

## Nuclear Buzz

### SONGS. Closed. Forever. Sigh

By Andrea Jenetta, Publisher

While most of the global uranium gang was in Istanbul for the World Nuclear Fuel Market conference and the riots this week, the rest of us stayed at home to ponder what the future holds for nuclear energy in the U.S.

I'm specifically referring to Edison International's June 7 announcement that it is permanently closing subsidiary Southern California Edison's San Onofre plant.

It is 100% the right decision. Given the total uncertainty over how long it would take the Nuclear Regulatory Commission to (a) complete the safety review of SCE's Unit 2 startup plan; and (b) conduct public hearings related to the Atomic Licensing and Safety Board's irresponsible ruling in mid-May ([FCW #523, May 23](#)), I don't blame Edison management one bit.

"We have concluded that the continuing uncertainty about when or if SONGS might return to service was not good for our customers, our investors, or the need to plan for our region's long-term electricity needs," Chairman and CEO Ted Craver said in a statement.

And while waiting for NRC to do whatever it is the agency does, SCE would have had to continue to pay for replacement

### Canada's Mega Uranium, Rockgate Pool Resources

By Roger Murray, Global Correspondent

There has been a dearth of M&A activity in the uranium space during the U3O8 market's two-year doldrums.

But now two Canadian junior exploration firms, Mega Uranium (TSX:MGA) and Rockgate Capital (TSX:RGT), are combining forces to create a merged entity with investment assets worth some C\$12 million and cash balances of C\$22 million.

The new company will have a global portfolio of uranium projects in Australia, Africa, Canada and South America.

These include several at the feasibility/advanced exploration stage, notably MGA's Lake Maitland project in Western Australia and Ben Lomond project in Queensland, along with RGT's flagship Falea project in Mali ([see related article, p. X](#)).

In a joint June 6 announcement the two companies said "the merger will be completed by way of a three-cornered amalgamation, or a plan of arrangement, resulting in Rockgate becoming a wholly-owned subsidiary of Mega."

Although officially a merger, in effect MGA is acquiring RGT as it will have a 51% stake in the new firm, and the latter 49%.

Both firms have signed a binding letter of intent to create a diversified, global uranium company: RGT shareholders will receive 2.2 MGA shares for each RGT share held.

The tie-up values RGT at C\$0.25 per share, a 14% premium to RGT's closing price on June 5, the last trading day before the announcement, and a 36% premium to its 20-day volume-weighted average price for the period to that date.

There was an initial positive response by investors to news of the deal; MGA shares rose 13% to C\$0.13 on June 6, while RGT shares advanced by 9% to C\$0.24.

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power and plant maintenance—including almost \$300 an hour for NRC staff to do whatever it is they do.

The utility was also blunt about the risk of paying for the long-term repair costs for returning SONGS to full power operation without any certainty over the restart of Unit 2.

Whether the company or ratepayers bore those costs it was still a lot of money. Edison said it will record an estimated \$450-\$650 million pre-tax charge for the second quarter, because of the decision.

And sure, SCE will sue Mitsubishi, the supplier of the replacement steam generators, for damages and get a nice check from its insurers, but that's beside the point.

The obvious lack of leadership from U.S. nuclear regulators will not only cost 900 San Onofre employees their jobs this year but also further erode any investor and public confidence in nuclear energy—all without any real SAFETY basis.

The inability of NRC management to stay above the political fray in “the SONGS disaster” is glaringly obvious.

I mean, there are plants temporarily shut down in other parts of the U.S., but those states don't hold a candle to California when it comes to anti-nuclear sentiment. Does anyone really believe that an ASLB panel would make the same decision about a plant in Arkansas?


### Silver Lining?

While ranting about “the SONGS disaster” to the various members of my extensive, double-top secret scoop network I heard that NRC staff is going to appeal the ASLB decision by Friday, the deadline by which to file said appeal.

The reason: if left standing the decision sets a horrific precedent, one that clearly allows any anti anywhere in the country to request a public hearing on any 50.59 action or any confirmatory action letter, on the grounds that they constitute a *de facto* license amendment.

Should the rumor prove true, it would also be the 100% right decision.

As for Chairman Allison Macfarlane, I think her statement this week at the agency's annual nuclear fuel cycle conference about the need for a holistic approach to regulation and oversight is ironic. If anyone needs to take a holistic view, one that includes

 <b>EVOLUTION</b> <small>MARKETS</small>		<b>Uranium Prices</b> <b>Term: July 2013</b> <b>cob June 12, 2013</b>	
		BID	OFFER
U3O8 (physical)		\$39.50	\$40.50
U3O8 (financial)		\$39.50	\$40.50
UF6 (physical)		\$113.50	\$115.50

Source: Evolution Markets Inc. +1 914.323.0252  
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the consequences of politically charged decisions, it's Macfarlane, her fellow commissioners and the rest of NRC's executive management.

The agency's lumbering way of conducting itself, its insistence on blindly allowing known anti-nuclear groups to interfere with its mission, its lack of focus on the big, holistic picture, is getting in the way of timely resolution of REAL problems that have actual safety consequences.

Morover, the approach costs a sh\*tton, too, a factor that must be considered in this day and age when money doesn't grow on trees.

Lastly, if this doesn't wake up the industry to the fact that politics—POLITICS—is nuclear energy's only problem I don't know what will. I get that NEI didn't issue a statement on the closure because the related technical issues were site-specific, not generic.

Nevertheless, I do believe that a generic pattern is emerging at NRC, whereby decisions are made—or not—for political reasons, not technical or safety ones. That's a problem, my friends.

### If You Can't Beat 'Em...

Adam Schatzker has joined Uranium One as the executive vice president of strategy and business development.

Some of you may remember Schatzker as the investor analyst guy from RBC who always asked the right questions during producers' financial calls.

Since he clearly couldn't beat sense into the weird world of uranium—and God knows he tried, valiantly yet futility, as so many do—he decided to join us.

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## U-Mining Enthusiasm from Australian Resources Minister

By Roger Murray, Global Correspondent

The Australian federal government has come out with a policy pronouncement on uranium mining that is sure to delight Paladin Energy (ASX:PDN) managing director/CEO John Borshoff, for one.

Minister for Resources and Energy Gary Gray told an Australian Institute of Mining and Metallurgy (AusIMM) uranium conference in Darwin on June 11 that the country needed new yellowcake mines to help meet rapidly growing global demand.

“We need industry to commit to further development of new projects to ensure that our uranium production meets global demand,” Gray said, “particularly as demand for uranium is likely to surpass current supply.”

He added: “The demand for uranium worldwide will continue to grow and so should our production.”

The resources minister stressed that “the two fundamental drivers of nuclear power—namely energy demand from growing populations and the need to reduce greenhouse gas emissions—remain unchanged.”

According to Gray, Australia’s yellowcake production is forecast to increase by an average 17% per year, reaching nearly 21,000 tonnes U3O8 in 2019-20, depending on demand and other economic factors. Australia holds an estimated 40% of known world uranium reserves.

The federal government agreed two years ago to lift a ban on uranium exports to India, but a final deal to start selling Australian yellowcake to India “could be years away,” according to one local newspaper report.

### Incentives on the Way?

What was not clear from the policy announcement was how in practice the federal government can incentivize investment in new mines short of waving a magic wand over the currently low uranium spot price, which has slipped below \$40 per pound U3O8, its lowest level in five years.

On the fiscal side, the federal government has little scope to offer new tax incentives as the national budget is under pressure from

### Gillard Government in Trouble

By Roger Murray

One motivation for Resource Minister Gary Gray’s decision to go to Darwin and talk up uranium is the growing unpopularity of the ruling Labor party and Australia’s Prime Minister Julia Gillard.

The government faces a federal election in mid-September and so far this year most polls indicate it will lose power to the opposition Liberal/National coalition headed by Tony Abbott.

After largely avoiding the 2009 recession, Australia’s economic miracle shows signs of coming to an end, with slower growth in its key export market, China, and weaker commodity prices having sharply impacted the once booming mining sector.

The Australian central bank has begun reducing interest rates in a successful attempt to weaken the value of the Australian dollar, which has retreated from just over parity with the U.S. dollar in recent months.

The high Aussie dollar has devastated non-mining exports, especially manufacturing, which have become increasingly uncompetitive globally, resulting in growing layoffs and rising unemployment.

Just recently, General Motors announced it would close its plant in Victoria, which has produced Holden automobiles since the 1930s.

Gillard herself is unpopular with voters and there are continued rumors of further attempts by Labor dissidents to replace her with former party leader and prime minister Kevin Rudd, whom polls say might steer the party to victory in September.

A few new uranium mines under development would help give her government something positive to say about the economy and jobs.

lower than expected tax inflows from its mining resource tax, paid mainly by iron ore exporters, that was introduced three years ago.

Gray made no promise of any help in this direction.

On the government side, he said the House of Representatives Standing Committee on Industry and Resources had started “important politically bi-partisan” work on recommendations on the growth of the industry.

These addressed skills, the elevation of uranium mining to the Council of Australian Governments, indigenous engagement, international safeguards and worker safety.

## Developments Lag

Currently, the only yellowcake mine at the development stage is the relatively small Wiluna project of Toro Energy (ASX: TOE). This has environmental clearance but construction has yet to start, pending the raising of project finance and a final investment decision.

However, Dundee Capital Markets (DCM) announced on June 11 that it was adding the firm to their mineral exploration watch list with a BUY rating in the speculative risk category and with no target price at this stage.

DCM described Toro as “an advanced uranium developer focused on its 100%-owned Wiluna project in Western Australia. Toro is well positioned to become Australia’s next uranium producer, having received both state and federal (government) approvals.”

Although the Queensland state government announced it was ending its moratorium on uranium mining last year, no mining developments are yet underway.

Laramide Resources (TSX:LAM) has yet to commit to a mine development for its flagship Westmoreland project.

This has an NI 43-101 compliant resource of 52 million pounds (23,587 tonnes) U<sub>3</sub>O<sub>8</sub>, including 36 million pounds (16,329 tonnes), grading an average of 0.089% yellowcake.

Meanwhile, in a potentially worrying development, Paladin disclosed on June 5 that Swiss Bank UBS had ceased to be a substantial shareholder.

## Two States to Work Together

In a positive development unconnected to Gray’s policy pronouncements, a memorandum of understanding to support mineral exploration and mining has been signed between the New South Wales and South Australia state governments.

This was announced at the AusIMM conference by the respective resource ministers, Chris Hartcher and Tom Koutsantonis.

Hartcher commented: “Far-western NSW contains mineral-rich areas with proven potential for iron, base metals and mineral sands, and strong potential for uranium deposits. Both states have much to gain from an MoU which will encourage cooperation between agencies in respect of infrastructure access and development, policies on best practice regulation and planning processes.”

For his part, Koutsantonis said: “We don’t want a state border to become an impediment to developing an asset. This MoU aims to eliminate cross-border obstacles so that we can ensure both states reach the full potential offered by our mineral endowment.”

Uranium exploration and mining is permitted in South Australia, while uranium exploration alone is currently permitted in New South Wales; there has been no indication when it may rescind the present ban on yellowcake mining. However, Hartcher’s comments would indicate this may be moving up the ruling Labor Party’s agenda in Sydney. ●

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## U.K. Energy Bill Is Now Fact

*By Roger Murray, Global Correspondent*

The Conservative/Liberal Democrat coalition government’s Energy Bill cleared its third reading stage in the House of Commons last week, with an amendment to require the setting of a 2030 power sector decarbonization target narrowly defeated.

The amendment had been jointly tabled by Conservative MP Tim Yeo—who has temporarily stepped down following accusations of impropriety as chairman of the influential Energy and Climate Change Select Committee—and an opposition Labor MP.

It was rejected by 290 votes to 263 in the June 4 vote, with only eight MPs voting against the bill outright. This will have its second reading in the House of Lords upper house on June 18, where a further attempt to insert a 2030 decarbonization target may be made.

But House of Commons approval represents an important milestone in incentivizing new build nuclear as the bill, a complex law that has taken nearly three years to finalize, will determine the shape of the U.K.’s electricity generation for decades to come.

Its centerpiece is a major overhaul of existing energy subsidies. The current premium for renewable generation will be replaced by a system of contracts for difference and a capacity market, under which generators will enter into long-term supply

arrangements to produce quantities of energy for a price that is likely to be above standard wholesale prices.

Crucial to the success of the regime is the strike price through which nuclear power and renewable generators are guaranteed a return for their investment.

These strike prices have yet to be set, although they were supposed to have been published last year, negotiation was severely delayed by a still unresolved stand-off between the administration and EDF Energy over what price will apply to power produced by Hinkley Point C (*FCW #524, June 6*).

The bill's successful passage through the House of Commons will not in itself resolve the strike price impasse, but it means that the greater certainty demanded by EDF Energy as a pre-condition for a positive investment decision for HPC has now been provided.

Some administration officials are now sounding more optimistic that a Hinkley C strike price can be agreed with EDF Energy sooner rather than later.

### **Why A Decarbonization Target May Matter**

Although supporters of renewables were those campaigning most strongly for the insertion of a 2030 decarbonization target, its absence may also harm nuclear.

Businesses as well as greenies had backed setting a 2030 target as a way of stimulating investment in low carbon energy of all forms, including nuclear and renewables.

Under the amendment, electricity generators would have had to use more renewables, carbon capture/storage and nuclear power to reduce to reduce carbon emissions to almost zero.

The administration contended that a decision on the target should only be made in 2016—conveniently after the next election in 2015—when the U.K.'s overall trajectory towards its binding 2050 targets is considered.

Many Conservative MPs back Chancellor of the Exchequer (Finance Minister) George Osborne's call for a new "dash for gas," which they claim will be cheaper than either nuclear or renewables.

Yeo described the defeat of his amendment as a blow to clean energy supporters. He claimed that parliament had "missed an opportunity to provide more clarity for investors.... Unfortunately this could mean that urgently needed investment in our energy infrastructure will be slower and the risk of a capacity crisis [including electricity shortages] greater."

He added: "The continuing uncertainty that will result increases the perceived risk of investment and will therefore raise capital costs, meaning that consumers may ultimately pay more for the new power plants that need to be built."

### **Yeo Falls on His Sword**

However, Yeo's credibility has been damaged after he was covertly filmed by The Sunday Times in a sting investigation in which journalists posed as representatives of a fictional energy company seeking to hire his services.

The MP was also caught on camera as suggesting he had told a businessman employed by a firm with which Yeo is connected what to say to his committee at an appearance before it the previous month.

Yeo has denied coaching anyone, and maintains he acted "in accordance" with the MPs' code of conduct. But he referred himself to the Parliamentary standards commissioner, while being "absolutely confident" the watchdog would find he had not done anything wrong. Pending the outcome of that inquiry, he stepped down as select committee chairman on June 9.

One reason for this is the renewed focus on lawmakers' links with lobbyists, following several recent cases in which both Conservative and Labor parliamentarians appear to have solicited payments from companies. The government is promising to bring forward legislation in the coming weeks to tighten rules for MPs.

Yeo has also attracted criticism for close links with renewable energy firms which would stand to benefit most from the setting of a decarbonization target.

He is the chairman of two renewable firms and non-executive chairman of another two, while the MP and his wife Diane are sole directors of three more. ●

## SMRs Are the Next (Smaller, Simpler, Cheaper) Big Thing

By Will Davis, Contributing Reporter

If all of the indications given at the recent Platts small modular reactor conference in Washington, D.C., are to be believed, the SMR is not just the next important thing on the horizon for nuclear energy, it is *the* thing: SMRs are coming, in big numbers, whether deployed or not in the U.S., and the train will roll no matter who is on board.

According to Jonathan Hinze, a senior vice-president at Ux Consulting, potential customers for SMR plants are far more numerous than just a couple of utilities stateside.

Hinze said that the move toward distributed generation in the U.S. may help drive some SMR deployment, but that there are many nations that want to acquire a first-ever nuclear plant. For those countries that cannot afford, and cannot possibly use, a 1,000 MWe class nuclear plant, a 300 MWe modular plant is appealing.

Hinze and many other speakers at the May 29-30 conference noted that the SMR can be added to fossil fired generating plant sites to act as a replacement steam source when the original power source is shut down, either due to age or environmental consideration.

He emphasized that SMRs can and should be considered more competitive with natural gas fired and diesel peaker plants, and perhaps renewables.

### International Deployment Under Way

There's proof that he's right. SMR plants are right now being built in Russia for deployment on a mobile barge power plant. Argentina is working on an indigenous prototype.

South Korea has announced that its SMART SMR is the world's first licensed SMR plant. China National Nuclear Corp. has announced an initiative with Westinghouse to market SMR designs and manufacture its own evolved versions.

What's more, according to the Department of Energy's Edward McGinnis, "foreign governments and vendors tend to blur the distinction between private and government efforts and their overall goal is success."

### Federal SMR Funding: Players and Status

By Will Davis

The Energy Department's first SMR development award was made in November 2012 to a Babcock & Wilcox-led consortium for construction of mPower plants at Tennessee Valley Authority's Clinch River site.

Issued in March, the department's current funding opportunity targets designs that innovate in the areas of safety, operability, efficiency, economy, and security. Companies that will submit proposals by September include Westinghouse, Holtec and NuScale Power.

The total budget for the DOE program is \$452 million, in a cost sharing arrangement, although the actual amount allocated each year is subject to Congressional approval.

McGinnis was referring to the fact that while non-U.S. nuclear vendors may be privately owned, their governments are backing their export activities.

This means that the game is on, and clearly that U.S. companies have to move quickly in a "shrinking window of opportunity to compete," the Energy Department official warned.

Randy Beatty of Oak Ridge National Laboratories made the observation that any future SMR deployment here won't be only driven by economics.

Instead, other considerations such as "carbon free energy sourcing, maintaining an energy (fuel) supply diversity, and a desire to keep a seat at the technology table" would likely drive the short- to mid-term purchasing of SMR plants, said Beatty.

A key point hammered home by both speakers and commentators is that a robust SMR market has already developed overseas.

Over 22 nations have expressed interest in SMR plants for every sort of application, including process heat, military base power, desalination, and even integration with renewables.

The International Atomic Energy Agency's Mark Harper said that there are already 15 small to medium reactors (300-700 MWe) under construction around the world.

Hinze said SMRs could potentially be a \$25 billion per year global business, with as much as 5% of the world's total nuclear output from SMR plants by 2040.

Numbers provided by DOE's McGinnis underscored the SMR market potential. Between now and 2030, total U.S. generating capacity is projected to increase about 15%, while worldwide it will jump by 33%.

Given the costs of multi-year efforts for R&D, it's clear that time is of the essence for SMR vendors.

But the rush to deployment must be tempered with safety, cautioned Don Hoffman, president of Excel Services and conference moderator.

He noted that some nations might not wait for SMR designs to be licensed by the NRC, widely considered the gold-standard of nuclear regulation in the global market.

"Some countries might not see any need to wait for a best-of-the-best design, and might go with what is inexpensive, available quickly, and perhaps less safe," he observed.

The U.S. must move quickly to capitalize on the SMR market, to protect the interests of both U.S. vendors and nuclear plant safety, Hoffman said.

### Same Challenges As LWRs

John Kelley, another DOE official, noted that the SMR faces some of the same challenges as light water reactors: relatively high capital cost, reductions in projected increases in energy demand in some developed countries, low natural gas prices, licensing uncertainties, and post-Fukushima safety enhancements.

He pointed out that to overcome these barriers, it might be necessary for utilities to pool together, even with government, in risk sharing on early mover SMR projects.

He added that there are policy tools under review now within DOE, such as power purchase agreements, loan guarantees, production tax credits, and clean energy credits, but that no decisions have been made, nor has a framework for any been made public.

Kelly made it clear that SMR deployment in the U.S. may well hinge on federal clean energy policy in the future.

Deployment will also be affected by licensing. The Nuclear Regulatory Commission's Anna Bradford helped to dispel some of the anxiety by repeating several times during her presentation that the agency is "open to all ideas" about improving the licensing for SMR reactors, especially where cost reduction is involved.

For example, while NRC staff is leaning toward a separate license for each reactor of a multi-module SMR powered plant, instead of a license for the whole plant site itself, the agency "is open to discussion" on the topic.

In addition to standardized design, SMRs should utilize standardized licensing. Westinghouse's Kate Jackson said that "SMRs should be managed like a fleet."

mPower's Mowry said that it is imperative that each site "not start from scratch each and every time."

The remarks suggest vendors are seeking a fairly standardized licensing path not just for the reactors and plants themselves, but even for general siting criteria like the location of the emergency planning zone. ●

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## McGough: NuScale SMR Is 'Triple Crown of Nuclear Safety'

By Will Davis, Contributing Reporter

*During the Platts conference on small modular reactors in late May, Fuel Cycle Week had a chance to catch up with Mike McGough, Chief Commercial Officer of NuScale Power. NuScale is one of the four vendors that the Energy Department's Edward McGinnis described as "credible vendors" for near term SMR construction and deployment.*

**FCW: The Nuclear Regulatory Commission's Desk Guide, for whatever reason, doesn't show any date range at all for your project. Where is NuScale in the certification process with NRC?**

**Mike McGough:** We're planning to apply for our design certification in the third quarter of 2015; if the process takes the expected amount of time, which is about 39 months, then we would expect the design certification in October 2018. We notified the NRC of our planned DCA submittal date in February.

NuScale expects to make a COLA submittal (combined construction and operating license application) in January 2016, which with another 39 months for approval would give receipt of the actual COL in April 2019.

**Your website describes the planned production of numerous components "in house," or by contracted facilities. Where are you in determining that process?**

**McGough:** We're having discussions about our supply chain with, for example, Korea Nuclear Fuels for some preliminary design work. We're in discussion with equity participants.

Companies who could make modules could be Electric Boat, Precision Custom Components or Huntington Ingalls Shipbuilding. We have an agreement with Dresser on the secondary plant turbine work, and with Curtiss-Wright on the CRDMs (control rod drive mechanisms).

We have a reasonable line of sight to parties interested in our first six to eight projects, but no firm orders are expected for several years. As these orders come into better focus, our supply chain arrangements for the equipment required will also firm up. We will be making some announcements about these plans in a month or two.

**Your design includes the refueling of reactor modules while other adjacent modules are on line. Do you expect any licensing problems due to lifting over or near operating reactor modules? What about exposure to workers doing the refueling and ALARA considerations?**

**McGough:** The lifting of the equipment is adjacent to, but not over, operating modules, and with the plant completed and operational, is done entirely underwater so that there's no overhead impact threat, and no free fall threat if something did drop (since it's already in water.) All lifting operations will be performed with single-failure-proof crane equipment which is being designed by Kone Cranes.

As to the exposure, the shield blocks on top of operating modules, and the 11 million gallons of water in the common pool provide considerable shielding. The shield blocks, by the way, don't just exclude foreign matter, but also provide thermal shielding.

**What did Fluor's purchase of NuScale bring to the table that NuScale didn't have before?**

**McGough:** (Laughs) Everything! No, actually NuScale had or has great technical people, like Dr. Jose Reyes, who originated the technology, and great people to work on licensing, but had no EPC (engineering, procurement, construction) coverage. So the collaboration brings Fluor's many years of experience in that field into the mix, in house.

Of course, customers would be strongly advantaged to use Fluor as the EPC contractor even though they won't be obligated to do so if they purchase a NuScale SMR. Although the benefits if they

do use Fluor are obvious, since with Fluor's intimate involvement in the design and construction planning, the whole project would be effectively under one corporate banner.

**What resources in Fluor have been diverted to, or dedicated to, the NuScale SMR effort?**

**McGough:** Fluor's nuclear AE (architect-engineer) group has been dedicated to the NuScale effort, to create an integral design and cost package. We expect the cost overall to be about \$1 billion to get to the DC-COL stage. About \$150 million has been spent so far, and Fluor has contributed about \$120 million of that.

If NuScale is selected for the second round of DOE's cost share funding, our spending will accelerate, as will the pace of the project. Had NuScale been selected in the first round, our spend rate would have been greater over the past several months

**Speaking of the DOE, is NuScale applying for the Energy Department's second round of funding?**

**McGough:** Absolutely. We believe that NuScale's power modules meet the current funding opportunity's focus on innovation. Our design uses natural physics—gravity, convection, and conduction—to drive reactor coolant flow and cooling.

The second most important criteria in the DOE opportunity is the ability to cope with a Fukushima-like event. Our plant is the only SMR which can safely shut down and self-cool, indefinitely with no operator action, no AC or DC power, and no additional water. It's the triple crown of nuclear safety.

**Your design doesn't include primary coolant pumps, which means a great reduction in equipment cost. Do you expect this to be something that potential buyers will see in the plant cost?**

**McGough:** Yes! The fact that we rely on convection and gravity to drive our reactor coolant flow allows us to eliminate the need for expensive, complex and high-maintenance RCPs. We also have helical coil steam generators which are integrated into the NuScale power module, eliminating the large reactor coolant system piping which exists in most PWRs to connect pumps and vessels within the primary system.

Since we don't have any piping to break we eliminate the possibility for a large break LOCA event. But if there was an emergency NuScale is designed to shut down and self cool without operator action, AC/DC, or added water. Safety system valves align to the safest position on loss of power. ●



*continued from Canada's Mega Uranium on page 1*

Rockgate president Karl Kottmeier will head the new company's management team as CEO, while Mega chairman and CEO Sheldon Inwentash is to be board chairman.

As part of the deal, MGA will effect a 10-for-1 share consolidation prior to the merger, which is still subject to due diligence, the signing of a definitive agreement, and approval by both firm's shareholders.

The aim is to complete the transaction by September, with some major institutional shareholders, including MGA Pinetree Capital, stated to have already expressed their support for the deal.

### Combined Mega-Rockgate Indicated and Inferred Resources

	Indicated		Inferred	
	eU3O8 (Mlbs)	Grade (%)	eU3O8 (Mlbs)	Grade (%)
Lake Maitland	20.7	0.05	1.6	0.04
Ben Lomond	7.9	0.27	2.8	0.21
Maureen	5.9	0.09	0.4	0.11
Falea	29.6	0.09	15.7	0.05
<b>Totals</b>	<b>64.1</b>		<b>20.5</b>	

## Who Brings What to the Mega-Rockgate Merger Party

By Roger Murray

### Mega

Mega has three Australian resource-compliant projects, Lake Maitland, Ben Lomond, and Maureen (see related chart, above), with exploration interests also in some 5,800 square kilometers of Queensland, Northern Territory, South Australia, and Western Australia.

Lake Maitland, located just east of Toro Resources' Wiluna project, is currently at the feasibility stage. MGA's environmental scoping document for the project has been approved by the Environmental Protection Authority of Western Australia.

Studies to complete the environmental review and management program are currently being carried out, and approval of the final program is one of the last key permitting milestones before the construction stage of the project can begin.

Ben Lomond is currently in pre-feasibility. The resource also contains a substantial molybdenum credit grading an average 0.15% Mo.

On the basis of Ben Lomond's relatively high U3O8 average 0.25% grade, and the substantial molybdenum credit, MGA says the project "is one of the highest value per tonne uranium resources" outside Canada's Athabasca Basin.

Other projects at earlier stages of development include Kintyre Rocks, where Mega's exploration ground is located around Cameco's advanced-stage but currently on hold Kintyre project.

Two projects in Northern Territory, Neutral Junction and Bowgan, are joint ventures with MGA's interest through its wholly-owned subsidiary, Mega Hindmarsh.

In Canada, the company holds interests in seven exploration properties in Labrador's 250 kilometer central mineral belt, including Allik East, Bruce River and Mustang Lake, along with five properties in the Yukon under a 50/50 joint venture with Cash Minerals.

In the West African state of Cameroon, the firm holds a 92% interest (8% local) in three uranium projects acquired through its 2007 purchase of Nu-Energy Corp.

### Rockgate

Rockgate's 100%-owned Falea project comprises three exploration permits covering 225 square kilometers in southwest Mali. The deposit is polymetallic and flat-lying, containing potentially economically-viable quantities of uranium, silver and copper.

RGT began a pre-feasibility study in 4Q 2012, which it anticipates completing by the end of 2013. The project location is unlikely to be adversely impacted by the current insecurities affecting the Sahel region since its location close to the border with Guinea means it is well away from the conflict zone.

In its latest update, Rockgate reported that "intensive" metallurgical testing at ANSTO and engineering studies by the DRA Group over the past year have confirmed uranium, silver and copper recoveries "on a consistent basis." DRA is working on a pre-feasibility study for the project.

The firm added that its financial model based on these, together with an enhanced understanding of the ore body and possible mining and metallurgical solutions, had indicated that a cut-off grade of 300 ppm (0.03%) U3O8 was appropriate for resource determination.

## Better Financing Odds, Balance Sheet

Although not explicitly stated, it seems clear a major motivation for the tie-up was to improve both firms' ability to raise funds, given the prevailing weak appetite by risk-averse global investors for all mining projects, let alone those involving uranium.

MGA in particular will need to start raising large sums in due course to develop a mine at its flagship Lake Maitland project.

The "transaction rationale" from both firms stressed that a larger entity would provide "superior capital markets presence and trading liquidity" along with potential synergies and cost savings via back-office consolidation, sharing of facilities and resources, and overall economies of scale.

The principle benefits to MGA shareholders were stated to be: "Increased resource diversification and access to a growing poly-metallic deposit in Falea," together with a boost to the company

treasury, along with access to RGT's experienced technical team.

For RGT, apart from the deal's share price premium, the benefits are expected to include geographical resource diversification and exposure to projects in a leading uranium mining jurisdiction (Australia), along with additional diversification through exposure to a global equity portfolio.

Meanwhile, the new entity is expected to have approximately C\$22 million in cash at transaction close, a figure Rockgate and Mega believe "more than sufficient" to advance Falea through a pre-feasibility study, Lake Maitland through a definitive feasibility study, and pre-development of both.

Cash would also be sufficient to "maintain the other Australian assets while remaining able to undertake investment in new opportunities." ●

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### *continued from Nuclear Buzz on page 1*

So what kind of work does a former institutional investment banker with a geology degree do at a company like U1 that doesn't really need any financing help, what with being owned by the Russian government and all?

Gotta be mergers and acquisitions. Who better than Adam knows where the bodies are buried and can cut through the noise to assess whether a property has potential?

Given the dearth of noteworthy M&A in the lackluster uranium sector—aside from the Mega-Rockgate and Energy Fuels-Strathmore tie-ups—there are obviously plenty of juniors to be bought up these days, and U1 certainly has the cash to do it. ●

**OPEN URANIUM DEALS** (6/6/2013 - 6/12/2013)

Company Name	Offer Size	Price Per Share	Discount Premium	Security Type	Warrant @ Share	Market Cap	Underwriters	Financing Basis	Open Date, Updated
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NO DEALS OPENED THIS WEEK.

**RECENTLY CLOSED URANIUM DEALS** (6/6/2013 - 6/12/2013)

Company Name	Offer Size	Price Per Share	Discount Premium	Security Type	Warrant @ Share	Market Cap	Underwriters	Financing Basis	Open Date, Close Date
Athabasca Nuclear Corp. (TSX-V:ASC)	\$0.6m	\$0.12	20.00%	Common	1/2 @ \$0.20	\$4.05m	–	Best Efforts	4/30/2013, 6/12/2013

Source: [Oreninc.com](http://Oreninc.com)

Providing weekly data on TSX & TSXV uranium financing activity. All figures in \$CAD.

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