



URANIUM PRODUCERS OF AMERICA

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March 26, 2014

Dr. Peter Lyons
Assistant Secretary for Nuclear Energy
U.S. Department of Energy
1000 Independence Ave. S.W.
Washington, D.C. 20585

Re: Analysis Supporting Secretarial Determinations

Dear Dr. Lyons,

As a follow-up to our meeting, the Uranium Producers of America appreciate the opportunity to provide additional comments on the analysis that will predicate the May 2014 Secretarial Determination for future transfers of the federal excess uranium inventories. As we indicated in our two recent meetings with Department officials, the domestic uranium and conversion industries are facing extremely difficult market conditions. As recognized by ERI, the spot market is thinly traded, and minor quantities can result in large price movements. We believe this is particularly true in the post-Fukushima market. The amount of secondary supply into the market from DOE will be a factor in determining whether U.S. producers will be able to continue their operations that we believe are vital to promoting a strong nuclear industry in the United States. UPA recognizes that DOE inventory transfers are not the sole factor for the current low spot price, however the amount of these transfers are a market impact that can be controlled to improve market conditions. We believe current geopolitical events underscore that secure domestic energy sources play an ever increasing role in our Nation's security. The viability of the domestic mining and conversion industries cannot be overlooked as the Department completes its Secretarial Determination.

While the accelerated environmental clean-up at enrichment facilities is an important Departmental priority, it has been demonstrated that funding can be obtained through the

appropriations process and the UPA would be pleased to work with the Department to achieve this objective. The recent appropriations for these programs establish that Congress recognizes funding for these cleanups should primarily be derived through normal appropriations rather than reliance on barter transactions.

The UPA position is that any DOE transfers into the current market are in fact having a material adverse impact on our industry. DOE transfers in 2013 were in excess of the total spot market purchases made by all the U.S. utilities and was about 40% of the spot quantity purchased by the U.S. and Non-U.S. utilities combined. (UxC – 2014 Q1 Uranium Market Outlook page 26). We would propose transfers be reduced until such time market prices recover. We also encourage the Department to review prior transfers and their impact on the domestic uranium industry and the uranium markets. This information should help the Department in its consideration of adverse impacts future transfers are likely to have on the domestic uranium and conversion industries.

In addition, UPA requests the Department provide more transparency on how the fair market value was determined for its barter transfers. We believe the Department is not receiving full value for this taxpayer asset. The Department could increase the value of receipts from the disposition of the federal uranium stockpile if the disposition was conducted with sales into the long-term market. UPA members would like to work with the Department to help make this happen.

Industry Engagement

The adverse impacts of DOE uranium transfers can be reduced if the Department works closely with industry stakeholders concerning the amounts of material that should come into the commercial market. During the development of the 2008 Management Plan, UPA worked constructively with the DOE and other industry stakeholders on a consensus agreement. UPA believes that industry engagement is essential to ensure that any analysis is reflective of actual market conditions.

In order to consider the impact of future DOE barter transactions on the domestic uranium mining and conversion industries, the analysis must consider domestic producers' costs of production as well as the ability to obtain funding from capital markets that are heavily influenced by the spot market price of uranium. There is no publicly available evidence that these actual impacts have been considered in the analyses used to support previous Secretarial Determinations. Of the membership of UPA, which represents the majority of the domestic uranium mining and

conversion industry, no member has been contacted by DOE or its contractors regarding the state of the industry, markets or the cost of production. At the current spot market price it is obvious that current operations are stressed due to decreased demand resulting from the Fukushima incident and an oversupplied uranium market.

Average production costs for uranium and conversion are readily available for analysis from the Energy Information Administration. EIA statistics for 2012 show the average cost for U.S. mining production was approximately \$44.00 per pound, well above the recent spot market price of \$ 34.75 per pound U3O8. This figure is supported by the UxC August 2013 Uranium Production Cost Study which found operating costs ranging from \$32.00 to \$52.00 per pound for existing projects and \$39.00 to \$64.00 per pound for planned projects.¹ These figures alone should be sufficient evidence that DOE should significantly reduce the amount of its material entering the market in an effort to strengthen the spot price. Since there is only one conversion facility in the United States, its cost information is more sensitive. Separately to this letter, ConverDyn shall provide data specifying the impact the domestic uranium conversion industry.

If there was any doubt about the state of the domestic uranium industry, we encourage the Department to look at the information UPA provided regarding recent employment actions by its member companies. Our industry has lost about half its workforce since 2012. These layoffs of employees and contractors are a direct result of the 8 year historic low price of uranium, and the uncertainty of the near term future of the uranium market. In many cases, production is being limited to that which is required to fulfill existing long-term contracts, and in other cases, further development and operations have ceased. It is also important to note that the significant reduction in development drilling will not sustain many of the current operations in the future unless prices improve to support the sustainment of continued production.² In its review of ERI's November 5, 2009 analysis, Trade Tech noted that "[w]eakening market prices will naturally affect the small developing operations more than the established suppliers. Trade Tech has conservatively identified over 100 million pounds U₃O₈ of annual production that could be impacted negatively from a weakening market."

¹ A summary of the UxC cost study is attached as Exhibit 1.

² An example of a decision to suspend well installation and wellfield construction activities at a domestic uranium operation is detailed in Uranium One's Third Quarter 2013 Report on reduced Willow Creek (Wyoming) operations due to weak uranium prices: "One well was installed during Q3 2013, compared to budget of 133. All well installation and wellfield construction activities were suspended at the end of Q2 due to continued low uranium prices. Production from existing wellfields at Willow Creek has continued. Resumption of construction is expected by 2015 pending higher market prices."

At our recent meeting it was suggested that if DOE reduced the amounts of its bartered material, lower cost producers would simply pick up the market made available. According to published reports, there is no evidence low cost producers are holding back production that could rapidly be increased to fill the gap should DOE reduce the quantity of bartered material. These operations require significant capital and time to increase capacity. Also, this would not be the case due to the imbalance between supply and demand for uranium and conversion. Further, reducing secondary supply would have a positive impact in the spot price causing DOE's material entering the market to increase in value.³

Historically, the market responded very positively to DOE announcements that it would cut back on the amount of material to be transferred. In 2009, DOE announced it would transfer 2,400 MTU for accelerated cleanup at Portsmouth. Due to considerable concern from industry and Congress, DOE reduced this amount to 1,600 MTU and the spot market price responded favorably. This is evidence that DOE could obtain a more favorable price for the government's inventory asset by significantly reducing the amount to be transferred in the current depressed market.

The Analysis Must Take Into Account the Fukushima Incident

Once again, a valid analysis of impacts from DOE uranium transfers must take into account the precarious state of the domestic industry post-Fukushima. It is not enough to state that ERI's model shows "current" prices will only decline a small percentage due to DOE actions. The "current" price is already too low to support a strong domestic industry. UPA strongly urges that the upcoming analysis be weighed heavily upon the actual condition of the stakeholders that the requirements of Section 3112 are supposed to protect.

The Fukushima incident was a game changer in the world uranium market. Ux Consulting recently stated that Fukushima "took down what were at the time the world's third and fifth largest nuclear power programs and set back or extinguished the expansion plans of others. Comparing our base case forecast right before the accident with the one now, requirements have dropped by almost 900 million pounds over the 2011-2030 period. The effect was so great it has brought our current base case forecast to below our low case forecast for the period up to 2005."⁴ The incident occurred shortly after the March 2, 2011, Secretarial Determination and its impacts completely

³ Figure A, The Ux Consulting Company Supply /Demand Chart attached as Exhibit 2 illustrates this point.

⁴ Ux Weekly, "Game Changes Revisited," January 20, 2014.

destroyed any basis for analysis upon which this Secretarial Determination was based. However, DOE did not make an attempt to assess the impacts to the domestic uranium industry and made no adjustments to the amounts transferred. The decline in spot market price has been constant since Fukushima, yet subsequent Secretarial Determinations failed to include this fact in its analysis of additional DOE material entering the market. Figure B attached as Exhibit 2, reflects recent uranium spot price history and how Fukushima has changed market dynamics.

The Fukushima incident also has lowered demand for uranium and conversion as it has created significant excess SWU capacity. Excess SWU capacity allows enrichers to operate their enrichment plants at lower tails assays and creates excess secondary supplies of uranium and conversion through “underfeeding” programs. Urenco reported that UF₆ is becoming a meaningful secondary income stream in its 2012 Annual Report. UPA estimates that additional UF₆ is coming to the market from enrichment operations at a current level of approximately 12-13 million pounds of U₃O₈ equivalent per annum. As enrichers turn a surplus of enrichment and tails material into a surplus of natural UF₆, this adversely impacts the price of uranium and conversion. This type of market reality should be included in the upcoming analysis for the May 2014 Secretarial Determination.

ERI has stated in its analysis that “it is very difficult, if not impossible, to accurately predict the specific change in spot market price that might result from a particular future event.”⁵ However, the uranium and conversion markets are dramatically impacted by events that have rendered the analysis upon which Secretarial Determinations have relied upon completely irrelevant. We believe that Congress’s intent was that these determinations were not intended to cover years of transfers nor immune to review. This is evidenced by recent language in appropriations legislation specifically requiring DOE to fix the validity of a Secretarial Determination to a 2 year period.

Future adverse impacts to the uranium and conversion markets could very well occur. Recently, you told attendees at the Platts 10th Annual Nuclear Energy Conference that the Department is reviewing recent nuclear plant closures. You expressed concern of the potential dire prediction of the possibility of closing more than thirty reactors in the near future solely from artificial market conditions in the wholesale energy sector. While the UPA believes that U.S.

⁵ See Quantification of the Potential Impact on Commercial Markets of DOE’s Transfer of Natural Uranium during the Period of October 2009 through December 2013, Energy Resources International, Inc., pp. ES-3-4 November 5, 2009.

reactor closures of this magnitude are unlikely, it is clear to our industry that a number of reactors in competitive energy markets are vulnerable where base load nuclear is disadvantaged in relation to subsidized wind or currently cheap natural gas in the near term merchant markets. If any of these possible closures were to occur it would have a devastating impact on the price of uranium and conversion. This would be another example of the necessity to revisit the Secretarial Determinations and refresh the underlying assumptions. In the case of the market impacts caused by Fukushima, DOE did not reduce its barter transactions despite the decline in market prices. DOE should indicate its willingness to adjust the amount of material it brings in the market in the event of unexpected events. DOE should recognize the market analyses used to support the Secretarial Determination are effectively “snapshots”, that should be subject to revision and modification as market and industry changes occur. If DOE declines to adjust its inventory disposition resulting from unexpected market events, ERI’s analysis should factor in the supply and demand impacts in its market analysis.

Adverse Impact

In order to truly comply with the requirements of Section 3112, UPA believes the Department should establish a definition of “adverse impact” for each segment of the domestic uranium industry. As noted above, impacts on jobs, development projects and price suppression should be obvious factors in an impact analysis. Another key element that has not been reviewed in past assessments is the impact of DOE transfers on stakeholder market capital. Trade Tech emphasized the need to review market stating that “[c]ontrary to ERI’s view, Trade Tech believes near-term price movements can affect long range forecasts and investment declines. This is demonstrated by our review of historical price forecasts, and by the correlation of spot prices to long-term price indices and to the market capitalizations of publicly traded uranium companies.” The devastating impact that the depressed uranium market has had on uranium equities is illustrated by reviewing the performance of two domestic UPA members companies, Energy Fuels, Inc. (UUUU) and Uranium Resources, Inc. (URRE). These are two of the oldest domestic producers with a 10 year record to draw on. Shown on the attached charts, after splits Energy Fuels, Inc.’s share price has dropped from a high of over \$260 to \$9.90 and Uranium Resources, Inc.’s from over \$120 to \$3.00.⁶ In the case of Uranium Resources, Inc., as shown on the attached chart, the company’s market cap closely followed share price dropping from over \$750 million to

⁶ See Exhibits 3 and 4.

about \$60 million.⁷ The financial metrics of these two companies showed improvement until the Fukushima event, since which there has been no recovery. The impact of the Fukushima event is not limited to these two examples. Shown on the attached share value chart for the Global X Uranium Exchange Traded Fund, since the Fukushima accident the share price has dropped from over \$66 to \$17.49.⁸ The holdings in the Global X Uranium Exchange Traded Fund include 10 publically traded uranium production companies, from large to small, a number who are UPA members. The Department should review the “adverse impacts” vis-à-vis publically available financial metrics for each UPA member in its next impact analysis.

The analysis supporting a Secretarial Determination should also consider supply and demand issues that are unique to the uranium market. This would include the ability of enrichers to underfeed their enrichment centrifuges thus adding to the supply of uranium and conversion entering the market. Another factor is the difference between long-term and short-term sales.

Long-term prices for uranium go at a premium to the spot price. Buyers are willing to pay this premium for price certainty and to incentivize and secure future supply. The long-term price is more reflective of primary production costs, while the spot price bears no relation to those underlying fundamentals, but rather the availability of near term supplies. In the post-Fukushima environment where an over-supply situation exists for the immediate future, new production is still required and the level of the long-term premium remains an important market factor. However, this premium will continue to be negatively impacted to the extent inventory and secondary supply is sold into the market in competition with new production.

The Secretarial Determination analysis should also consider the existing and projected committed/uncommitted demand. DOE did consider this factor in the past, but has abandoned this element in recent determinations.

When DOE rolled out its 2008 Management Plan, Bill Szymanski of the Office of Uranium Management and Policy presented a slide titled “Uranium Market Fundamentals Dictate a Gradual Ramp-up of Material Entering the Market” that graphically depicted committed and uncommitted requirements measured against expected fuel requirements. This indicated that DOE recognized a gradual ramp up of material it placed in the market would minimize the negative impacts of its transfers and achieve the highest value for the taxpayer from the disposition of the federal uranium inventories. Given the recent rapid decline in the spot price, producers are finding

⁷ See Exhibit 5.

⁸ See Exhibit 6.

it more difficult to pass on the risks of cost increases to utility purchasers because of a market that now favors buyers in light of the drop-off in near and medium-term demand and build-up of utility and supplier inventories over the last two years. Today, the committed demand in the near term represents an even higher percentage of requirements yet DOE has increased the amounts of uranium to be bartered. Any future analysis should address DOE's abandonment of its former acknowledgment that uncommitted requirements, or the lack thereof, play a significant role in determining the impact of DOE sales and DOE's ability to maximize the value of the taxpayer's uranium asset.

In addition to enricher underfeeding and a review of uncommitted demand, the upcoming assessment should consider the impacts of the slow pace of reactor restarts in Japan and reactor shutdowns in Germany. The continued Russian material entering the U.S. market through the TSA agreement and down blending of LEU by NNSA contractors will also play a role in when the price of uranium will recover.

The ERI Model

Past analyses have relied upon a model that has not been made available for public or peer review. UPA believes that there are severe limitations on any economic model in a market that exhibits very low liquidity.

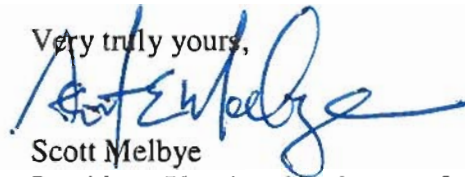
ERI's analysis fails to accurately describe how the market works or will react to DOE sales. Previous ERI reports have ignored actual conditions faced by the domestic producers and convertor. The model has not been validated against actual historic transactions, price movement and the predictions made in previous ERI assessments. Post-analysis results have demonstrated the ERI model predictions have been incorrect. This can be shown by reviewing the recent ERI projections against the actual decline in price since March 2011. As we have noted, ERI cannot be expected to have anticipated the Fukushima event, but subsequent assessments beginning in May 2012 projected much less price impact than have actually occurred. Since May 2012, the spot price for uranium has steadily declined from \$52.00 to \$35. These declines are much greater than ERI projected.

UPA believes a much more accurate assessment of the true adverse impacts would involve significant interaction with industry stakeholders.

Conclusion

Past assessments to support DOE barter transactions have been based on a model that only looks at the effect on the current market prices, which the studies have grossly underestimated. This process has failed to take into account the actual conditions (e.g., production costs) faced by the operators that Section 3112 was designed to protect. UPA respectfully requests that the upcoming analysis recognize the adverse impact that the current market is having on our industry. Also, recognition that any additional decline in the market will further exacerbate the adverse impact on the domestic mining and conversion industries. We also encourage the Department to review its previous analyses against the actual market data. DOE must also accept the fact that continued barter transactions at the current levels are not obtaining the fair market value of the government's uranium assets. UPA members are prepared to work with the Department in order to assist in meeting its reasonable programmatic goals while preserving our operations.

Very truly yours,



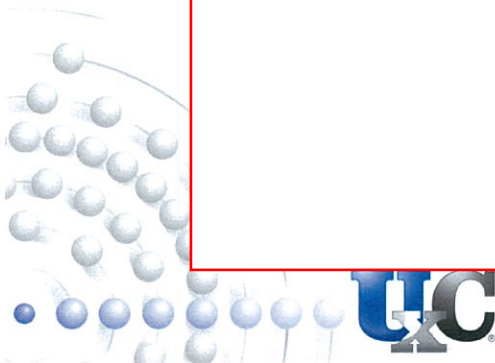
Scott Melby
President, Uranium Producers of America

cc: Ernest Moniz, Secretary of Energy
Daniel Poneman, Deputy Secretary of Energy
David Huizenga, Senior Advisor, Office of Environmental Management
Jim Owendoff, Acting Principal Deputy Assistant Secretary, Office of Environmental Management
A. David Henderson, Office of Uranium Management and Policy

2013 Production Cost Curve



REDACTED



Planned Projects



REDACTED

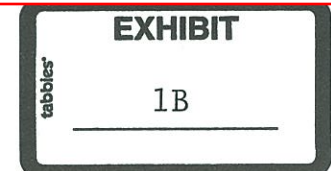
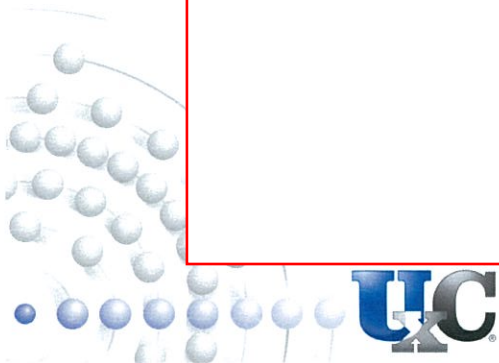
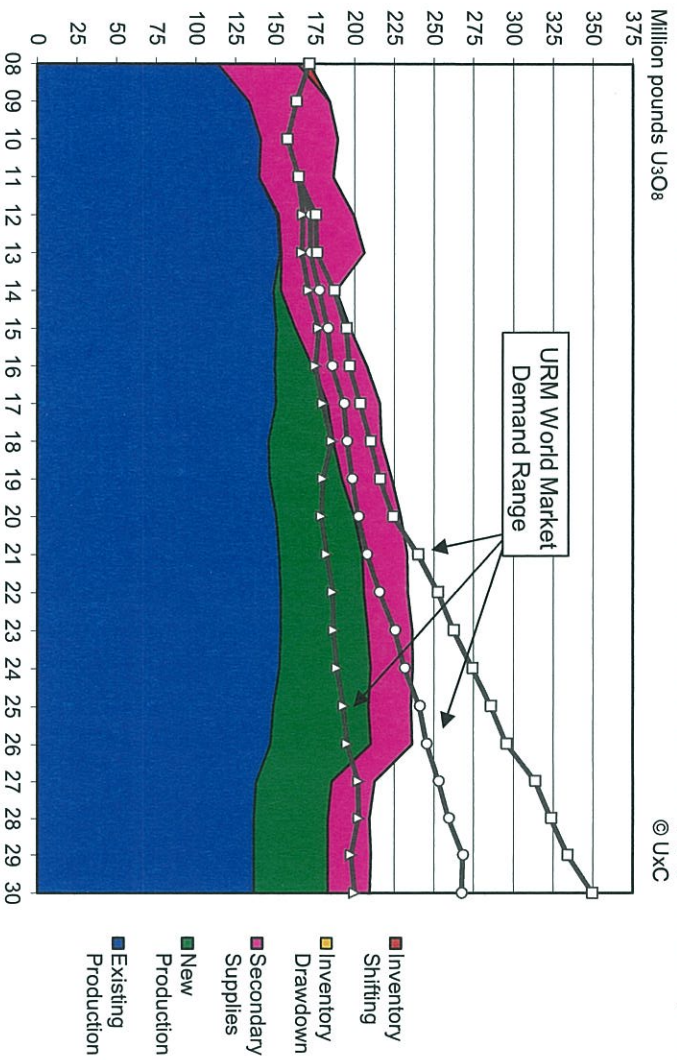


Figure A. World Uranium Market Demand vs. Mid-Case Potential Supply Sources, 2008-2030

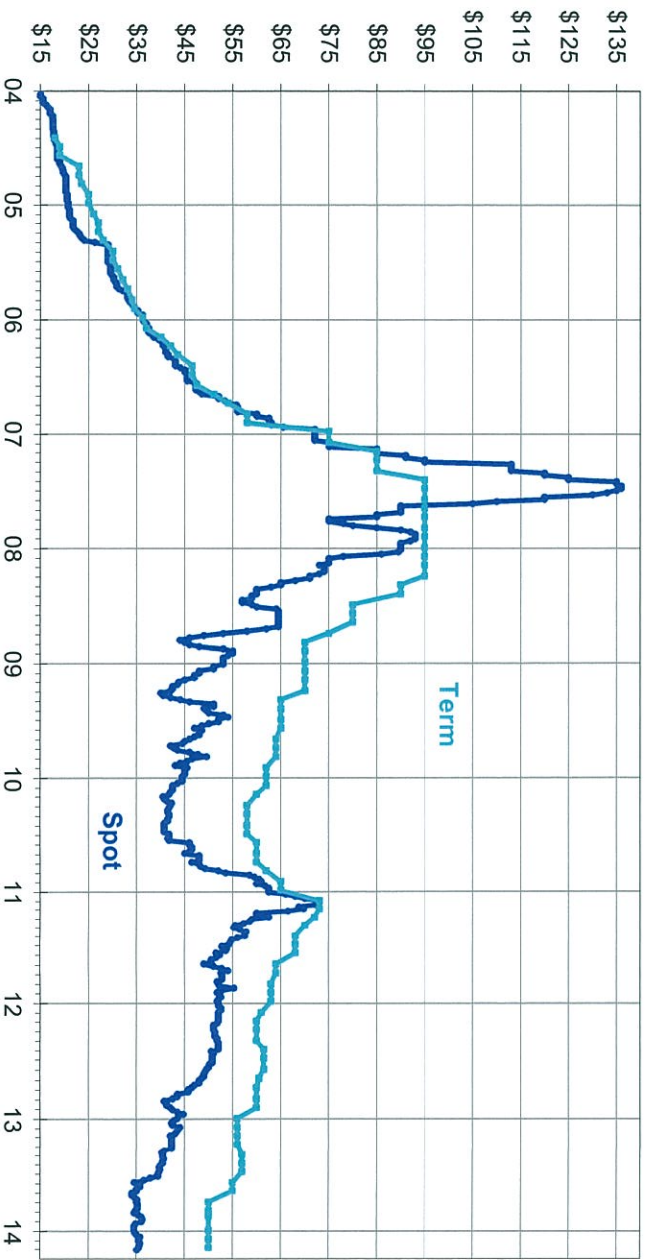


Source: The Ux Consulting Company, LLC (uxc.com)

US\$/lb U₃O₈

Figure B. Ux U₃O₈ Prices, 2004-2014

© UXC



Source: The Ux Consulting Company, LLC (uxc.com)

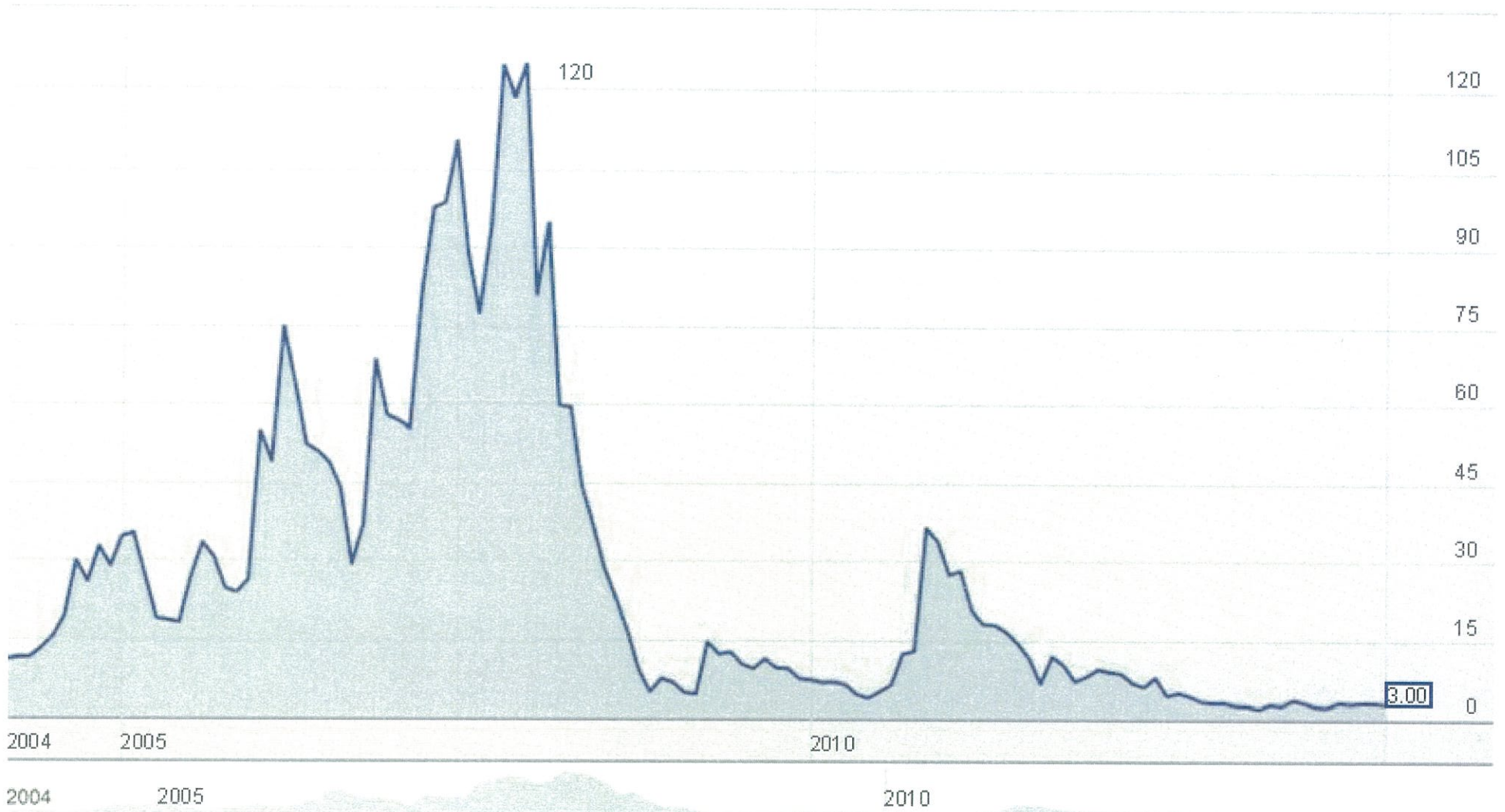
EFR:CA (Energy Fuels Inc.)



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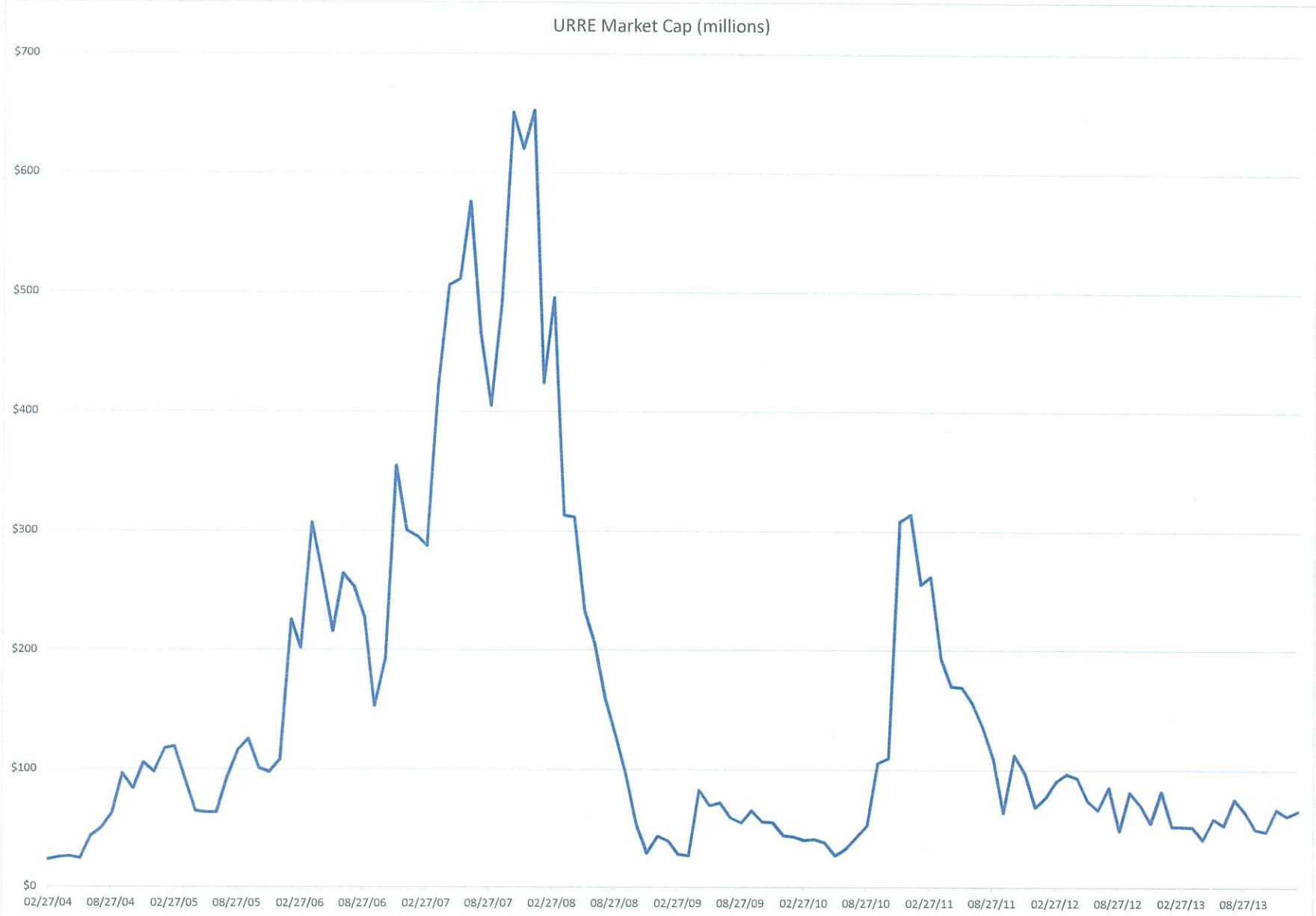
URANIUM RESOURCES Inc(NASDAQ: URRE)



EXHIBIT

4

tabbles



GLOBAL X URANIUM ETF (PCQ: URA)

Nov 05, 2010 - Mar 21, 2014 **URA**

