet. The listing below is a selection of useful websites.

- International Cyanide Management Code for the Manufacture, Transport and Use of Cyanide in Gold Mining ([www.cyanidecode.org/](http://www.cyanidecode.org/) and [www.mineralresourcesforum.org/initiatives/cyanide/index.htm](http://www.mineralresourcesforum.org/initiatives/cyanide/index.htm))
- Mining Association of Canada (MAC) Guidelines for Corporate Crisis Management Planning ([www.mining.ca/english/tsm/crisisguide-eng.pdf](http://www.mining.ca/english/tsm/crisisguide-eng.pdf))
- U.S. Department of Labor Mine Safety and Health Administration - Mine Rescue Home Page ([www.msha.gov/S&HINFO/RESCUE/RESCUE.HTM](http://www.msha.gov/S&HINFO/RESCUE/RESCUE.HTM))
- Ministry of Energy and Mines British Columbia - Emergency Preparedness ([www.em.gov.bc.ca/Mining/Healsafe/emergenc.htm](http://www.em.gov.bc.ca/Mining/Healsafe/emergenc.htm))
- WISE Uranium Project – Safety of Tailings Dams, Current Issues - Tailings Dam Safety, and Properties of Tailings Dams ([www.antenna.nl/wise/uranium/midas.html](http://www.antenna.nl/wise/uranium/midas.html))
- UN/ECE – Convention on the transboundary effects of industrial accidents ([www.unece.org/env/teia/](http://www.unece.org/env/teia/))
- European Commission – DG XI: Chemical Accident Prevention, Preparedness and Response: Seveso Directive ([europa.eu.int/comm/environment/seveso/index.htm](http://europa.eu.int/comm/environment/seveso/index.htm))
- MAHB – Major Accident Hazards Bureau ([mahbsrv.jrc.it](http://mahbsrv.jrc.it))
- EPA Chemical Emergency Preparedness and Prevention Office ([www.epa.gov/swercepp](http://www.epa.gov/swercepp))
- Best Practice Environmental Management in Mining – Training Kit ([www.ea.gov.au/industry/sustainable/mining/training-kits/index.html](http://www.ea.gov.au/industry/sustainable/mining/training-kits/index.html))