

# Capitulation?

It is evident that the uranium price has fallen considerably this year, now registering \$21.25 after starting the year at over \$34. Support levels of \$30 and \$25 have been broken, with price now approaching the \$20 level. Price is not only low by recent standards but low by historical standards when expressed on a constant dollar basis.

However, the cause of this decline is much less clear. Market fundamentals – the overall supply and demand situation – have not changed much over the past year. In other words, there has not been a dramatic drop in uranium consumption or a dramatic increase in uranium production to explain the price drop. The cause of the price decline may be more along of the lines of a creeping realization by the majority of buyers and sellers that the uranium market is truly awful, both in absolute terms and in relation to energy commodities and other commodities in general.

The point here is that what has changed this year is a change in market perception versus underlying fundamentals. This change could be related to the end of cognitive dissonance (a state of ignoring all the bad market signs), the realization that there was not going to be a boatload of Japanese reactor restarts to pull the market out of its quagmire, or simply a better understanding of the true nature of today's over-supplied market.

This is not the first time we have noted the role of perception in price formation. In March of this year, we wrote a cover entitled "The Devastation of Demand, where we said the following:

*The failure to recognize the true nature of the market may be a case of cognitive dissonance, but it also could be due to a failure to understand how the market has changed, including the increased role of enrichment in the uranium supply picture and the rise of the inventory-driven, mid-term market, which is "stealing" future demand and supplanting the future need for uranium production. Perhaps some have even found it "convenient" to ignore the impact of enrichment and the role of inventory supplies when assessing future uranium supply and demand, but they do so at their own peril.*

This brings up the notion of whether the market is undergoing some sort of capitulation now. If so, we would label it as a weak capitulation versus a strong one. A true capitulation

Ux Price Indicators					
<b>Weekly Ux U<sub>3</sub>O<sub>8</sub> Price<sup>®</sup> (10/17/16)</b>		<b>\$21.25 (-\$1.50)</b>			
Ux 3-Yr U <sub>3</sub> O <sub>8</sub> Price		\$25.00	Ux 5-Yr U <sub>3</sub> O <sub>8</sub> Price		\$30.00
Month-end (9/26/16)					
U <sub>3</sub> O <sub>8</sub>	Spot	\$23.75	UF <sub>6</sub> Spot	NA Price	\$68.00
	3-Yr Forward	\$27.75		NA Value*	\$67.91
	5-Yr Forward	\$33.00		EU Value*	\$68.46
Conversion	Long-Term	\$38.00	SWU	Spot	\$52.00
	NA Spot	\$5.85		Long-Term	\$62.00
	NA Term	\$12.00	EUP	NA Spot*	\$1,018
	EU Spot	\$6.40		NA Term*	\$1,524
EU Term	\$13.00	*Calculated values			

would involve not only selling one's inventory, but exiting the market or, if a producer, shutting down or at least paring back production in recognition that the market cannot support this level of supply. Some of this is happening, but to a lesser degree, and it has not been fast enough or widespread enough to bring supply and demand back into equilibrium. Of course, the market is dynamic, and sharply falling prices will likely force more players to reconsider their positions.

A capitulation usually marks the bottom of a market, as it involves panic selling that invariably pushes price to unsustainably low levels. Whether we have reached the bottom of the market still remains to be seen. It certainly may be the case that there is some selling for cash flow needs, but our market does not

have a lot of outside investors that are looking to exit. Interestingly, with the price decline, uranium is becoming more attractive as an investment play, and this could provide a boost in demand at some point.

From a fundamental standpoint,



the uranium price should have fallen sooner to help correct the oversupply situation, just as price should have risen sooner early last decade to help correct the undersupply situation that existed then. We have been quite vocal about the relationship of these imbalances and price levels in these pages. Our aim, as always, is to promote a better functioning market to support the long-term sustainability of the nuclear power industry.

## News Briefs

### Election of antinuclear governor threatens re-start of Kashiwazaki-Kariwa NPP

Yesterday (Sunday), Ryuichi Yoneyama was elected governor of the Japanese prefecture of Niigata. Yoneyama ran on the issue of skepticism to nuclear power and preventing the reopening of the Kashiwazaki-Kariwa nuclear power plant. He won about 60,000 more votes than challenger Tamio Mori, who was backed by Japan's Prime Minister and would have been more likely to support restarting the plant. With seven reactors and a combined capacity of approximately 8,000 MWe, Kashiwazaki-Kariwa, is the world's largest nuclear power plant. Yoneyama's election places the plant's future restart in jeopardy. "Let me make clear that I cannot approve the reactivation of the nuclear power plant in the current circumstances whereby it remains impossible to guarantee the protection of lives and livelihoods," said Yoneyama as quoted by *The Yomiuri Shimbun*. Japanese law does not require the consent of prefecture governors prior to restart reactors, but in practice, utilities have waited until they have received approval from local governments before restarting reactors.

### Russia and India mark start of construction for Units 3 and 4 at Kudankulam nuclear plant

In press releases issued on October 15, India's government and Rosatom announced that a ceremony was to mark the start of concrete pouring for the foundation of Units 3 and 4 at the Kudankulam nuclear power plant during a visit by Russian President Vladimir Putin to India. "We have started a new large-scale project on construction of the third and fourth power units," said Valery Limarenko, the President of Rosatom's ASE Group of Companies. The two nations also completed a general framework agreement and a credit protocol for Units 5 and 6 at the Kudankulam plant, which is expected to be formally signed before the end of 2016.

In addition, Russia and India marked the transfer of operation for Unit 2 at the Kudankulam nuclear power plant to India. "Today we are handing over the second power unit of Kudankulam NPP for operation," said Limarenko.

In related news, on October 13, *Sputnik* reported that Vladimir Putin is reportedly working on forming a cooperation agreement on uranium enrichment with India. "We are now working on the localization of component manufacturing in

## Industry Calendar

- October 16-19, 2016  
**NEI Uranium Fuel Seminar**  
Nuclear Energy Institute  
<http://www.nei.org/Conferences/>  
Naples Grande, Naples, FL, USA
- October 20-21, 2016  
**India Nuclear Energy 2016**  
UBM Events  
<http://www.indianuclearenergy.net/>  
Nehru Centre, Worli, Mumbai, India
- October 25-26, 2016  
**4<sup>th</sup> European Nuclear Power Briefing 2016**  
Strategic Communications  
<http://www.stratcoms.com/EuropeanBriefing2016/>  
KPMG, Canada Square, London, UK
- November 20-23, 2016  
**The 24<sup>th</sup> WiN Global Annual Conference**  
WiN/WNA  
<http://www.win-global.org/activities/annual/148>  
Fairmont Bab Al Bahar Hotel, Abu Dhabi, UAE
- January 24, 2017  
**NEI Fuel Supply Forum**  
Nuclear Energy Institute  
<http://www.nei.org/Conferences>  
W Hotel, Washington, D.C., USA
- April 25-27, 2017  
**World Nuclear Fuel Cycle 2017**  
NEI/WNA  
<http://www.wnfc.info/>  
Delta Toronto, Toronto, ON, Canada

Details are available at:  
[http://www.uxc.com/c/data-industry/uxc\\_calendar.aspx](http://www.uxc.com/c/data-industry/uxc_calendar.aspx)

India... Technological cooperation in the field of uranium enrichment is (also) being established," said Putin.

### New reactor in Pakistan now supplying electricity on a trial basis

On October 15, Unit 3 at the Chashma nuclear power plant began supplying electricity to the grid on a trial basis. The Chinese designed reactor, which has a capacity of 340 megawatts, is expected to attain full commercial operation in December. A fourth reactor at the Chashma nuclear power plant is expected to begin operation in early 2017. In addition, construction is now underway at the Karachi site in Pakistan for a Chinese designed Hualong One reactor with a capacity of more than 1,100 megawatts, and construction on a second Hualong One unit is expected to begin soon. The two Hualong One reactors are scheduled to begin operation in 2020 and 2021, respectively.

### Refurbishment of Darlington nuclear power plant in Canada begins

On October 14, Ontario Power Generation announced the start of refurbishment for the first of four reactors at the Darlington Nuclear Generating Station. Unit 2 at Darlington has been taken offline so that refurbishment can be carried out.

Work on Unit 2 is expected to be completed in February 2020 at which time Unit 3 at Darlington will then go offline for refurbishment. The refurbishment of all four reactors at Darlington is scheduled to be completed in 2026 and will support their continued operation until 2055. "Refurbishment of Darlington will ensure emissions-free nuclear continues to be Ontario's single largest source of power," said Ontario's Minister of Energy, Glenn Thibeault. "The project will create up to 11,800 jobs annually and contribute nearly \$15 billion to Ontario's economy."

### Swiss government resists quick nuclear exit plans

*Reuters* reported October 11 that Greenpeace and the Swiss Green Party are backing the November initiative that demands the Beznau 1 & 2 and Mühleberg reactors permanently shut down in 2017. Swiss Energy Minister Doris Leuthard said at a press conference that while the government does plan to eventually exit nuclear energy production, the early shutdown referendum, scheduled for November 27, is premature and would leave Switzerland without the ability to replace nuclear capacity with renewable energy. Leuthard added that a quick phase out of nuclear power would make shutdown compensation lawsuits inevitable and "taxpayers would be on the hook."

The Greenpeace and Green Party-backed initiative to prematurely halt nuclear operations stems from the Fukushima disaster in 2011. Proponents of the initiative contend that dumping nuclear in favor of renewable energy will save money in the long run while simultaneously hastening the transition from nuclear to renewables. Leuthard said that the Swiss government's current "Energy Strategy 2050" will accomplish similar goals, but over a longer time horizon. However, the current government's energy strategy may be in trouble, as the Swiss People's Party (SVP), the Swiss Parliament's most powerful political party, is pushing a referendum via the country's system of direct democracy to dump the current energy strategy. The SVP says that Switzerland's current energy strategy is costly, ineffective, and a "massive intrusion on every corner of citizen's lives."

### Swiss utilities jointly withdraw applications for new reactors

In a press release issued on October 12, three utilities announced the withdrawal of their applications to build replacement reactors in Switzerland. The three utilities, Alpiq, Axpo, and BKW first filed applications for new reactors at the Beznau, Gösgen, and Mühleberg nuclear power plants in 2008. The utilities put their plans on hold after the Fukushima accident in 2011, and the recent decision to cancel the applications outright reflects market conditions and political opposition to new reactors. "The energy world has changed fundamentally since the framework permit applications for replacement nuclear power plants were submitted in the year 2008," said the press release. "Today the market is a very

different one, and in the meantime, policy-makers have set the course for a future without nuclear power."

### Eskom to tackle South Africa's nuclear build program

Multiple news sources reported last week that South Africa's Energy Minister Tina Joemat-Pettersson confirmed that utility Eskom would be taking charge of the country's nuclear new build program, with her department remaining as a coordinating agent for the project. Previously, the country's Ministry of Energy was thought to lead the procurement process for nuclear new build. However, Ms. Joemat-Pettersson stated that it would be a "travesty of justice" for South Africa's Energy Ministry to remain in charge of procuring new nuclear power plants. "We do not have the skills to procure nuclear," said Joemat-Pettersson. "We will continue to be policy-setting department and the policy coordinator of the program." The minister told Members of Parliament that a recommendation would be made to the cabinet that South African utility Eskom would be designated as the lead procurer for the planned 9,600 MWe of nuclear power capacity to be built at sites in the Eastern and Western Cape.

Joemat-Pettersson also told the press that a deal for nuclear new build had not already been signed with any company/country. "This procurement method we are announcing today should demystify the myth that I've signed some deal. I've not signed any nuclear deal," she said. "I have no interest in what or who procures. The reality remains that Eskom is the only owner/operator of nuclear. The reality remains that all our policies and laws...designate Eskom as the owner of the nuclear power plants."

South Africa's Energy Minister stressed that funds for the nuclear new build program will not come from the treasury, but rather will be funded by Eskom's balance sheet. "I wish to categorically state that there's no basket of money in treasury that will be used for this program," said Joemat-Pettersson. "The balance sheet of Eskom will be used to leverage funding for nuclear build."

A Request for Proposals for South Africa's quest to build 9,600 MWe of nuclear was set to be issued on September 30 by the Ministry of Energy. However, plans for this to occur had been put on hold as the country's cabinet had to first approve an updated Integrated Resource Plan before procurement efforts could begin.

### Group wants NRC to reject sale of FitzPatrick to Exelon

The consumer advocacy organization, Public Citizen, filed a formal protest with the Federal Energy Regulatory Commission (FERC) on October 11 regarding the application by Exelon Corporation to purchase the FitzPatrick Nuclear Power Plant from Entergy Corporation. In its filing, Public Citizen said Exelon's application is incomplete because "it fails to incorporate any mention or analysis of New York's proposed Zero Emission Credit (ZEC) payment subsidy scheduled only

for FitzPatrick and for both of Exelon's two in-state nuclear facilities." Public Citizen contended that the subsidy, which it said would total \$8 billion in six, two-year increments, "will significantly distort the NYISO energy and capacity markets and fundamentally alter the economics of Exelon's power generation operations in NYISO, including FitzPatrick." Public Citizen maintains that Exelon is trying to purchase FitzPatrick only for the financial value of the ZEC.

In addition, Public Citizen also questioned whether the ZEC payments violate FERC's rules, and would force all New York ratepayers to "provide unprecedented subsidies to the nuclear power plants." Meanwhile, the NRC has formally accepted the Entergy and Exelon's joint application to transfer the license for review.

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### Armenia's Metzamor to restart in late November

*The PanARMENIAN* reported last week that Armenia's Metzamor nuclear power plant will return to service on November 26. Addressing the 17<sup>th</sup> CIS Commission, Metzamor CEO Movses Vardanyan said that the plant halted operations for its annual maintenance and refueling outage on September 20, and it is expected to return to commercial service by December. Vardanyan also noted that life extension work for the Metzamor nuclear plant for another 10 years of service will begin in the spring of 2017. Following the implementation of the lifespan extension, Metzamor is expected to operate until 2026.

The Metzamor nuclear power plant is located approximately 30 kilometers west of Yerevan. The two-unit plant was built in the 1970s, but was closed following an earthquake in 1988. One of the plant's two VVER 440-V230 reactors was reactivated in 1995, and the other was decommissioned. In 2014, Armenia's government decided to extend the plant's service life by a decade due to a delay in building new replacement capacity, and the addition of a \$270 million loan and \$30 million grant made by Russia.

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### Westinghouse continues work with Nuclear AMRC to reduce SMR build time and cost

On October 12, Westinghouse announced continued cooperation with the UK Nuclear Advanced Manufacturing Research Centre (Nuclear AMRC) to explore means of reducing construction times for the Westinghouse Small Modular Reactor (SMR). Westinghouse and Nuclear AMRC are studying possible design efficiencies that could reduce costs and promote manufacturing growth. "The Westinghouse SMR is an innovative, industry-leading technology that builds upon the company's extensive reactor and fuel technology expertise," said Westinghouse Senior Vice President for New Plants and Major Projects Jeff Benjamin. "Nuclear AMRC has broad experience in design for the manufacture of large, complex parts for safety-critical applications, and its support will help to increase the efficiency of our design, while building on our specialized UK value proposition."

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### Legislators provide language to encourage construction of conversion plant in Wyoming

*The Star Tribune* reported on October 15 that Wyoming legislators are currently investigating ways to allow for the construction of uranium conversion facilities in the state. The Wyoming Joint Minerals, Business, and Economic Development Committee met last week to update obsolete language in Wyoming law that addresses potential nuclear waste storage and facilities management. In that effort, Wyoming legislators are working to include language and statutes that would provide the state a competitive advantage should private companies look to build a uranium conversion facility there. Business Initiative Director for the Council Ben Avery said that allowing for a uranium conversion facility would not bring much new money to state coffers, but rather it would offer a local boon that could create hundreds of local jobs and hefty property taxes for the community where the plant would be constructed.

"We are certainly trying to make sure that we have regulations and statutes in place so that if the market decided that (a facility) was necessary, we would have the proper legal infrastructure in place to allow additional processing, milling, and whatever else," said Laramie Democrat Chris Rothfuss. "It could be successful, and Wyoming would be a great place in terms of logistics and associated costs to build a milling or processing facility if a new one was needed." It should be noted that it is unlikely that Wyoming would move on the initiative in the immediate future, however.

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### BHP Billiton provides update on Olympic Dam power outage

BHP Billiton reported October 13 that electricity transmission specialists Electranet advised the company that the final power line had been re-energized, thus allowing for full power to be restored at the Olympic Dam mine. BHP's teams are currently working to ramp up operations. While some work continued at the mine's underground operations, the company's current focus is on transitioning the project's surface facilities from care and maintenance to full production. Production impacts from the Olympic Dam power outage will be provided in the company's September 2016 quarter results.

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### ERA reports Q3 production totals

Energy Resources of Australia Ltd. (ERA) announced October 11 results for the third quarter (Q3) ended September 30, 2016 from processing operations at the company's Ranger uranium project in Australia's Northern Territory. During Q3 2016, Ranger produced 666 t U<sub>3</sub>O<sub>8</sub> (~1.47 million pounds U<sub>3</sub>O<sub>8</sub>) compared to 489 t U<sub>3</sub>O<sub>8</sub> (~1.08 million pounds U<sub>3</sub>O<sub>8</sub>) produced during Q3 2015, which is a 36% increase due to scheduled mill maintenance that occurred during the previous quarter. For the first nine months of 2016, the Ranger operation has produced 1,748 t U<sub>3</sub>O<sub>8</sub> (~3.85 million pounds U<sub>3</sub>O<sub>8</sub>).

ERA reported that during Q3 2016, progressive rehabilita-

tion of the Ranger Project Area continued with dredging operations working at capacity to transfer tailings from the storage facility to Pit 3. No evaluation or exploration expenditures were incurred during the quarter, and the company reported that the Ranger 3 Deeps exploration decline remains under care and maintenance. Rio Tinto Uranium (RTU) markets 100% of ERA production.

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### Paladin reports September quarter production results

Paladin Energy Ltd. announced today (Monday) production results and operational highlights for the quarter ended September 30, 2016. During the September quarter, Paladin's Langer Heinrich uranium mine in Namibia produced 1,293,117 pounds  $U_3O_8$ , which is up 16% from the previous quarter. C1 cash costs achieved a new record low of US\$16.45 per pound  $U_3O_8$ . Paladin attributed this decrease in costs to strong operating performance and the impact of a US\$168.9 million write-down of Langer Heinrich ore stockpiles that occurred at the end of June, which reduced the current medium and low grade ore stockpiles to a zero value to essentially remove carrying costs associated with these stockpiles. Milled ore was up 13% quarter-over-quarter at 949,906 tonnes and average plant feed grade increased to 0.0704%  $U_3O_8$  during the September quarter.

Total sales for the September quarter were 600,000 pounds  $U_3O_8$  versus a guidance of 650,000-750,000 pounds  $U_3O_8$ . Sales volumes were lower than expected for the quarter due to the re-timing of sales and due to inventory accumulation for a large CNNC delivery in the December quarter. Average sales prices during the quarter were US\$25.19 per pound  $U_3O_8$  sold. Paladin expects higher uranium sales in the range of 1.4-1.6 million pounds  $U_3O_8$  during the December quarter, the majority of which was already priced at a premium to current spot prices.

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### Ur-Energy reports Q2 production results from Lost Creek ISR project

Ur-Energy Inc. announced October 13 operational results for the third quarter (Q3) ended September 30, 2016 at its Lost Creek in-situ recovery (ISR) uranium project in Wyoming. During Q3, Ur-Energy captured 141,774 pounds  $U_3O_8$  within the Lost Creek processing plant. A total of 145,893 pounds  $U_3O_8$  were dried and drummed and shipped out of the processing plant. At the end of the quarter, inventory at the conversion facility was approximately 84,808 pounds  $U_3O_8$ . Sales during Q3 2016 totaled US\$9.5 million with contract sales of 200,000 pounds  $U_3O_8$  at an average price of US\$47.36 per pound.

Production rates at Lost Creek during Q3 2016 were within expected levels. Ur-Energy continues to operate Mine Unit 1 (U1) header houses throughout the quarter, including Header House 1, which was brought online in May. The company reported that plant head grades continue to be higher than initial projections.

Ur-Energy reported that final general authorization for the Class V water treatment system was received during the quarter, and pre-operational analyses and tests are currently underway. After final operational approval is granted, the company will be allowed to use the mine site's treatment and disposal system. Ur-Energy said it expected to commence operation of the Class V system during Q4 2016.

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### Infrastructure development underway at Berkeley's Salamanca uranium project

On October 11, Berkeley Energia Ltd. announced that after a decade of work and US\$60 million of investment, the company has officially commenced development of the Salamanca uranium project in western Spain. To date, the 5.2 kilometer road deviation, construction of the raw water dam, development of pedestrian footpaths, and the installation of a Wi-Fi network for the local villagers has been completed as part of the company's commitment to improve infrastructure for the local community. A contract to reroute the main powerline at the project has been awarded to Iberdrola. Material procurement has also commenced, and mine construction will commence early next year following completion of the road access development.

Berkeley Energia Managing Director Paul Atherley said, "We are extremely pleased with the continued local support we are receiving which is fantastic and in return we remain absolutely committed to revitalizing the local community, bringing much needed jobs, training and new business activity to the area. After a decade of investment we are absolutely delighted to start development of the initial infrastructure which paves the way for the main construction early next year."

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### Deep Yellow reports resource update at Tumas

Deep Yellow Ltd. (DYL) announced October 12 that it had filed an updated JORC compliant mineral resource estimate for the company's Tumas uranium project in Namibia. The project's combined mineral resource estimate now stands at 13.4 million pounds  $U_3O_8$  grading 0.0336%  $U_3O_8$  at a 0.02%  $U_3O_8$  cutoff grade. This new resource update consists of 13.0 million pounds  $U_3O_8$  of measured and indicated resources and 0.4 million pounds  $U_3O_8$  of inferred resources.

DYL noted that this new resource estimate represents a 12% increase in metal content. Multiple sources of information were used to derive the resource update, including original drilling conducted between 2008-2010, more recent infill drilling in 2014, and a sophisticated geophysical modeling exercise conducted in 2015. DYL said that following the resource upgrade, it intends to commence a 600-meter drill program in the near-term. This smaller drill program is expected to be followed up by an expanded diamond drilling campaign that is designed to generate samples to be used in the second phase metallurgical testwork program. Finally, the company plans to complete a prefeasibility study in parallel with the drilling campaign to better assess the true potential of

the Tumas uranium project.

### Fission reports highest grades yet at R1520E zone at PLS project

Fission Uranium Corp. announced October 12 the receipt of assay results from drilling completed at the R1620E and R840W zones of the PLS project in the southwestern Athabasca Basin. Highlights from this latest batch of assays include: 27.0 meters grading 5.0% U<sub>3</sub>O<sub>8</sub>, 26.5 meters grading 3.60% U<sub>3</sub>O<sub>8</sub>, 10.0 meters grading 3.74% U<sub>3</sub>O<sub>8</sub>, and 9.5 meters grading 13.56% U<sub>3</sub>O<sub>8</sub>. Fission reported that these latest assay results are located outside of the existing Triple R resource area and represent the highest-grade mineralization witnessed to date at R1620E. These zones also remain open in all directions.

The 31,039 hectare PLS project is 100%-owned and operated by Fission Uranium Corp. Uranium mineralization at PLS occurs within the Patterson Lake Conductive Corridor and has been traced by core drilling totaling approximately 2.58 kilometers of east-west strike length in five separated mineralized zones. Thus far, only the R00E and R780E have been included in the Triple R deposit indicated mineral resource estimate of 79.6 million pounds U<sub>3</sub>O<sub>8</sub> grading 1.58% U<sub>3</sub>O<sub>8</sub> and inferred mineral resource estimate of 25.9 million pounds U<sub>3</sub>O<sub>8</sub> grading 1.30% U<sub>3</sub>O<sub>8</sub>.

### Denison to acquire Hook-Carter property from ALX Uranium

On October 13, Denison Mines Corp. announced that it had executed a definitive agreement with ALX Uranium Corp. to acquire an immediate 80% ownership of the Hook-Carter uranium property in exchange for the issuance of 7.5 million Denison common shares. Under the terms of the agreement, ALX will retain a 20% interest in the property and Denison agrees to fund ALX's share of the first C\$12 million in expenditures.

The Hook-Carter property consists of 28 claims, totaling 16,805 hectares, and is located near the southwestern margin

of the Athabasca Basin. The property is highlighted by 15 kilometers of strike potential along the prolific Patterson Lake Corridor, which is host to Fission Uranium Corp.'s Triple R deposit at the PLS project, NexGen Energy Ltd.'s Arrow deposit at the Rook I project, and the Spitfire discovery at Purepoint Uranium Group Inc., Cameco Corp., and AREVA Resources Canada Inc.'s Hook Lake project. All of these project areas are within 8 to 20 kilometers of the Hook-Carter project.

### UEX reports Christie Lake drill results

On October 14, UEX Corp. announced results from recent drilling completed at the Paul Bay deposit at the greater Christie Lake uranium project in Saskatchewan's Athabasca Basin. Drill hole CB-102 returned a total of 4.23% U<sub>3</sub>O<sub>8</sub> over 11.90 meters, including 15.26% U<sub>3</sub>O<sub>8</sub> over 1.5 meters, 8.20% U<sub>3</sub>O<sub>8</sub> over 1.0 meters, and 13.6% U<sub>3</sub>O<sub>8</sub> over 0.6 meters. The company contends that this particular drill hole suggests that a second high-grade subzone may exist within the Paul Bay deposit, which the company expects to test in future drilling and exploration at Paul Bay. The C\$4.0 million 2016 Christie Lake exploration drilling program is set to continue through late October, with the focus now shifted towards the Ken Pen deposit.

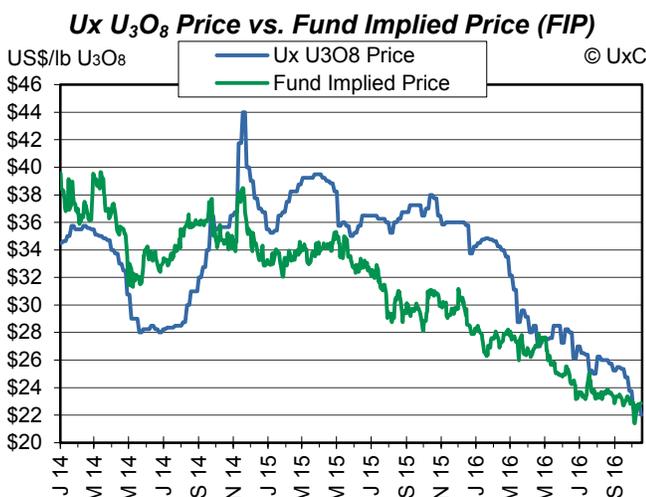
The Christie Lake uranium project is located approximately 9 kilometers northeast of Cameco Corp.'s McArthur River uranium mine. UEX currently holds a 10% interest in the Christie Lake project and is working under an option agreement to earn up to a 70% interest. JCU Exploration Company Ltd. holds the remaining 90% interest in the project.

### Vimy announces Share Purchase Plan

On October 10, Vimy Resources Ltd. announced that it had issued a Share Purchase Plan (SPP) to its shareholders. The SPP is non-underwritten and intends to raise A\$0.5 million to A\$1.0 million at a placement price of A\$0.26 per share. Participation in the SPP is open to shareholders who were recorded on Vimy's share register as of September 22, 2016. Under the SPP, eligible shareholders are able to subscribe for up to A\$15,000 of fully-paid shares of the company at A\$0.26 per share. Closing is set for Monday, October 31, 2016.

### Correction – Kazakhstan/AREVA KATCO buy-out

In last week's News Briefs, we reported on a *Reuters*' article that stated a Kazakh delegation was engaged in talks with AREVA to purchase the company's 51% ownership share in the KATCO in-situ recovery operation in Kazakhstan. We have been informed by AREVA that *Reuters*' original article and our subsequent reporting of that article are incorrect. UxC apologizes for the reporting error.



# The Market

## Uranium Spot & Forward Market

After falling notably on the last day of September and seeing little recovery during the first week of October, the spot price took another tumble last week as a number of market participants were preparing to attend this week's fall NEI IUFS meetings in Naples, Florida. Bids and offers held flat during the first part of the week, but by the middle of the week they started to slip with the midpoint showing \$22.50 on Wednesday. This downward trend continued both Thursday and Friday with the broker bid/offer midpoint falling to \$21.68 by late afternoon on the middle of the month Friday. However, even with these offer levels being made available in the market, there has been very little in the way of new activity over the past couple of days.

Offers today (Monday) are still very competitive; however, activity remains limited with little to no new deals reported as many are meeting face-to-face at the NEI IUFS. However, the latest round of offers could spark some additional interest late today or later this week during the NEI meetings. Based on recent activity as well as current bids and offers, the Ux U<sub>3</sub>O<sub>8</sub> Price falls \$1.50 for the week to \$21.25 per pound. Based on recent market information, this week's Ux 3-Year and 5-Year U<sub>3</sub>O<sub>8</sub> Forward Prices decline to \$25.00 and \$30.00 per pound, respectively (see page 9).

While spot prices have fallen to their lowest levels since February 2005, spot activity has still been limited with regards to the number of transactions for the month, as only eight transactions have been reported thus far for October. Utility buying interest continues with this group making up several of this month's purchases and accounting for a larger

than average volume share of the reported 1.8 million pounds U<sub>3</sub>O<sub>8</sub> equivalent. Recent activity also puts annual volume at about 33.1 million pounds U<sub>3</sub>O<sub>8</sub>e under 217 transactions.

## UxC Broker Average Price

The UxC Broker Average Price (BAP) began the week on Tuesday unchanged at \$22.62. The midpoint dipped on Wednesday to \$22.50, down \$0.12 on the day. By week's end on Friday, the indicator was down to \$21.68. Today's UxC BAP is \$21.56, down \$0.12 on the day and down \$1.06 from last Monday's \$22.62. The BA Bid is \$21.12, down \$1.00 from Monday's \$22.12, and the BA Offer is \$22.00, down \$1.12 from last Monday's \$23.12.

## Fund Implied Price (FIP)

Fund Implied Prices (FIP) began the week on Tuesday down \$0.32 at \$22.43. The FIP gained throughout the remainder of the week to finish Friday at \$22.80. Today's FIP is up \$0.07 from Friday at \$22.87 and up \$0.12 from last Monday's \$22.75. The latest FIP information can be found in the chart on page 6.

## U<sub>3</sub>O<sub>8</sub> Futures Market

The CME Group futures market for uranium remained relatively quiet over the last week as no new contracts were booked. Pricing for the week was generally negative as the strip lost nearly a dollar over the course of the week. For the latest futures market prices, please refer to the table on page 9. As no new contracts were booked during the week, the 2016 annum total remains unchanged at 6,293 contracts (1,573,250 pounds U<sub>3</sub>O<sub>8</sub>). Open interest realized a dip of 100 contracts with the closure of the September 2016 futures month, and therefore total open interest now stands at 4,951 contracts (1,237,750 pounds U<sub>3</sub>O<sub>8</sub>).

### UxC Market Statistics

Monthly (Oct)	Spot		Term	
	Volume	# Deals	Volume	# Deals
U <sub>3</sub> O <sub>8</sub> e (million lbs)	W	8	W	3
Conv. (thousand kgU)	W	1	W	2
SWU (thousand SWU)	W	1	0	0
2016 Y-T-D	Spot		Term	
	Volume	# Deals	Volume	# Deals
U <sub>3</sub> O <sub>8</sub> e (million lbs)	33.1	217	40.0	50
Conv. (thousand kgU)	>1,838	23	>12,500	16
SWU (thousand SWU)	W	2	10,670	12

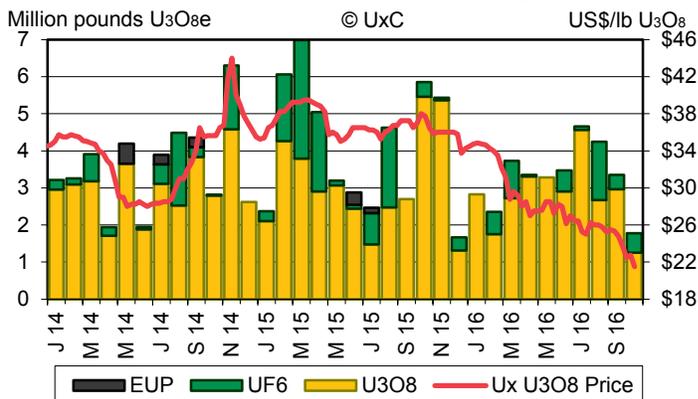
Key: N/A – Not available. W – Withheld due to client confidentiality.

### UxC Leading Price Indicators

Three-month forward looking price indicators, with publication delayed one month. Readings as of Sept. 2016.

<b>Uranium</b> (Range: -17 to +17)	<b>-10</b> [unchanged]
<b>Conversion</b> (Range: -16 to +16)	<b>-5</b> [unchanged]
<b>Enrichment</b> (Range: -18 to +18)	<b>-11</b> [down 1 point]
<b>Platts Forward Uranium Indicator</b>	<b>\$21.25-\$22.00</b>
A forward one-week outlook.	As of 10/14/16 (US\$/lb)

### Ux U<sub>3</sub>O<sub>8</sub> Price vs. Spot Volume by Form



### Baseball Fanatic

My wife claims I'm a baseball fanatic.

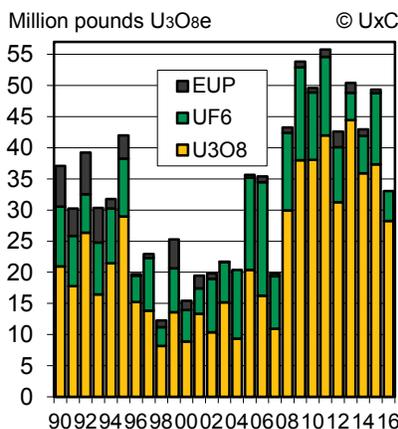
She says all I ever read about is baseball. All I ever talk about is baseball. All I ever think about is baseball.

I told her she's way off base.

**Ux U<sub>3</sub>O<sub>8</sub> Prices**



**Annual Spot Uranium Volumes**



**Ux Price Indicators (€ Equiv<sup>†</sup>)**

<b>Weekly (10/17/16)</b> 1 US\$ = .90901€		
<b>Ux U<sub>3</sub>O<sub>8</sub> Price</b>	<b>\$21.25</b>	<b>€19.32</b>
<b>Ux 3-Yr Forward</b>	<b>\$25.00</b>	<b>€22.73</b>
<b>Ux 5-Yr Forward</b>	<b>\$30.00</b>	<b>€27.27</b>
<b>Mth-end (9/26/16)</b> 1 US\$ = .88863€		
<b>U<sub>3</sub>O<sub>8</sub></b>	Spot	<b>\$23.75</b> €21.10
	3-Yr Forward	<b>\$27.75</b> €24.66
	5-Yr Forward	<b>\$33.00</b> €29.32
	Long-Term	<b>\$38.00</b> €33.77
<b>Conversion</b>	NA Spot	<b>\$5.85</b> €5.20
	NA Term	<b>\$12.00</b> €10.66
	EU Spot	<b>\$6.40</b> €5.69
	EU Term	<b>\$13.00</b> €11.55
<b>UF<sub>6</sub> Spot</b>	NA Price	<b>\$68.00</b> €60.43
	NA Value*	<b>\$67.91</b> €60.34
	EU Value*	<b>\$68.46</b> €60.83
<b>SWU</b>	Spot	<b>\$52.00</b> €46.21
	Long-Term	<b>\$62.00</b> €55.10
<b>EUP</b>	NA Spot**	<b>\$1,018</b> € 905
	NA Term**	<b>\$1,524</b> €1,354

**Uranium Term Market**

The recent downward spot price trend and associated decline in the forward price curve has sparked additional interest not only in utility spot purchases but mid-term delivery as well. Part of this interest has recently resulted in several off-market term awards. In addition, a couple of utilities have active term requests. A U.S. utility received offers last week based on its EUP request for delivery in 2019-2022 covering about 10% of its requirements. A non-U.S. utility is out with a request for up to 500 t U<sub>3</sub>O<sub>8</sub> per year with delivery over the 2019-2028 time period (about 11 million pounds). Offers are due November 8. A non-U.S. utility that was preparing a RFQ for UF<sub>6</sub>/EUP for seven reloads with deliveries starting in 2018 finally submitted its request this past Friday.

quest this past Friday. A non-U.S. utility is now expected to submit a request late this week for conversion services involving a larger quantity of conversion (up to

three million kgU) over the 2021 to 2030 time period. A couple of other utilities are also in quiet discussions with suppliers for a combination of UF<sub>6</sub> or conversion services.

**Conversion & UF<sub>6</sub>**

Spot activity has been quiet over the past week with only one UF<sub>6</sub> transaction. While there is limited formal term activity, a couple of off-market utility contract awards have recently been completed. In addition, a U.S. utility received offers last week based on its request for mid-term EUP covering about 10% of its requirements. A non-U.S. utility, which has been expected to enter the market for some time seeking term UF<sub>6</sub>/EUP involving seven reloads, finally submitted its re-

**Enrichment & EUP**

There has been some spot enrichment activity over the past week with a small spot transaction recently reported. In the term market, a couple of utilities are evaluating mid-term offers and another utility finally submitted its request. A U.S. utility received offers last week based on its EUP request for delivery in 2019-2022 covering 10% of its requirements. Another U.S. utility is evaluating term offers involving about 230,000 SWU with mid-term delivery. A non-U.S. utility submitted its request on Friday for SWU/EUP involving seven reloads with delivery in 2018-2023.

**Ux Price Indicator Definitions**

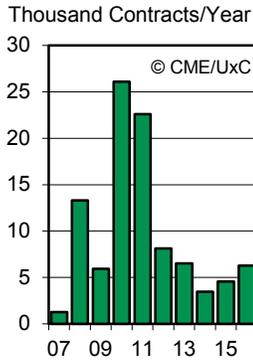
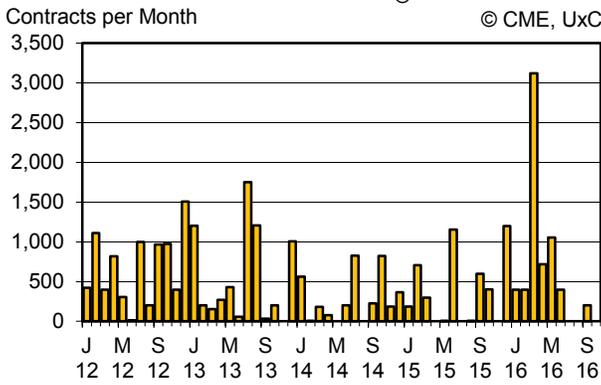
The Ux Spot Prices indicate, subject to the terms listed, the most competitive offers available for the respective product or service of which The Ux Consulting Company, LLC (UxC) is aware, taking into consideration information on bid prices for these products and services and the timing of bids and offers as well. The **Ux U<sub>3</sub>O<sub>8</sub> Price (Spot)** includes conditions for delivery timeframe (≤ 3 months), quantity (≥ 100,000 pounds), and origin considerations, and is published weekly. The **Ux 3-Year and 5-Year U<sub>3</sub>O<sub>8</sub> Forward Prices** reflect UxC's estimate of prices for U<sub>3</sub>O<sub>8</sub> delivery 36 and 60 months forward taking into account market activity and other indicators, using the same quantity and origin specifications as the Spot indicator. The **Ux LT U<sub>3</sub>O<sub>8</sub> Price (Long-Term)** includes conditions for escalation (from current quarter), delivery timeframe (≥36 months), and quantity flexibility (up to ±10%) considerations. The **Ux Conversion Prices** consider offers for delivery up to twelve months forward (Spot) and base-escalated long-term offers (LT) for multi-annual deliveries with delivery in North America (NA) or Europe (EU). The **Ux NA UF<sub>6</sub> Price** includes conditions for delivery timeframe (6 months), quantity (50-150,000 kgU), and delivery considerations. \*The **Ux NA and EU UF<sub>6</sub> Values** represent the sum of the component conversion and U<sub>3</sub>O<sub>8</sub> (multiplied by 2.61285) spot prices as discussed above and, therefore, do not necessarily represent the most competitive UF<sub>6</sub> spot offers available. The **Ux SWU Price (Spot)** considers spot offers for deliveries up to twelve months forward for other than Russian-origin SWU. The **Ux LT SWU Price (Long-Term)** reflects base-escalated long-term offers for multi-annual deliveries. \*\*The **Ux Spot and Term EUP Values** represent calculated prices per kgU of enriched uranium product based on a product assay of 4.50% and a tails assay of 0.30%, using spot and term Ux NA and appropriate spot and term price indicators and are provided for comparison purposes only. All prices, except for the weekly Ux U<sub>3</sub>O<sub>8</sub> Price, are published the last Monday of each month. (Units: U<sub>3</sub>O<sub>8</sub> = US\$ per pound, Conversion/UF<sub>6</sub>: US\$ per kgU, SWU: US\$ per SWU, EUP: US\$ per kgU) The Ux Prices represent neither an offer to sell nor a bid to buy the products or services listed. †The Euro price equivalents are based on exchange rate estimates at the time of publication and are for comparison purposes only.

The Platts Forward Uranium Indicator price range belongs to S&P Global Platts and is published with permission. Definition of this price is available from Platts.

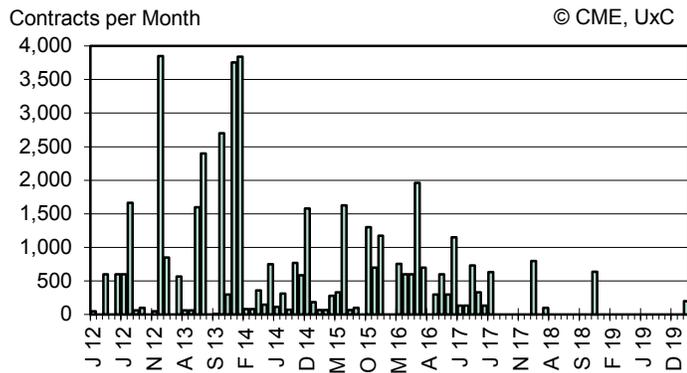
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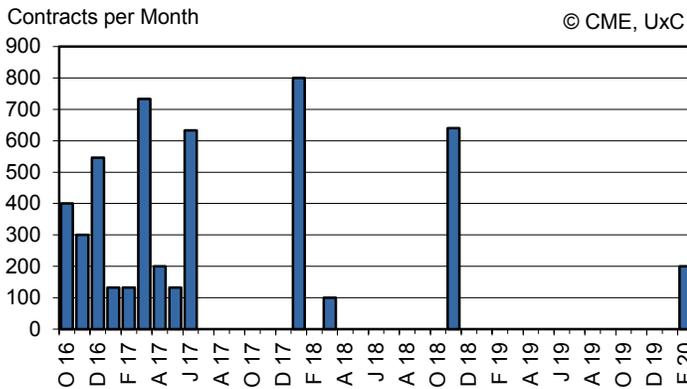
**CME/NYMEX UX Futures Activity**  
**Total Contracts by Transaction Month, by Transaction Year**



**Total Contracts by Settlement Month**



**Open Interest by Settlement Month**

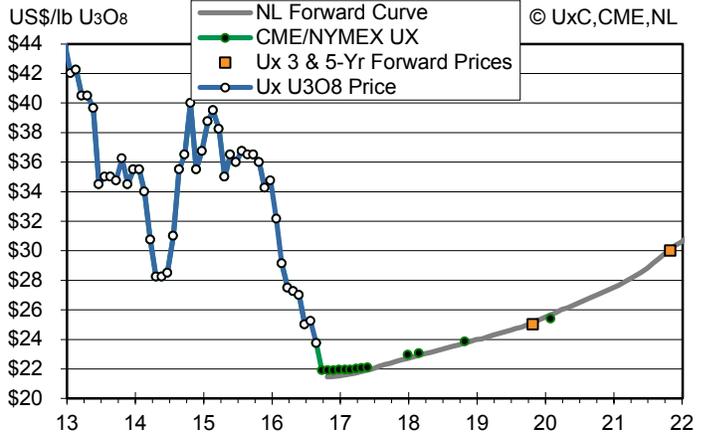


**CME Uranium U<sub>3</sub>O<sub>8</sub> (UX) Futures**

**Activity as of October 14, 2016**

Settlement	Price	Volume	Open
Apr 2015	\$38.25	282	N/A
May 2015	\$35.00	332	N/A
Jun 2015	\$36.50	1,628	N/A
Jul 2015	\$36.00	66	N/A
Aug 2015	\$36.75	100	N/A
Oct 2015	\$36.50	1,300	N/A
Nov 2015	\$36.00	700	N/A
Dec 2015	\$34.25	1,176	N/A
Mar 2016	\$29.15	758	N/A
Apr 2016	\$27.50	600	N/A
May 2016	\$27.25	600	N/A
Jun 2016	\$27.00	1,963	N/A
Jul 2016	\$25.00	700	N/A
Sep 2016	\$23.75	300	N/A
Oct 2016	\$21.90	600	400
Nov 2016	\$21.90	300	300
Dec 2016	\$21.90	1,153	546
Jan 2017	\$21.95	133	133
Feb 2017	\$21.95	133	133
Mar 2017	\$21.95	733	733
Apr 2017	\$22.00	333	200
May 2017	\$22.05	133	133
Jun 2017	\$22.10	633	633
Jan 2018	\$22.95	800	800
Mar 2018	\$23.05	100	100
Nov 2018	\$23.85	640	640
Feb 2020	\$25.40	200	200
<b>*From May 2007 Totals:</b>		<b>98,149*</b>	<b>4,951</b>

**Ux U<sub>3</sub>O<sub>8</sub> Price vs. CME/NYMEX Forward UX Price Curve**



**UxC Broker Average Price (BAP) Definition**

The **UxC BAP** (Broker Average Price), subject to the terms listed, is a calculated average mid-point of bid and offer prices as supplied to UxC by participating brokers. The participating brokers are Evolution Markets and Numerco Limited (the "Brokers"). Data posted by the Brokers are kept confidential and will not be published or made available independently. The Broker data are subject to verification by The Ux Consulting Company, LLC (UxC), which compiles and reports the UxC BAP. In order to have a sufficient number of data points and to represent submissions by all of the Brokers, the UxC BAP includes the best bids and offers reported up to a three-month forward period. This period is consistent with the three-month delivery period for offers considered in the determination of the **Ux U<sub>3</sub>O<sub>8</sub> Price**. On a daily basis, the Brokers submit their best bids and offers over a forward three-month period through a secure system. From these postings, UxC separately calculates the UxC Broker Average (BA) Bid and the UxC Broker Average (BA) Offer prices. The UxC BAP is a simple mid-point average of the **UxC BA Bid** and **UxC BA Offer** prices. Other Broker data collected include lot volume on a per offer basis. The UxC BAP is published on a daily basis and is made available to subscribers through email updates and UxC's Subscriber Services website.

**UxC Broker Average Price (BAP) Definition**

