

## The Safety Imperative

As a nuclear reactor operates, the fission process creates energy to generate electricity. The uranium is gradually used up until it can no longer effectively produce energy. At this point, the used fuel is said to be "spent" and is replaced.



### **An inspector falls**

Because of potential harm from radiation, the spent nuclear fuel must be stored in shielded basins of water, or in dry storage vaults or containers until its radioactivity decreases naturally to safe levels. [An Inspector Falls](#)\* is the first hand account of an IAEA inspector based in Vienna who fell about 21 feet into a spent fuel cask reloading pit in the Czech Republic. This extraordinary story tells of his experience, his thoughts and emotions when falling into a spent radiation fuel tank.

### **Knowledge management**

Given his account, what can a knowledge management programme do to help others from having another similar accident?

\* We are grateful to Ian Neville of BNG Project Services for sharing this story with us.

### *Corporate memory*

#### **Safety related**

The corporate memory may consist of several component parts including databases of reports, yellow pages where you can search for given expertise, risk assessments and who conducted them, learning material to support enhanced proficiency of knowledge etc. For example, a corporate memory can host, or provide links to safety related learning material.

#### **Knowledge base**

As with the nuclear sector, in fact, safety is the primary business driver behind Eurocontrol's development of a knowledge base on air traffic management safety. This knowledge base, based on the mediawiki platform (that is also the platform for the well-known wikipedia), contains a growing number of articles in categories such as Airspace Infringement, Wake Vortex Turbulence and Loss of Separation. The purpose of the knowledge base is to both disseminate knowledge across a wide range of aviation safety specialists as well as to seek inputs from this professional community to further enhance the body of knowledge.

#### **Skybrary**

The [Skybrary](#), as the knowledge base is called, is in its pre-launch phase at the moment, but already prestigious organisations in this domain, such as ICAO and the Flight Safety Foundation are now contributing to this initiative. Skybrary features many of the same characteristics as wikipedia, although restrictions have been implemented with respect to the editing of certain knowledge elements.

## *Lessons learned*

### **Mobilise and apply**

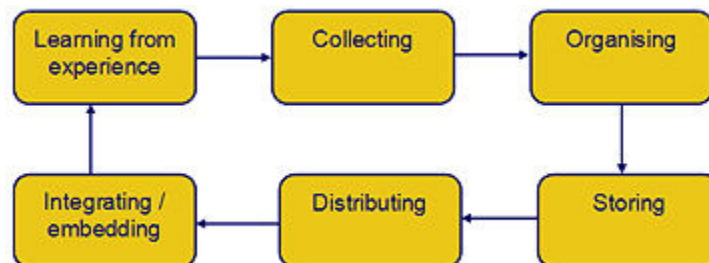
The corporate memory stores information for re-use. This then enables colleagues to mobilise that information and apply it (creating new knowledge applications) in new projects or programmes. As these new activities become more mature, they can benefit greatly from applying the lessons learned cycle as illustrated in the figure below.

### **Lessons learned cycle**

Learning from experience happens all of the time as witnessed by the IAEA inspector and the bungee jump instructor. The difference when applying a lessons learned cycle is that such lessons must be collected. The US Army has a famous Centre for Army Lessons Learned and we have come across US public sector bodies that have had their lessons learned programmes audited. After Action Reviews, Significant Milestone reviews and Post Project Reviews are some amongst several instruments designed to help capture lessons.

### **Influence behaviour**

When lessons are captured, they need to be organised in such a way as to optimise their accessibility. Stored somewhere and made visible through the corporate memory. These lessons should be proactively distributed to those members of the organisations who would find them relevant and of course, finally, such lessons need to influence behaviour.



## *Learning cycle*

### **Corporate Learning Cycle**

As you can see in the figure below the corporate memory and the lessons learned cycle are two components of a Corporate Learning Cycle. They generate and store information and knowledge for colleagues to reuse. Another instrument used in the cycle is storytelling, as used effectively in the two safety focused industries illustrated here.

### **Contribution to safety**

However, what are the lessons from those stories? How can others avoid the same experiences? How can the lessons we learn today influence the professional behaviour of others, perhaps two or more generations in the future? These are the challenges both the nuclear and air traffic control industries face today. The effective management of knowledge can make a contribution to safety today and tomorrow.

## Interaction

How the two sides of the learning cycle interact has been described in this [short article](#).



### More information

To get more details on how DNV-CIBIT can support your company or organisation, please contact Senior Consultant [Eelco Kruizinga](#) by e-mail or telephone +31-30-2308900.