



## A message from CANDU Owners Group President Fred Dermarkar

# Lessons from the road

## *Reflections from IAEA and WANO:*

## *Events from the past and lessons for the future*

This year marks a coincidence of milestone anniversaries for the two most significant nuclear events in history. The 5<sup>th</sup> anniversary of Fukushima and the 30<sup>th</sup> anniversary of Chernobyl occur in March and April, respectively.

The IAEA held a conference in Vienna focussed on safety culture to reflect upon what we've learned since Chernobyl. In Tokyo, WANO looked at lessons learned, and actions taken, as a result of Fukushima.

In my role as COG president, I was fortunate to participate in both, and perhaps equally, fortunate for the long airplane rides back that gave me time to reflect on them. By happenstance, some of the lessons I took away were from the airline industry, which, like the nuclear industry, lives in the shadow of low incidence, high consequence events. Here are a few of my in-flight thoughts, from the time well-spent with my international colleagues.

### **1. We want to control everything but we can't**

As engineers, perhaps we are more prone even than other humans to try to control everything in our life and certainly in our nuclear plants. The reality is we cannot. The sooner we accept this and start to instead, prepare ourselves to react to the unexpected, the more resilient we will become.

### **2. We cannot get too enamoured with our own brilliance**

Over the past two decades, plant performance has continued to improve and we have seen a steady decline in the rate of events. However, improved performance is not a full inoculation from high consequence events, which can come from activities not previously considered. While we can and should celebrate success because it is a strong motivation to strive for further success; we must be careful to avoid complacency.

### **3. Hear evil, see evil**

I don't mean this literally but it is a good way to remember it isn't what we don't know that hurts us most often. It is what we fail to see and hear. In the busy work of running nuclear plants, it is easy to get distracted by the problem of the day. Often the things that get us into significant trouble are the ones we never expected yet in retrospect, when we look back, there were signs if we had been able to see and hear them. A healthy safety culture is founded on trust and a questioning attitude. It helps us to see the shadows and to hear the whispers.

### **4. Nuclear energy is an eco-system with many parts**

A systemic view of human and organizational factors (HOF) is important across all organizations interacting with nuclear energy. This includes regulators, suppliers, labour unions and other stakeholders. Each is an input to the safety eco-system and, it is a cliché for a reason -- we are only as strong as the weakest link. Following Chernobyl, the focus was on utilities; after Fukushima, it was the regulators. Today, we have a

better understanding of the important role of suppliers, as is illustrated throughout this issue of COGNIZANT.

And here we end back on the airplane that safely delivered me home. In the years leading up to 1997, the airline industry's safety record was steady and acceptable. And yet, between 1998 and 2007, a concerted effort of all relevant stakeholders working together resulted in an 83 per cent reduction of fatalities through a systematic and collaborative approach.

This is what we must strive for: safe landings regardless of weather conditions or unforeseen events. We must have procedures to reduce the likelihood of these events and, at the same time, encourage a culture of knowledge and a bias toward action that allows us to avert or recover from them should they appear.

## Working together for nuclear safety



CANDU Owners Group recently signed a practical agreement with the International Atomic Energy Agency (IAEA) confirming cooperation between the two organizations on matters of nuclear safety including COG members' participation in meetings, workshops and other activities of common interest, information exchange and mutual technical support. The technical support also reflects the participation of COG members in activities such as the Operational Safety Review Team (OSART) and Safety Aspects of Long-Term Operation (SALTO). COG President Fred Dermarkar, (above with Greg Rzentkowski, director of the IAEA Division of Nuclear Installation Safety) says the agreement is an example of how collaboration can bring diverse stakeholders together to achieve positive impacts for nuclear safety.