

Tom Mitchell

President and CEO

Ontario Power Generation

**RESPONDING TO CHANGING PUBLIC
EXPECTATIONS OF NUCLEAR SAFETY**

**to the
Canadian Nuclear Association**

March 1, 2013

Ottawa, Ontario

Subject to change upon delivery

Tom Mitchell
President and CEO
Ontario Power Generation
Canadian Nuclear Association
Ottawa, Ontario
March 1, 2013

RESPONDING TO CHANGING PUBLIC EXPECTATIONS OF NUCLEAR SAFETY

It's been almost two years since Japan experienced a series of earthquake-induced tsunamis that wreaked havoc across that country.

One of the places most impacted was the Fukushima nuclear plant.

Last year at this conference, I argued that the nuclear industry will emerge from Fukushima a better and stronger industry. I believe that's happening:

Fukushima Response Two Years Later

Since the event took place, many of us in the industry have added new equipment and developed new procedures to strengthen our safety margins.

We have also:

- participated in extensive drill-exercises to test and improve our emergency response;
- completed major engineering assessments of our facilities – including structural, seismic and high wind assessments; and
- joined others in the industry to share ideas, solutions and expertise.

Many of us have also toured the Fukushima site to see what happened first hand.

I myself was at Fukushima last November – along with other OPG nuclear executives.

What Fukushima Teaches Us

All of us who go to Fukushima come back different.

At my visit, I was struck by how much still needs to be done -- even after two years.

Because the tsunami was so destructive, it will take decades for the area to fully recover. That's despite the impressive efforts of over 12,000 people working to clean-up the site.

There's also the human impact of the disaster. Between 150,000 and 210,000 people in the Fukushima region alone had to be evacuated. To this day, many of these people are still living in temporary housing.

When I think of these things, I realize that Fukushima is one of those watershed events that not only significantly changes the way *our industry* looks at nuclear safety.

Equally important, it's also changing how *the public* looks at nuclear safety.

And that's what I want to explore today -- the impact of Fukushima not just on us, but on them -- the people and the public we serve.

Changing Public Expectations

Because of Fukushima, I believe we're going to see two things happen. In fact, I believe they're happening already.

First, people will become increasingly intolerant of the prospect of taking shelter or being evacuated from their homes in the event of a nuclear plant emergency.

They've seen the disruption caused by Fukushima.

They've seen the impact of events like Hurricanes Sandy and Katrina.

They've watched and read about the forest fires in California and Alberta, and the BP oil spill in the Gulf of Mexico.

They want no part of it.

This is often how they feel regardless of a technology's public safety performance.

No one died from a radiation release at Fukushima.

In contrast, thousands of Japanese died from the earthquake and the tsunamis.

But try telling that to the people evacuated from their homes.

It's cold comfort.

They are angry and frustrated over the disruption the event has caused their lives.

Who can blame them?

As a result, people want assurance that nothing like this will ever happen to them from a technology. It's now becoming part of the social licence to operate.

The second thing I believe is happening is that people's risk tolerance has narrowed.

They are no longer as willing to accept the view that because something is unlikely to happen it won't happen.

The Tsunami that hit Fukushima was not expected to happen.

Yet it happened.

People sometimes call this a “Black Swan.”

Many of you know the expression...It’s a highly improbable, unpredictable event that produces massive consequences.

The fall of the Soviet Union was a “Black Swan.”

So was the rise of the internet...and 9/11.

No one expected these things to happen at the time. But they did.

So instead of asking ourselves how likely it is that something will happen, the public, I believe, wants us to ask ourselves CAN it happen.

And if it can happen, we have to assume it WILL happen...and then take the right measures to control the outcome.

Anything less won’t fly. (No pun intended.)

What Fukushima has done, then, is reveal a fundamental truth about the interaction of people with technology.

And that truth is this.

People’s expectation of technology changes over time. It’s not static.

What once was acceptable can quickly become unpopular and even intolerable.

When I was young, above ground testing of atomic weapons was not uncommon. Today, no one does it.

That’s an extreme example, but it serves to underscore today’s changing expectations.

The growing discomfort with evacuation or quarantine ...the awareness that we must guard against not just the **probability** of something happening, but the mere **possibility** of it happening...These are both examples of evolving public perception with respect to nuclear safety.

And it’s not just the nuclear industry that has experienced this phenomenon.

It’s happened to the automobile industry (seat belts; air bags; mass recalls)...

It's happened in the food industry (labelling of contents)...

It's obviously happened with tobacco... and with the steam engine, which I mentioned last year here at this conference....

...and in the gas industry. The 2010 gas plant explosion in Middletown, Connecticut had a direct impact on public opinion in Ontario and helped influence the debate on where to site gas plants in the province.

It's also happening in the airline industry as we're seeing in the case of Boeing's Dreamliner passenger jet...

This is a highly sophisticated aircraft.

Each one is priced at \$200 million.

It's never caused a fatality.

It's never been involved in a disaster.

And yet since mid-January, all 50 planes worldwide have been grounded until they can fix problems with the plane's batteries.

I don't think this would have happened 30 or 40 years ago.

But as I said, people's expectations change.

Standards become more demanding.

And industry and technology have to adjust.

The Nuclear Industry Has the Capability to Adapt to Changing Public Expectations

And this is where I think the nuclear industry does a good job.

We are a mature industry with a mature technology.

We have had experience adjusting to changing expectations.

For example, we have had to totally rethink our assumptions in the wake of earlier nuclear events.

These include the big events like Three Mile Island and Chernobyl; and also others -- like the Browns Ferry fire; and Davis Besse.

Not to mention September 11, when the terrorists flew right over the Indian Point Nuclear plant on their way to the Twin Towers – prompting a huge reassessment of security safeguards.

Each one of those incidents – and more – has led us as an industry to adopt new practices...apply new technologies...establish new codes and standards...analyze new hazards...and erect new defence barriers to enhance the safety and security of our plants.

So when the time came to respond to Fukushima we could draw on a wealth of experience gained from other events.

I believe this made us more flexible and able to adjust quickly.

But it did more. Our past experiences also made us humble. They made us aware that we did not have all the answers. That we were not perfect, and that we could make mistakes.

Remember “Atoms for Peace” and nuclear power being “Too cheap to meter?”

In the early days of our industry, almost everyone was caught up in the promise of this new technology.

But the honeymoon didn’t last. It rarely does with technology – any technology.

TMI taught us, and Chernobyl confirmed, that we could no longer take people’s trust and confidence for granted.

We had to earn confidence – every day. And we must continue to earn it.

Because in today’s post-Fukushima world, people’s expectations will continue to change.

Earning Public Confidence

So how do we do that? How do we earn that confidence?

The answer lies in how seriously we take people’s concerns....

...in how we react to criticism and opposition....

...in how we allow people to question us and how honestly we answer those questions...

...and in what processes we use to engage, inform and listen to the public and community.

It’s all these things...and more.

And this is where I think the Canadian nuclear licensing process is a tremendous benefit to our industry.

Unlike the U.S. system, it does not require interveners to be under oath or subject to cross examination.

This is a huge inducement for people to come forward and freely and openly express their views.

OPG recently went through two such hearings – one in March 2011 for our proposed new build initiative and the other this past December.

We listened, and we learned a lot about what the community thought of us, about our industry and about nuclear safety.

The whole experience helped build mutual trust and respect and kept us aware of what people expect of us.

But it's more than just listening to people.

We also have to **hear** them....And take what they say seriously.

It's not always easy to hear criticism.

The tendency is to dismiss it or be defensive.

But a mature industry – like a mature person – can handle it.

Our industry has had its share of criticism for sure.

But I think one of the things that defines us (and we've learned this the hard way over the years) is our ability to absorb that criticism – to take a cold hard look at ourselves -- and admit when we need to change.

Self- criticism and self questioning is something our industry does very well, I think.

We need to keep doing it and do it frequently if we want to keep pace with changing public attitudes.

The other thing that's going to earn us public confidence – aside from facing up to the issues that concern people -- is to actually **do something** about these issues.

In the two years since Fukushima, the Canadian nuclear industry has done a huge amount of work to improve safety margins at our plants and facilities.

In this context, I was happy to learn that Ken Ellis of Bruce Power has recently been appointed to WANO as its new managing director. Anyone who knows Ken, knows that his appointment represents a major contribution to nuclear safety in the post-Fukushima world.

I also want to mention Don MacKinnon, president of the Power Workers' Union. Don has been a passionate advocate for nuclear safety throughout his career. I'm happy to say he was recently – and deservedly -- named to the Order of Ontario, the highest honour in the province.

I think we're so very fortunate in Canada to have people of this calibre in our industry.

Meanwhile, on the regulatory side, the CNSC has launched many important initiatives. Go on its website and look at its Fukushima "Timeline of Events and Actions Taken" and you'll see what I mean.

Yes, we still have more to do as an industry, but we have acted quickly on Fukushima.

And I would argue that we must always act quickly when confronted with the need to change.

Because public expectations are not static.

They're dynamic.

They're fluid.

And we have to be ready to respond to them as they emerge.

If we continue to do these things:

- listen to people...in a setting that encourages openness and transparency;
- acknowledge their valid concerns...
- recognize our own flaws and not get defensive,
- take action to address the issues at hand; and above all
- understand that the expectations people have of us will always change...

...then we are on the right track to maintaining and strengthening the confidence people have in our industry and its technology.

These are the hallmarks of a mature industry, tested -- and at times chastened -- by experience.

But I think they can help many newer industries as well.

This includes alternative energies like solar, wind and shale gas -- which also rely on a high degree of public acceptance.

There comes a time for all technologies when public enthusiasm wanes and the bloom goes off the rose.

When that happens, look to the Canadian nuclear industry for positive evidence on how to restore, maintain and continue to improve confidence.

A final area where we can enhance public confidence in our industry is in emergency preparedness.

Our industry works with many players in developing emergency response plans to address a potential event – however unlikely that may be.

A good example of this was the Huron Challenge – Trillium Resolve drill last Fall, involving Bruce Power, Emergency Management Ontario and others.

Working with governments and others, we can leverage this expertise to strengthen nuclear emergency planning -- ensuring that it is sound, practical and scientifically up-to-date and uses the lessons learned from Fukushima.

Conclusion

I will conclude with an observation.

A few weeks ago someone showed me a photograph of the executive management team at Ontario Hydro, OPG's predecessor. The picture was taken around 1950.

The executives were all men...all white...and almost all of them were smoking.

When I first saw it, I laughed. Not out of disrespect, but because I knew that today you would never see such a photo.

A photo of OPG's management team today would show men as well as women, people of color and diversity, and no one – no one -- would be smoking. And I think that's true for many other companies as well.

That's how much people's tastes have changed. What was acceptable and natural for people 60 or 70 years ago is totally unacceptable today.

But here's the kicker...

What are people going to say when they see similar pictures of us 50-60 years from now? What's going to make them laugh?

- The fact that no one has a visible tattoo or a body-piercing?
- That we're all wearing suits?
- That many of us do not have perfect features – which by that time may be commonplace through DNA modification?
- Or that there aren't MORE people smoking – because as is well known, in 2050 they invented a “safe cigarette” and people started lighting up again?

The fact is, we don't know what people will find funny or odd about us in the future.

And that's the point. Only one thing is certain.

What's considered the norm now will definitely NOT be considered the norm then.

Public tastes and expectations will change. We just don't know how they will change.

Anything is possible.

Which is why it is so important:

- to keep listening to our publics;
- to keep being aware of their concerns;
- to stay flexible and prepared ;
- to be humble and continue to acknowledge our flaws.

And above all, to be ready to act, adapt and change – as we have so often done before.

If we do this, we will continue to find practical and effective solutions to meet society's expectations of us...

We will continue to operate in a manner that ensures the safety, security and health of the people we serve.

And we will remain a viable, valuable and lasting contributor -- in a world of constant change, where anything can happen...and often does.

Thank you.