

Monday April 27, 2015 11:45 AM

Freedom of Information Act (FOIA) Request Form

To make an Electronic FOIA (E-FOIA) request, please provide the information below. Failure to enter accurate and complete information may render your FOIA request impossible to fulfill.

Requests submitted under the Privacy Act must be signed and, therefore, cannot be submitted on this form.

Date Rec'd:
4/27/2015
Due Date:
5/26/2015
Tracking Number:
BPA-2015-01211-F

Name Chuck Johnson

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Organization Oregon Physicians for Social Responsibility

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Reasonably Describe Records

Describe the specific record(s) you seek with sufficient detail that a knowledgeable official of the activity may locate the record with a reasonable amount of effort. Such detail should include: dates, titles, file designations, and offices to be searched.

Since most DOE records are not retained permanently, the more information you provide, the better the opportunity there is to determine if the records involved still exist and where. The FOIA clearly states that records must exist at the time the request is submitted.

Enter description:

All documents and emails regarding Energy Northwest's Low-Cost Fuel Purchases document at <http://www.energy-northwest.com/ourenergyprojects/Columbia/Pages/Fuel-Purchases.aspx>.

This is to include documents supporting or relating to Energy Northwest's claim, "According to the Bonneville Power Administration, the fuel agreement is now showing a more than \$40 million savings to the fiscal 2014 - 2015 rate case, and will save customers tens of millions more through 2028"

Specify preferred form or format:

Electronic

Type of Requester

Select a description of yourself and the purpose of the request to help determine your category for assessing fees:

- An individual seeking information for personal use and not for commercial use.
- Affiliated with an educational or noncommercial scientific institution, and this request is made for scholarly or scientific purposes and not for commercial use.
- Affiliated with a private corporation and seeking information for the use in the company's business.
- A representative of the news media affiliated with

and the request is made as part of news gathering and not for commercial use.

Select Type of media:

- Newspaper
- Magazine
- Television Station
- Other:

Fees and Fee Waivers

Your request must include a statement that (1) you agree to pay any fees that may be incurred to process the request, (2) stipulates an amount you are willing to pay, or (3) requests specific waiver or reduction of fees.

Please select the statement that applies:

- I agree to pay all applicable fees.
- I agree to pay up to a specified amount for fees.

Enter amount

- I request a waiver or reduction of fees.

If you request a waiver or reduction of fees, we will consider the following six factors to make a determination. Please provide information that addresses these factors:

The subject of the request: Whether the subject of the requested records concerns, "the operations or activities of the government."

The request concerns a fuel purchase the government was involved in.

The informative value of the information to be disclosed: Whether the disclosure is, "likely to contribute," to an understanding of government operations or activities.

The information will assist with analysis of the costs of the fuel purchase

The contribution to an understanding by the general public of the subject likely to result from disclosure, taking into account your ability and intent to disseminate the information to the public in a form that can further understanding of the subject matter.

We intend to make the results public

The significance of the contribution to public understanding: Whether the disclosure is likely to contribute "significantly" to public understanding of government operations or activities.

The information will assist significantly in public understanding of a fuel transaction that affects electric rates

The existence and magnitude of a commercial interest: Whether the requester has a commercial interest that would be furthered by the requested disclosure, and, if so.

No commercial interest

The primary interest in disclosure: Whether the magnitude of the identified commercial interest of the requester is significantly large, in comparison with the public interest in disclosure, that disclosure is, "primarily in the commercial interest of the requester."

Primarily in the public interest

If my request for a waiver or reduction in fees is denied, I agree to pay up to (enter amount) \$0.00 to process my request.

Expedited Processing

I request expedited processing of the request and provide a justification below. I believe a compelling need exists to warrant expedited processing because there is:

- an imminent threat to the life or physical safety of an individual.
- an urgency to inform the public concerning actual or alleged Federal Government activity (this option available ONLY for requesters primarily engaged in disseminating information).

Please provide your specific justification for expedited processing:

387

Enter the sum of the digits on the left into the box below.

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Energy Northwest
Low-Cost Fuel Purchases

Fuel Purchase Saved Northwest \$40 Million & Tens of Millions More Through 2028

Energy Northwest's history of strategic fuel purchases for Columbia Generating Station has resulted in some of the lowest fuel costs in the nation for Northwest beneficiaries of nuclear power.

On May 15, 2012, Energy Northwest announced to the region its most beneficial fuel purchase to date – an agreement between the Tennessee Valley Authority, the U.S. Enrichment Corporation and the Department of Energy to turn depleted uranium (also called uranium tails) into low cost enriched uranium product for further future processing into nuclear fuel.

According to the Bonneville Power Administration, the fuel agreement is now showing a more than \$40 million savings to the fiscal 2014 - 2015 rate case, and will save customers tens of millions more through 2028. Every \$40 million in savings lowers the rate case by approximately one percentage point.

Low-Cost Opportunity

In early 2012 the Energy Department invited the Bonneville Power Administration and Energy Northwest to participate in an agreement to enrich uranium tailings for use as fuel in Columbia Generating Station.

The motivation for this federal initiative was a need by the Energy Department to supply the National Nuclear Security Administration with U.S.-origin uranium and enrichment for the production of tritium for national security purposes. The only enrichment production option for the NNSA was the one U.S. facility allowed under international treaty to supply such material – the Paducah Gaseous Diffusion Plant in Kentucky, owned by the Department of Energy, and under lease to the U.S. Enrichment Corporation. (USEC plans to replace the Paducah facility with a more efficient facility in Piketon, Ohio, under a program known as the American Centrifuge Project.)

To obtain the material required by NNSA, DOE chose to approach Energy Northwest and the Tennessee Valley Authority with a fuel procurement option that would provide fuel for Energy Northwest while also providing fuel, for tritium production, to TVA.

Low-Cost and Predictability

After several months of negotiations between all parties, CEO Mark Reddemann recommended that the agency's executive board award a contract for enrichment of services to the U.S. Enrichment Corporation not to exceed \$706 million; enter an agreement with the Energy Department for a combined transaction value not to exceed \$5 million; and contract for the sale to TVA of a portion of the uranium received from USEC for approximately \$730 million. The fuel produced by the process, most of which would be sold to TVA, would be managed as two different commercial commodities – uranium hexafluoride at the natural enrichment level, and separative work units, or SWU, used to enrich the fuel from the natural enrichment level to that used in commercial reactors.

Contracts were signed in May 2012, through which Energy Northwest purchased nine years' worth of fuel for Columbia at a cost significantly lower than the then-current market price as well as future forecasted market prices.

Within the year the Paducah facility had enriched the uranium for future use as fuel in Columbia Generation Station, and for supply to TVA. The cost of this fuel was well below other market options, and predictable through 2028. Beginning in 2015 the agency will start selling the larger portion of the enriched uranium to TVA.

Adding Up Customer Savings

The actual cost to EN was \$687 million, which provided fuel that was valued conservatively, as of March 20, 2015, at \$878 million (\$622 million due from TVA for its portion, plus a retained fuel value of \$256 million at current spot market prices).

After deliveries are made to the Tennessee Valley Authority by Energy Northwest, and TVA contractual payments are received by Energy Northwest, the remaining uranium that will be used by Columbia Generating Station through 2028 will have been procured at a cost of about \$65 million (\$687 minus \$622). The March 20, 2015 spot market value of this retained fuel, which will be used in Columbia's reactor between 2019 and 2028, is \$256 million. *This means*

Northwest electricity customers have an inventory of nuclear fuel procured at approximately 25.4 percent of the March 20, 2015 spot market price.

As added benefit, if Energy Northwest were to enter into contracts for delivery of this material at a future date, the current long-term contracts would be at prices totaling approximately \$332 million. This means that today ratepayers of the Northwest have \$191 million in savings compared to the spot market, and \$267 million compared to the long-term market. (Prices for natural uranium and uranium enrichment services have dropped since 2012. However, uranium costs are projected to rise in the future, increasing the value of contracted fuel.)

In short, Northwest ratepayers received nine years of fuel well under market value – hence the more than \$40 million saved this rate case and tens of millions more through the life-cycle of the fuel, through 2028.

Anatomy of a Fair Deal - Price and Predictability

Energy Northwest historically purchases the majority of its nuclear fuel under long-term contracts of varying lengths and quantities, based on current market conditions.

Uranium hexafluoride (UF₆) is a compound used in the uranium enrichment process that produces fuel for nuclear reactors.

In the nuclear industry, long-term fuel supply contracts are typically signed two to three years before the first delivery – and deliveries typically span five to 10 years. Prices are locked at the time of contracting and generally escalate from year to year over the life of the contract. The escalation could be a fixed percentage or linked to the actual rate of inflation.

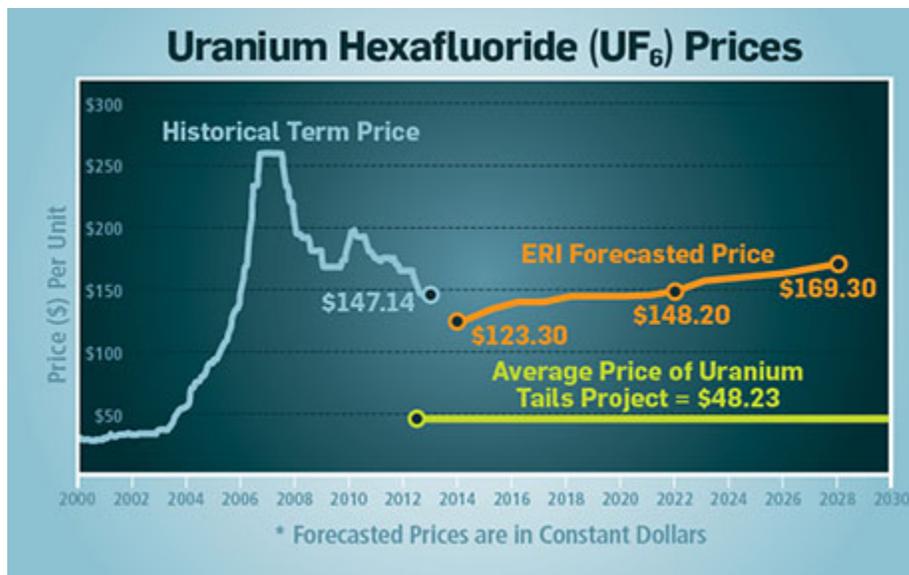
Example

Energy Northwest signs a long-term UF₆ contract at a starting price of \$147 per kilogram of uranium (Historical Term Price as of Dec. 31, 2013) – the \$147/kg starting price is

escalated at a fixed 3 percent per year. Assuming the first delivery is two years from the contract date, the initial price (\$147/kg) would be escalated at 3 percent/year resulting in a price of \$156/kg. For a delivery in 10 years, the price would be \$192/kg.

By contrast, the 2012 uranium tails purchase provided Energy Northwest with UF₆ at a fixed price of \$48.23 per kilogram beginning in 2019 and staying constant at that price through 2028.

As can be seen in the graph below, UF₆ prices are volatile, remaining well above \$100 since 2006 and are projected to stay above that level. The uranium tails program acquired fuel at a discount relative to current and projected prices, and acquired it at a fixed price, with no escalation, significantly reducing future cost uncertainty.



About Energy Resources International, Inc.

Energy Northwest is a client of Energy Resources International, Inc., which provides consulting and strategic advisory services on technology, market, business, policy and environmental issues related to electric power generation and delivery.

In addition, ERI's Nuclear Power Group produces a comprehensive multi-client report that

analyzes nuclear fuel supply prices and markets on a periodic basis.

Find out more about ERI's nuclear fuel cycle services [here](#).

Low-Cost and Low-Carbon

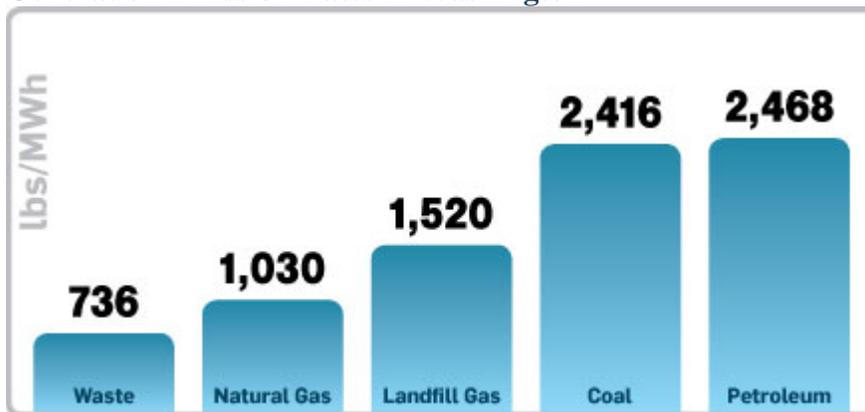
Columbia's electricity generation plays a key role in reducing regional carbon emissions. In 2013 Columbia prevented the emission of about 4.2 million metric tons of greenhouse gases.

As a result of the enriched uranium processing in Paducah, Ky., Columbia's carbon footprint will increase by five to 10 percent beginning in 2019. Despite the increase, Columbia will still provide among the lowest carbon output among all other energy resources for the electricity it generates.

The electricity used for the uranium enrichment process in Paducah was purchased from the Tennessee Valley Authority under a TVA power contract. Using TVA's fuel mix (which includes coal, hydropower and nuclear) in the carbon calculation for the uranium fuel purchased under this transaction, Columbia's carbon footprint will range between 92 and 103 pounds per megawatt hours.

For comparison purposes, according to a 2012 report from the Washington State Department of Community, Trade and Economic Development, CO₂ emitting resources in our state had the following generation emission rates:

Generation Emission Rates in Washington



These reported emissions are for generation only – for which Columbia is zero; they do not include the CO2 emissions associated with fuel procurement for petroleum, coal and natural gas.

Columbia continues to make a significant contribution to decreasing CO2 emissions in Washington state and the Northwest. The 2012 uranium tails transaction allows Columbia to contribute low-carbon generation with low-cost and guaranteed fuel prices through 2028 – a win-win for Washington ratepayers and the environment.



Quick Facts

Type:

Boiling water reactor (nuclear)

Generating Capacity:

Approximately 1,170 megawatts (net)

Location:

10 miles north of Richland, Wash.

Site Size:

~1,089 acres

Projected Levelized

Cost of Power (2014-2043):

4.7 - 5.2 cents/kWh

Comparison Costs*:

Natural Gas: 6 - 14 cents/kWh

Wind: 7 - 10 cents/kWh

Solar: 11 - 42 cents/kWh

*Levelized costs according to the Energy Information Administration. Levelized cost represents the per kilowatt-hour cost (in real dollars) of building and operating a generating plant over an assumed financial life and duty cycle. Key inputs to calculating levelized costs include overnight capital costs, fuel costs, fixed and variable operations and maintenance costs, financing costs and an assumed utilization rate for each plant type.



Columbia Fact Sheet (PDF)

High-Cost Mistakes and False Claims

A \$440 to \$545 Million Research Error

To support an anti-nuclear policy position, a 2013 report sponsored by Physicians for Social Responsibility claimed Energy Northwest incurred a total loss of more than \$270 million through the 2012 uranium purchase. In January 2014, Energy Northwest supplied the group calculations to help them understand what regional power entities have already validated – Energy Northwest’s 2012 fuel procurement brings between \$171 and \$275 million in savings to the region.

Tapping the Wrong Carbon Source

The physicians’ group also miscalculated the slight increase in Columbia’s carbon footprint as a result of Paducah uranium enrichment. The group used the wrong energy mix – the Kentucky state generation mix dominated by coal-fired generation – instead of the energy mix that was provided by the Tennessee Valley Authority, which included significant contributions from coal, hydro and nuclear, along with lesser contributions from natural gas and clean energy resources.

Hyping the Freon Factor

The Paducah facility used Freon, a far greater greenhouse gas pollutant than CO₂, in systems used to cool the process stream. But the CO₂ emissions from Freon at Paducah were a relatively minor contribution to overall CO₂ emissions, the low quantities of which still maintain a very low-carbon footprint for Columbia.

Irrelevant Market Comparisons for Federal Procurement

The physicians’ group also wrongly asserted – perhaps unaware of limitations imposed by federal policy – that more cost-effective market options for obtaining enriched uranium were available to the federal government. However, since the federal government required the uranium for national security purposes, federal policy required that the government obtain the material from the nation’s only U.S.-owned (Department of Energy) plant that uses only U.S. technology – the Paducah facility in Kentucky.

Energy Northwest operates Columbia Generating Station, the Northwest's only nuclear power plant. A boiling water reactor, the plant uses nuclear fission to heat water into high pressure steam. The steam spins turbines connected to a generator that makes emissions-free electricity.

Columbia Generating Station demonstrates Energy Northwest's commitment to developing environmentally friendly, powerful solutions.

| *continued...*



INFORMATION CONTACT

Public Information

(509) 372-5860

info@energy-northwest.com

TYPE

Nuclear (Boiling Water Reactor)

GENERATING CAPACITY

Approximately 1,150 megawatts net

LOCATION

10 miles north of Richland, WA

SITE SIZE

~1,089 acres

PROJECT PARTICIPANTS

Electricity produced at Columbia Generating Station is provided, at-cost, to the Bonneville Power Administration which delivers the power to utilities throughout Washington and other western states as necessary.

PHASES

| | |
|------------------------------------|---------------|
| Construction Permit Issued | March 1973 |
| NRC Issued Plant Operating License | December 1983 |
| First Electricity Produced | May 1984 |
| Commercial Operation | December 1984 |
| First Refueling Completed | April 1986 |



RELIABLE, AFFORDABLE, ENVIRONMENTALLY RESPONSIBLE POWER

The 1,150-megawatt Columbia Generating Station produces enough electricity to power a city the size of Seattle. The production cost of nuclear power is comparatively inexpensive and is extremely reliable. Unlike hydro, wind, and solar generation facilities, Columbia Generating Station is not dependent on weather conditions—it can produce electricity twenty-four hours a day, seven days a week. In addition, operators adjust power levels—our load follow—to meet the Bonneville Power Administration's needs.

Refueling and maintenance outages are performed every two years during the spring, when the river system has ample water supplies to generate electricity through the Columbia and Snake River dam system, ensuring uninterrupted power for the region.

SAFE, CLEAN ENERGY

Nuclear power has proven itself safe for over 30 years of operation at more than 100 nuclear plants across the U.S. Working in a nuclear power plant is far safer than driving your car to work and unlike your car, produces no greenhouse gases.

Uranium, a naturally occurring element, is the primary fuel source. Fuel remains in the reactor for six years with one-third of the fuel rods replaced every two years. After six years of boiling water into steam the “used” fuel still contains more than 95 percent of its energy potential.

The “used” fuel is presently stored in heavy steel and concrete casks at an on-site dry cask storage facility until it can be permanently stored or recycled. Recycling will dramatically decrease the amount of “used” fuel requiring storage and disposal.

HOW IT WORKS

Fission occurs when a subatomic particle called a neutron strikes and is absorbed into the nucleus of a uranium atom. This causes the nucleus of the atom to become unstable and to split, producing heat and additional neutrons and other fission products. These additional neutrons bombard other uranium atoms causing them to fission and creating a self-sustaining chain reaction.

Heat generated in the fuel core boils water into high-pressure steam. The steam is then piped to large turbines connected to a single large electric generator. The steam spins the turbines which spin the generator producing electricity. After flowing through the turbines, the steam moves through a condenser where it is cooled back into water. The water is then pumped back to the reactor to be reheated back into steam, continuing the cycle.

A separate, non-radioactive water system carries heat from the condenser to six cooling towers located outside the plant. The heat from the non-radioactive cooling water is released into the atmosphere by the cooling towers as steam.

As with all Energy Northwest projects, Columbia Generating Station is ISO-14001: 2004 certified.



ENERGY NORTHWEST

Energy Northwest is a not-for-profit public power, state joint operating agency headquartered in Richland, Washington. The consortium's nuclear, hydro, wind, and solar power projects deliver nearly 1,300 megawatts of reliable, affordable, environmentally responsible electricity to the Northwest power grid. Energy Northwest continually explores and develops new generation opportunities while offering a wide range of energy and business services. Energy Northwest owns and operates Columbia Generating Station, Nine Canyon Wind Project, Packwood Lake Hydroelectric Project, and White Bluffs Solar Station.