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CASE REPORT

Confronting Media and other Bias against Uranium Exploration and Mining, Nuclear Power, and Associated Environmental Issues

Michael D. Campbell[1], Henry M. Wise[2] and M. David Campbell[3]

[1]Chief Geologist / Chief Hydrogeologist, I2M Associates, LLC,[a] and Chair, Uranium (Nuclear and Rare Earth) Committee, Energy Minerals Division, AAPG,[aa] Houston, Texas, USA.

[2]Remedial Services Senior Specialist, SWS Environmental Services, LLC,[b] La Porte, Texas, and Vice-Chair (Industry), Uranium (Nuclear and Rare Earth) Committee, Energy Minerals Division,[bb] AAPG, Houston, Texas, USA.

[3]Vice President and Senior Program Manager, I2M Associates, LLC,[c] Houston, Texas, USA

Over the past years, I2M Associates personnel and associates noticed an increase in the number of inaccurate, misleading, and deceptive articles that were produced by various types of media on the subject of nuclear power, uranium exploration and mining, and other associated environmental issues. So did other professionals {(more) and (more)} on nuclear-power matters, and especially on the natural gas industry regarding hydraulic fracturing (more). These reports came from the national media, film producers, national and local adversarial groups, local citizens groups and the attorneys who represent them (more). Because they all seem to exhibit many shortcomings in common, we began in 2007 to examine some of the egregious articles in detail. In early 2010, I2M Associates, LLC, our new company, agreed to continue to encourage I2M personnel to review and comment on articles selected through a process involving at least three and perhaps additional associates, and to publish our reviews as an educational contribution to the general public. It should be noted that the opinions expressed herein are the views of the authors, not necessarily those of I2M Associates, LLC.

Objectives of I2M Reviews

We will endeavor to point out how some public officials and media reporters employ certain words to make a particular impact on the reader, or who make statements that have no basis in fact or appropriate reference, or that combine and confuse subjects treated in the article in order to encourage the reader to draw certain conclusions that the general public might not otherwise make. We have also noticed a problem with paid activists and attorneys who are credentialed in one academic field but who claim knowledge in another technical field and attempt to influence others on subjects about which they know very little. Also, activists and associated attorneys who have been supported by wind and /or solar interests have been making "anti-nuclear" presentations to local groups without indicating who support their efforts. Reviews of the following articles have a number of themes in common. Many reporters/authors present only those portions of the truth that support the positions they wish to hold without presenting all of the relevant background. For example, in-situ uranium mines were never cleaned up to the original standards because the original cleanup standards applied were based on drinking water standards or on water-quality levels that were based on insufficient documentation of any perceived original baseline. That is to be considered with the fact that the water quality established by sampling within and around the ore zone would typically show elevated metals for the past thousands, if not millions of years, but many reporters/authors would emphasize that mines were violating water-quality standards during the mine's shutdown. However, both water-quality standards or some concept of the original conditions do not apply, notwithstanding that metals placed into solution by introduced oxygen for producing uranium would quickly be depleted by the overwhelming reducing conditions typically present in the subsurface. This would force uranium ions and other metals to precipitate out as a solid mineral as the groundwater moves away from the immediate area mined over a distance of no more than a few hundred feet at most such mine sites. Sentinel monitoring wells located a few thousand feet in the direction of flow within the mine property would indicate chemical anomalies if the groundwater flow rate was faster than expected. To our knowledge, there has never been a documented case of groundwater contamination from an in-situ uranium mine in the U.S. crossing beyond the mine's property.

Correspondence to: Michael D. Campbell, Chief Geologist / Chief Hydrogeologist I2M Associates, LLC, Houston, Texas
Telephone:+01-713-248-1708, Email: mdc@i2massociates.com

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Adversarial Agendas and Motives

There are other more locally based reasons or motives that are behind those opposing uranium exploration and mining. These can be general in nature such the NIMBY attitude where a few landowners do not want a "uranium" mine in their backyards or are miffed that they do not own land that has uranium deposits below it and will therefore miss out on royalties. There are also other purely selfish, snobbish, or even political reasons as well in opposing uranium exploration and mining and, by association, the further development of nuclear power for generation of electricity in the U.S. and elsewhere in the world; this situation is not unlike the attitudes of the late 1800s when electric lights powered by AC or DC, as opposed to natural gas-fired or kerosene lighting, were under great debate. The fear of change (as with electricity) as well as the fear of nuclear power still haunt us today (Campbell, et al., 2005). Nuclear power for the generation of electricity is here to stay in the decades ahead, even as we begin to reach out to space to search for and mine natural resources. These will one day support the needs of Earth and justify off-world centers of human activities, such as on the Moon, Mars, or asteroids (see Conca, 2013; and Campbell, et al., 2013).

Independence of I2M Personnel Reviewers

A quick examination of our credentials should make it apparent to the general public and other professionals alike that the Associates consist of a group of professional geoscientists who have been involved in environmental projects as well as uranium exploration and recovery-related activities for many decades. Hence, we are active in the protection of such resources and in their development. As consultants, and as licensed professional geologists (and hydrogeologists) in Texas, Wyoming, Mississippi, Alaska, and Washington, we have an obligation to conduct our business in a professional and ethical manner as do other professionals in Texas and throughout the U.S. with similar licenses, credentials and training. We conclude that it is part of our individual professional duties to speak out on public matters relating to controversial issues regarding natural resources and the environment.

We receive no funding from any source that might influence our opinions expressed in the reviews below. We do not represent any particular mine or company but we do support the appropriate science and technology involved in uranium exploration and mining of uranium to provide the source of energy to fuel nuclear power plants in the U.S. and elsewhere in the world. As a mineral, uranium, like other minerals of economic value, it must be located by exploration and then mined with the environment in mind. To do otherwise would be counterproductive.

This process creates wealth by turning minerals into monetary value for the landowner in the form of a royalty, for the mining company that recovers it and produces yellowcake for the market, for the employees, consultants, and contractors who work for the mining company, for the investors who took on the early risk by financing the exploration, mining, and for providing bonds to cover remediation after mining has been completed, if necessary, for the State and Federal governments in terms of taxes received, and for the community surrounding the mine in terms of schools and businesses that benefit from the mine's operation and associated revenue. This requires the mine management to develop relationships with many spheres of influence, from the community to the local, State and Federal governments, and with the financial industry, both private and public, to fund their operations during the early stages of the project (Figure 1).

Figure 1: Spheres of Interrelationships in Uranium Exploration, Mining and Remediation in the U.S.

Conclusions

We have concluded after much study and discussion that uranium and other nuclear minerals are critical energy resources that are necessary for generating electricity, and that the nuclear industry has an outstanding safety record when all the information is considered. The Three-Mile Island incident and the Japanese earthquake (that caused severe damage to the Fukushima Daiichi Power Plant) have served to make the nuclear industry even stronger than before. No lives were lost at either power plant (also see (more)). The Chernobyl disaster doesn't count against the U.S. nuclear industry's safety record because the Soviet Union's nuclear industry made seriously flawed design decisions that led to the meltdown and explosion at the facility; and Chernobyl was a dual-use weapons reactor, designed to produce plutonium for weapons as well as energy, so the Chernobyl disaster does not fit in the same discussion with power reactor accidents.

Approximately 4,000 children and adolescents contracted thyroid cancer some years later (IAEA). Nearly all recovered producing a treatment success rate of about 99%. Few realized at the time that the Soviet reactor design decisions had been severely criticized by the West as the reactors were being built many years ago. They ignored the West's comments (and suggestions) because of the competitive pressures of the "Cold War".

In this review program, we are alerting the general public to the vagaries of the local news media and news media in

general around the country. We encourage the general public to take notice of how some local public servants, activists, and news media are sowing the seeds of misinformation, creating unnecessary controversy and mistrust around the U.S. This includes the dissemination of blatantly biased articles related specifically to inhibiting the expansion of nuclear power and to this end, we invite the general public to send us articles to review as either examples of biased reporting or of well-balanced reporting for consideration in the I2M Associates News Analysis program. Our Review #8 (below) and a 2006 article (here) are examples of reasonably well-balanced media coverage. Because the original articles are now "old" they are often taken off-line (NA). However, the I2M reviews capture the original articles but have I2M comments and remarks interspersed. To stay up-to-date on the subjects treated, the I2M Web Portal is a focused, well-balanced source of such information. For example, see the search results for the term (media).

Background to I2M Reviews

We list below a couple of the recent articles the authors have prepared that address some of the issues treated herein: "State of the Uranium Industry in the U.S. & the World: 2011" by the senior author for an invited presentation to the Ohio Geological Society, Columbus, Ohio, on April 21, 2011 (here). A similar presentation was made by the authors for an invited presentation earlier to the Houston Geological Society Environmental & Engineering Dinner Meeting on May 18, 2010 (here).

For the current publications by the professional staff of I2M Associates, LLC, see (more). To monitor current reports on uranium, and other subjects, here are the search results from the I2M Web Portal.

Reviews Conducted by I2M Personnel:

Report: "Uranium Mining in Texas: Why is it Done that Way?" By Ronald L. Sass, Ph.D., Fellow in Global Climate Change, Dated: March 28, 2011 (Review #28) James A. Baker III Institute for Public Policy, Rice University Original Article: (here)

"FORUM: In Situ Uranium Mining Will Pollute Water" By Lilias Jarding, Rapid City Journal, South Dakota, January 12, 2013 .... (Review #27) Original Article: (here)

"Maintain the Ban" (On Virginia Uranium Mining?) By The Virginian-Pilot Editorial Board, December 16, 2012 .... (Review #26). Original Article: (here)

"Hundreds of Sites Complicate Navajo Uranium Clean-Up" By Maryann Batlle Cronkite News Service - Tucson Sentinel.com, December 21, 2012 .... (Review #25) Original Article: (here)

"The EPA has a Duty to Protect Aquifers" By Adam Friedman and Jim Blackburn - Houston Chronicle, January 28, 2011 .... (Review #24) Original Article: (here)

"Nuclear Power's Core of Support Gains Strength" By Eric Berger - Houston Chronicle, January 9, 2009 .... (Review #23) Original Article: (here)

"Activists Want Mining Suspended" By Lisa Sandberg - Express-News in My SA News, October 9, 2008 .... (Review #22) Original Article: (NA).

"Don't Be Fooled by Nuclear Industry Shill; Environmentalists Are Not Backing New Reactors Nuclear Power Plant Proposed for Victoria Puts Region at Risk" By An Anonymous Reporter - American Patriots.com - May 9th, 2008 .... (Review #21) Original Article: (NA).

"Power Struggle: Opponents of a Proposed Uranium Mine Near Nunn Find Kindred Spirits in South Texas." By Rebecca Boyle - Fort Collins Now, February 6, 2008 .... (Review #20) Original Article: (NA).

"Powering Up Nuclear: Uranium Industry Still Has its Supporters, Opponents." By Kevin Killough - The Independent, Gallup, New Mexico, January 4, 2007 .... (Review #19) Original Article: (NA).

"Mining Company, Uranium Opponents Seek Public Approval" By Sonny Long - Victoria Advocate, December 9, 2007 .... (Review #18) Original Article: (NA).

"Hot Air and Wind: A National Renewable Power Requirement" By Robert J. Michaels - Professor, Economics at California State U., Fullerton, December 20, 2007 .... (Review #17) Original Article: (NA).

"Two Strikes Against New Nuclear Reactors" By Lara Cushing - San Antonio Express - News, October 24, 2007 .... (Review #16) Original Article: (NA).

"U.S. Nuclear Industry Set for Expansion" By Kim Laners - Australian Broadcasting Company, ABC News, November 21, 2007 .... (Review #15) Original Article: (NA).

"A Uranium Alliance Formed" By Brandon Bennett - Black Hills Pioneer, Rapid City, November 12, 2007 .... (Review #14) Original Article: (NA).

"Uranium Company Won't Admit the Health Dangers" By Lilias Jones Jarding, Ph.D. - Fort Collins Coloradoan, October 29, 2007 .... (Review #13) Original Article: (NA).

"Water Group: 'We Want Action'" By Sonny Long - Victoria Advocate, October 16, 2007 .... (Review #12) Original Article: (NA).

"Uranium Rally Focuses on Water" By Sonny Long - Victoria Advocate, July 29, 2007 .... (Review #11) Original Article: (NA).

"Hype on Nuclear Power is Misleading" By Brahma Chellaney - The Japan Times OnLine, September 27, 2007 .... (Review # 10) Original Article: (here)

"Typical Questions from Citizens & Landowners Regarding Uranium Mining in Texas and Typical Responses by Uranium Companies in Texas and Elsewhere" By I2MA Natural Resources Group, August 27, 2007 (Summary of Typical Questions from the Community)

"Global Warming Heats up the Nuclear Option" By Greg Lavine - The Salt Lake Tribune, July 16, 2007 .... (Review #9) Original Article: (here)

"Nuclear Power is Back -- Not a Moment Too Soon" By Geoffrey Colvin - Money.cnn.com, May 30, 2005 .... (Review #8) Original Article: (here)

"Utilities Seek Licenses to Build 33 Additional Nuclear Reactors" By Nolan Hicks, The Daily Texan, Austin, TX, July 25, 2007 .... (Review #7) Original Article: (NA).

"Texans: Say No to Uranium Mining" By Zsombor Peter - Gallup Independent, Gallup, NM, July 24, 2007 .... (Review #6) Original Article: (NA).

"Waste Drums Tipped at Nuke Plant after Deadly Japan Quake; Thousands Evacuate Quake Zone" By Eric Talmadge, Associated Press, Kashiwazaki, Japan, July 17, 2007 .... (Review #5) Original Article: (NA).

"A Barrel of Gaffes: Earthquake Causes Nuclear Headaches in Japan" By Aileen Mioko Smith - Daily Grist ((Green Action), July 17, 2007 .... (Review #4) Original Article: (NA).

"Uranium Mining Causes Concern" By Jocelyn Mercer, Bowesonline.com, July 6, 2007 .... (Review #3) Original Article: (NA).

"Just say, 'No Way' to Uranium" By Jackie Adolph - The Coloradoan.com, June 11, 2007 .... (Review #2) Original Article: (NA).

"Uranium May Reach $200 in Two Years, Macquarie Says" By Angela Macdonald-Smith, Bloomberg, Sydney, June 5, 2007 .... (Review #1) Original Article: (NA).

The psychology of individual and media opposition to uranium mining and nuclear power development in the U.S. is complex and political (more). Figure 2 illustrates our general conclusion.

Figure 2: Community Center Meeting is Today. (Click to Enlarge)

Note: For a copy of the original I2M report, revised through 2017, see (here).

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