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6 June 2011

Company Announcements Office  
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### **Letter to Shareholders – Uranium Market Update**

The “Letter to Shareholders – Uranium Market Update” has been re-released to correct website link errors.

Yours faithfully

A handwritten signature in black ink that reads "Donald Stephens".

Donald Stephens  
Company Secretary

*For further information please contact either the Company Secretary or the Managing Director, Greg Hall, at [info@toroenergy.com.au](mailto:info@toroenergy.com.au)*



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Dear Toro Energy shareholder,

## **NUCLEAR ENERGY AND THE GLOBAL URANIUM MARKET POST FUKUSHIMA**

I write to you to provide an update to Toro Energy's view of the impact on the nuclear power industry and global uranium market caused by the Japanese earthquake and tsunami, and the consequential Fukushima nuclear plant accident. The following is a brief summary (updated 30 May) from the World Nuclear Association website, of the accident:

- **Following a major earthquake, a 14-metre tsunami disabled the power supply of three Fukushima Daiichi reactors, interrupting cooling and hence causing a nuclear accident on 11 March.**
- **The accident was made worse by used fuel storage at a fourth reactor losing water and overheating.**
- **The accident has been provisionally rated 7 on the INES scale, due to the high radioactive releases in the first few days. All four reactors are written off - 2719 MWe net.**
- **After two weeks the three reactors (units 1-3) were stable with active intervention, but still not with proper cooling re-established for removal of decay heat. Achievement of 'cold shutdown' is not expected for some months.**
- **Apart from cooling, the basic ongoing task is to prevent release of radioactive materials.**

### **Japan Earthquake, Tsunami and the Fukushima Nuclear Plant Accident**

Like the Toro Energy Directors and staff, I am sure you have followed with a sense of horror and deep sorrow the events which unfolded in Japan following the recent earthquake and tsunami. This was an unbelievable tragedy for the people of Japan, and will impact both the people affected and their country for some time to come.

While the impact of the tsunami was clearly evident through the incredible film footage that emerged, it is hard to comprehend the forces involved in an earthquake that moved the whole north eastern part of Honshu Island nearly 3 metres to the east, and dropped the coastline in this area by half a metre. This is what is difficult to understand - imagine a whole land mass moving 2.5 to 3 metres over a three minute period. This is what the Government and the people of Japan had to deal with.

Along with the immense loss of life and homes, there was significant damage to major infrastructure, industry and essential services. The subsequent event which captured headlines in Australia, and is related to the industry in which Toro operates, was the impact on the Fukushima nuclear plant.

The reactors at Fukushima initially survived one of the most severe earthquakes the world has ever experienced – they went, as was intended in such a circumstance - into automatic shut down as soon as the earthquake hit. Back-up diesel power generation was triggered immediately to maintain the core cooling systems. Their cores and cooling systems initially contained the situation and after approximately one hour cooling, the cores would likely have been at around 2% thermal power and still safely cooling.

The tsunami caused by the earthquake arrived at the east coast of Japan approximately one hour after the earthquake. Unfortunately, while the reactor sites were 10 to 12 metres above sea level, and had a sea wall designed to withstand a tsunami of up to around 6 metres, the wave which hit them was estimated at 14 metres in height (23 metres maximum amplitude at the point of origin), swamping and rendering the back-up generation and the cooling systems, inoperable.

It was therefore a sequence of extraordinary forces unleashed by an unprecedented natural disaster which caused the accident at the reactors, not any operating failure, human error or design fault of the reactors themselves.

The lack of reactor core cooling lasted around 10 hours before additional generators and pumps were flown in. Although detailed investigations will occur in the future, it was likely that during this time or soon after, the initial meltdown of the fuel core and fuel cladding occurred, possibly generating hydrogen which, once released into the building enclosures around the containments, caused the highly visible explosions. Hydrogen was also likely released from a spent fuel pool in the fourth reactor building. From this time on, urgent additional piping and pumping of seawater was required to try and maintain the cooling of the reactor cores, with initially only partial success. Gas release was necessary to maintain safe reactor cooling and this, along with sea water and cooling water leaks, resulted in a release of some radiation.

After some months, the current situation is more stable, but still serious, with evidence emerging of core meltdown in three of the four reactors. Although there was some criticism of the operating company, TEPCO, and the Japanese Government over communications at the time, both the International Atomic Energy Agency (IAEA) and the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) have stated that the actions taken immediately following the incident were correct.

In particular, the immediate precautionary 20 km evacuation zone was absolutely the correct thing to do, and the IAEA preliminary summary of the accident is that “to date no health effects have been reported in any person as a result of radiation exposure from the nuclear accident”. It is now believed that no member of the public was exposed to any harmful levels of radiation. This action, which provided for some media and anti-nuclear groups, plenty of sensationalist film footage of precautionary radiation checks on civilians, was a lesson learned from the much bigger and more hazardous Chernobyl accident.

In summary on Fukushima, a 40 year old nuclear plant essentially survived Japan’s worst recorded earthquake, and although three core meltdowns are likely to have occurred, there has been no exposure of their fuel outside the pressure and containment vessels.

Some significant releases of radiation have occurred, but due to correct actions, these dispersed or diluted and are not expected to impact the health of the broader public. This is not to understate the situation, Fukushima remains a significant accident. It has had some effect on public confidence in nuclear energy, and will provide some very important lessons regarding nuclear power reactor and plant design and layout. The lessons learnt from this incident will make nuclear power even safer than its already impressive record would attest.

## **Response by the Nuclear Power industry**

Since the unfolding events at Fukushima, most of the world’s nuclear oversight groups have ordered safety evaluations of their operating and planned nuclear plants. This is a sensible precaution, and one which occurs in any industry. An airline accident will generate information on its cause, which in turn, is provided to all operators of that aircraft type to implement any safety improvements.

In the nuclear power industry, the World Association of Nuclear Operators (WANO) set up after the Chernobyl accident, provides a unique forum for unreserved sharing of operating lessons within nuclear plants. WANO has an internal commission currently reviewing the lessons to be learned from Fukushima and will share these at a general meeting of WANO members in October. The IAEA also ensures rapid communication of safety learning and improvements throughout the industry, and is undertaking its own review of the Fukushima accident.

Since the event, the European Union has requested all plants operating in Europe to be “stress tested” for likely similar events. All 104 operating nuclear plants in the United States, along with the one plant under construction and a further nine planned, have been reviewed by the Nuclear Regulatory Commission (NRC) and found to be safe for any potential and likely large scale natural disasters. China, India, South Korea and Russia, which together make up 70% of plants under construction and being planned, have reviewed their safety planning, and re-committed to expansion of the nuclear industry.

There has been a greater impact in Europe, where the German Government has introduced a new nuclear shutdown program, whereby all 17 reactors will be phased out by 2022. Along with this, Switzerland has announced that it will phase out its three nuclear power reactors at the end of their planned operating times (2030’s). Japan has experienced a significant shutdown of around 20 reactors out of 55. While four reactors at the Fukushima plant are likely to be permanently shut, others will take some time to get back on line. Hence there is some immediate impact on short term uranium demand.

While many countries are reviewing their policies on energy generation, including nuclear as part of that mix, most are restating that nuclear remains a pillar of their energy generation strategy. Even new nuclear countries such as UAE, Turkey and Vietnam are continuing their planning and build programs, with Saudi Arabia recently indicating it is planning to build 16 new reactors.

The European Union in particular is concerned that an overly zealous phase out of Germany’s safely operating nuclear fleet will impact negatively the strongest economy in Europe, especially if the Green Party has its way and prevents electricity purchases across the border from France. Of course France, with its nuclear fleet generating 80% of the country’s electricity, provides power to many countries in Europe.

The fast –tracked shut down in Germany is likely to have implication for carbon pricing in Europe and have negative cascading effects on the other economies in the Eurozone as well. Most commentators believe Germany’s carbon pollution reduction targets will be impossible to meet as coal and gas consumption rises to fill the energy gap created by the nuclear shut down.

The lessons learned from the Fukushima nuclear accident will be applied to existing and future planned nuclear installations where applicable. In fact, newer reactor and plant designs have already incorporated many of the features required to ensure avoidance of a similar incident. Emergency cooling systems which don’t rely on power or backup systems are already designed. These systems are designed as “walk away”, in other words all operators could leave the plant and the reactors would continue to safely cool down.

## **Global Uranium Market**

The forces driving the global growth of nuclear energy are the same now as they were before this terrible natural disaster in Japan. Energy demand and the desire for internal country energy security from a low-carbon, base-load supply will mean continued growth in the industry.

In the short term, demand for uranium from currently operational nuclear plants will fall slightly due to potential excess uranium inventories from the current shutdowns. Future demand is forecast to remain positive, as evidenced by the uranium prices re-bounding after initial market reactions. The spot price for uranium is currently at US\$57.50 per lb  $U_3O_8$ , still some 37% higher than its 'lows' last year. In particular, the long term price of around US\$68-70 per lb  $U_3O_8$  has eased only around 4-5% post Fukushima, and is still 20% higher than its level last year.

A check of reactor numbers under construction or planned just prior to Fukushima, and those listed now, show zero reactors being halted out of 61 under construction, and an estimate of 15 to 20 out of 158 planned reactors being potentially halted or delayed. Planned estimates still include the lowest build rate scenario for Chinese reactors, which they have been surpassing in recent years.

While there may be a short term (one to two years) impact on uranium demand, there may be a bigger impact on uranium supply. The new uranium mines being approved, advanced or planned will require financing, and while nuclear plant finance generally comes from a combination of Government and major nuclear corporation sources, the funding for uranium mines generally comes from the equities markets. It is likely that it will take longer to source financing for new uranium mines, which may exacerbate the expected uranium supply shortages in coming years.

In summary, Toro expects the uranium market to be volatile and perhaps a little suppressed in the short term but believes fundamental market and social forces will continue to drive the market higher in the medium to longer term.

### **Toro Energy's Wiluna Project – Western Australia**

It is this evidence for ongoing medium term uranium demand that continues to drive Toro Energy to advance its Wiluna uranium project in Western Australia, and to explore for and source other potential uranium projects. Toro has played an active role in work by Australian companies, through the Australian Uranium Association, in the development of a global stewardship network for uranium. We take seriously our responsibilities under this framework, which encourages two-way discussions with customers about safety, environment, community and other important issues associated with the nuclear industry.

All participants in the industry need to work together to respond responsibly to the challenges ahead and to maintain public confidence in the industry's capacity to continue to contribute safely and efficiently to the energy needs of the world.

Toro is playing its part by implementing its plan to develop a safe and sustainable project in Western Australia. In this respect, early in March, your company submitted to the Western Australian and Federal Governments a draft of the documentation upon which they will make final decisions about the Wiluna project's environmental impact and hence its ability to proceed. A final public version of this document is expected to be released for public comment during the third quarter, subject to Government approval.

We continue to be the only uranium development company which has submitted this required documentation for a new Western Australian-based uranium project. Technical and evaluation work has been continuing, along with consolidation of additional potential resources. Toro will provide a Wiluna project update to the market shortly.

Soon after the Japanese natural disaster and the Fukushima events, Toro engaged in discussion with the industry and with media and market analysts, about the situation in Japan. We have also been in Wiluna, meeting community leaders and Traditional Owners to continue to seek local input to and support for the development of our project plans. I am pleased to advise that the response has continued to be very positive, despite the events in Japan.

While, for the time being, some people will feel nervous about nuclear energy, I am confident that your company is part of an expanding industry globally which can continue to grow safely, despite the current challenges. Your ongoing investment and support are greatly appreciated.

If you would like additional information on the Fukushima plant accident, we refer you to the following reliable websites:

World Nuclear Association	<a href="http://www.world-nuclear.org/">http://www.world-nuclear.org/</a>
ARPANSA	<a href="http://www.arpansa.gov.au/">http://www.arpansa.gov.au/</a>
IAEA	<a href="http://www.iaea.org/">http://www.iaea.org/</a>
Tepco	<a href="http://www.tepco.co.jp/en/index-e.html">http://www.tepco.co.jp/en/index-e.html</a>
Nuclear Energy Institute	<a href="http://www.nei.org/">http://www.nei.org/</a>

A handwritten signature in black ink, appearing to read "G. Hall", is positioned above the printed name and title.

**Greg Hall**  
**Managing Director**  
**Toro Energy Limited**