DATE OF ISSUANCE: 05/10/10

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION **RESOLUTION E-4322**
May 6, 2010

R E S O L U T I O N

Resolution E-4322. Pacific Gas and Electric Company's (PG&E) Uranium Enrichment Services Contract for Diablo Canyon Power Plant.

PROPOSED OUTCOME:

(1) Approves PG&E's request for Commission approval of a long-term Uranium Enrichment Services contract for its Diablo Canyon Power Plant (DCPP) with AREVA Enrichment Services, LLC.

(2) Denies the protest by Californians for Renewable Energy (CARE).

(3) ESTIMATED COST: Based on comparison to PG&E's approved Nuclear Fuel Procurement Plan, PG&E's new contract with AREVA should not increase PG&E's revenue requirements above what would be expected for procurement of nuclear fuel materials and services during the contract period. The actual contract prices and terms are confidential.

By Advice Letter 3573-E filed on December 10, 2009.

SUMMARY

This Resolution approves PG&E's request for Commission review and approval of a long-term uranium enrichment services contract for Diablo Canyon Power Plant (DCPP) with AREVA Enrichment Services, LLC. This review is in accordance with the process established in the Nuclear Fuel Procurement Plan, a part of PG&E's Conformed 2006 Long-Term Procurement Plan, which was approved by the CPUC in Resolution E-4177, dated June 26, 2008.

The protest by the Californians for Renewable Energy (CARE) is denied.

BACKGROUND

Uranium enrichment is part of the nuclear fuel cycle in a nuclear power plant.

The uranium used in nuclear fuel needs to be enriched in order to produce energy for commercial power generation. Natural uranium, which is mined as an ore, consists primarily of two uranium isotopes, 0.7% U-235 and 99.3% U-238. The concentration of U-235, which is the fissionable isotope of uranium, needs to be increased to 3 to 5 percent in order to sustain a nuclear chain reaction and be used as a nuclear fuel in a commercial nuclear power plant. Enriched uranium can then be manufactured into fuel pellets that are inserted into rods forming a fuel assembly that are inserted into the reactor vessel for subsequent fission and release of energy.

Enrichment can be performed either by gaseous diffusion or gas centrifuge methods.

The principal methods for performing uranium enrichment are by use of gaseous diffusion or gas centrifuges.

The uranium ore is milled and processed into a uranium oxide powder U_3O_8, which is commonly called yellowcake. The uranium powder is then converted to a gaseous form by combining it with fluorine to create uranium hexafluoride (UF_6). In gaseous diffusion, the UF_6 is subsequently passed through many stages of barriers that separate the uranium isotopes. This process allows the U-235 isotopic concentration to be increased to the desired enrichment concentration level. In the United States, gaseous diffusion plants have operated in Oak Ridge Tennessee, Paducah Kentucky, and Piketon Ohio. Currently, the only operating enrichment plant in the United States is in Paducah Kentucky.

Another method to enrich uranium is by using gas centrifuges. Gas centrifuges spin the UF_6 gas at extremely high speeds, which separate the uranium isotopes by pulling the heavier U-238 further outward because of its greater momentum. Gas centrifuges have been used successfully in Europe and other foreign countries.

In December 2008, AREVA Enrichment Services, LLC (AREVA), submitted an application to the U.S. Nuclear Regulatory Commission (NRC) seeking a license to build and operate a gas centrifuge uranium enrichment facility in the United States.

AREVA has selected a site in Bonneville County Idaho, about 18 miles west of Idaho Falls and near the Idaho Falls National Laboratory for its new facility, which will be known as the Eagle Rock Enrichment Facility (EREF). The application to the NRC, NRC Docket No. 70-7015, was modified to request approval for the EREF to have an enrichment capacity of 6.6 million separative work units (SWU) per year.

The license application is currently under review by the NRC. The NRC licenses uranium plants pursuant to its regulations in 10 CFR 40 and 70. In its review of safety, environmental and other issues, and to issue a license for construction and operation, the NRC will prepare a Safety Evaluation Report and an Environmental Impact Statement. AREVA anticipates approval of a license from the NRC to construct and operate by June 2011, and no later than January 2012. With start of construction by December 2012, AREVA expects to begin operation by 2014, with full production capability by 2019.

There are two other companies that are planning to construct and operate gas centrifuge uranium enrichment facilities in the United States. The U.S. Enrichment Corporation (USEC) intends to have a gas centrifuge facility in Piketon Ohio in proximity to the existing gaseous diffusion plant. Louisiana Energy Services filed an application with the NRC for a 5.7 million SWU per year facility called the National Enrichment Facility (NEF). This facility, which received an NRC license in 2006, is currently under construction near Eunice New Mexico. The NEF will be operated by Louisiana Energy Services, which is owned by URENCO, a German, Dutch, and British consortium.

Worldwide, additional suppliers for uranium enrichment services include the British, German, and Dutch consortium URENCO, which enrich uranium at Grosnau in Germany, Capenhurst in the United Kingdom, and at Almelo in the Netherlands, and the Russian company Techsnabexport (TENEX). Under an agreement between the USEC and its Russian counterpart TENEX, the United States purchases highly enriched (90% U-235) weapons grade uranium from Russia that has been down-blended to low-enriched uranium (3%-5% U-235) for use in U.S. commercial reactors. There are also several small suppliers of

uranium enrichment services to supply enriched uranium for domestic use in Japan, China, India, and Iran.

AREVA Enrichment Services, LLC, is a subsidiary of AREVA, INC., a leading nuclear vendor and supplier in the US electric transmission and distribution sector.

AREVA, INC., with headquarters in Bethesda Maryland, has several thousand US employees associated with the domestic energy sector. The parent organization, AREVA SA is a French public multinational industrial conglomerate that is mainly known for nuclear power. AREVA SA was created in 2001 by the merger of the French nuclear organizations previously known as Framatome, Cogema, and Technicatome. Although the French are the major shareholders owning about 90% of AREVA SA, the German company Siemens retains a minority ownership of one of the subsidiaries.

PG&E's approved Nuclear Fuel Procurement Plan includes guidelines for pursuing activities which were outside the scope of the Plan.

In June 2008, the Commission issued Resolution E-4177, which approved PG&E's Conformed 2006 Long-Term Procurement Plan. PG&E's Nuclear Fuel Procurement Plan, which is covered by the approved Procurement Plan, includes guidelines for pursuing activities outside the scope of the plan. The Nuclear Fuel Procurement Plan approved activities and services related to the purchase of uranium ore, conversion to the gaseous UF_6, and uranium enrichment for up to 15 years forward for deliveries beginning no later than 2016. In cases where PG&E pursues a transaction outside the scope of the Nuclear Fuel Procurement Plan, PG&E needs to follow an expedited advice letter process to obtain Commission pre-approval of a specified transaction. Since PG&E is pursuing a long-term uranium enrichment contract with AREVA Enrichment Services for a time period beyond the scope of its approved Nuclear Fuel Procurement Plan, PG&E filed AL 3573-E.

NOTICE

Notice of AL 3573-E was made by publication in the Commission's Daily Calendar. PG&E states that a copy of the Advice Letter was mailed and distributed in accordance with General Order 96-B.

PROTESTS

Advice Letter 3573-E. was timely protested by Californians for Renewable Energy (CARE) on December 31, 2009. PG&E responded to this protest on January 8, 2010.

In its protest, CARE raises four issues, which it believes are not adequately addressed in PG&E's AL 3573-E. These issues involve formal application review, potentially enormous costs, need for an environmental review, and risk management procedures.

1. CARE objects to PG&E's filing of an advice letter and requests that the Commission require PG&E to submit a formal application to allow for public participation and applicable environmental review procedures to govern in such a proceeding.
2. Since the actual costs and terms in PG&E's contract with AREVA are confidential, CARE believes the costs may not be just and reasonable.
3. CARE believes that PG&E's proposal is to finance a new uranium enrichment facility, and as such should require environmental review, including disposal of the waste streams from the enrichment contract in California.
4. CARE requests review of PG&E's risk management procedures associated with this contract.

In its response to CARE dated January 8, 2010, PG&E addresses all of CARE's issues, which it finds are without merit.

1. PG&E states that CARE 's protest focuses on policy grounds and issues, and does not comply with General Order 96-B, Rule 7.4.2. PG&E states that, "… the Commission has already approved the use of an expedited advice letter process for uranium enrichment services contracts outside of PG&E's Nuclear Fuel Supply Plan." PG&E states that CARE provides no basis for deviating from this approach.

2. In its response, PG&E states, "the Areva Contract's pricing terms are consistent with the pricing that the Commission has already approved in PG&E's Nuclear Fuel Supply Plan." Also, PG&E indicates that CARE's statement that PG&E did not issue a Request For Offers (RFO) is

unfounded. PG&E states, "The Areva Contract was the result of an RFO conducted in early 2008 by PG&E."

3. PG&E points out that, "CARE mistakenly asserts that environmental review is necessary because of 'PG&E's participation in [the Areva] facility's construction ….' PG&E is not participating in the construction of Areva's new uranium enrichment facility. Instead PG&E is simply contracting for uranium enrichment services." PG&E goes on to state, "Environmental review of Areva's new enrichment facility, which is not located in California, will be conducted by Areva and appropriate state and federal regulatory agencies."

4. PG&E indicates that CARE expresses unclear and unspecified concerns about PG&E's risk management procedures. PG&E states that issues related to contractual risk management and liability are addressed in the confidential appendices filed with the advice letter.

DISCUSSION

AREVA has a proven track record of providing nuclear fuel services to the nuclear power community both in the US and abroad.

AREVA is an important and leading company in the US nuclear fuel industry. With over 45 locations in the US, AREVA appears to have committed substantial resources and assets to ensure the continuity of nuclear fuel availability. AREVA, Inc., and its subsidiaries, have access to its overseas parent conglomerate, and has worldwide expertise and a presence in over 100 countries worldwide.

The majority of capital invested by AREVA will go into the Idaho region's economy. According to AREVA, its new Eagle Rock uranium enrichment facility is expected to generate about $5 billion in economic activity. It is noted that PG&E is not financing the construction or licensing of the EREF facility, which is located in Idaho. PG&E is merely contracting for uranium enrichment services for the fuel used in its Diablo Canyon Power Plant.

PG&E is pursuing new contracts for uranium fuel, conversion, and enrichment services beyond 2010 to address the limited supply situation in the current nuclear fuel services market.

To ensure a continued supply of nuclear fuel for its DCPP units, PG&E is pursuing new contracts for its uranium ore, conversion, and enrichment services. The licenses for its DCPP units currently expire in 2024 and 2025 for DCPP Units 1 and 2, respectively. On November 23, 2009, PG&E filed a license renewal application (LRA) with the NRC to extend the licenses for both DCPP units for an additional 20 years. If approved by the NRC in 2014, DCPP could operate until 2044 and 2045 for Units 1 and 2, respectively. On March 3, 2010, the NRC held public meetings in San Luis Obispo as part of its scoping process to support development of an environmental impact statement related to the LRA for Diablo Canyon Power Plant. [1]

The Long-Term Procurement Plan provides guidelines for transactions outside the scope of the Plan. PG&E's AL 3573-E is in accordance with the guidelines of its Nuclear Fuel Procurement Plan for pursuing activities outside the scope of the Plan.

PG&E's approved Nuclear Fuel Procurement Plan covered targets for each of the nuclear fuel cycle segments for uranium ore, conversion to the gaseous hexafluoride, and uranium enrichment services from 2007 through 2016.

The Procurement Plan also provides guidelines for activities outside the scope of the approved Plan, stipulating that PG&E should submit advice letters to the Commission for expedited review and approval.

PG&E is entering into a contract with AREVA, LLC for uranium enrichment services for a delivery period 2015 through 2024 with a provision for a contract extension to 2029, which is contingent upon PG&E's obtaining a license renewal from the NRC for the Diablo Canyon Power Plant. Since these years are beyond the scope of the currently-approved Procurement Plan, PG&E submitted an advice letter AL 3573-E to the CPUC. The filing of this advice letter is appropriately within the guidelines set forth by the approved Procurement Plan.

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[1] The LRA is available on the NRC's website at: http://www/nrc.gov/reactors/operating/licensing/renewal/applications/diablo-canyon.html, and in the NRC's Agencywide Document and Management System (ADAMS) under accession numbers ML093340086, ML093350335, ML093340116, and ML093340123.

The terms of the PG&E contract for uranium enrichment services with AREVA, LLC, are just and reasonable.

We have reviewed the contract between PG&E and AREVA, LLC for uranium enrichment services, which was attached as a Confidential Appendix to AL 3573-E.

PG&E's contract with AREVA addresses multiple operation date scenarios, including the dates of startup, operation, or non-operation of the DCPP units or the EREF with appropriate price adjustments under each scenario. When compared against PG&E's approved Nuclear Fuel Procurement Plan, we find PG&E's contract and its terms and conditions to be just and reasonable.

PG&E has had a long-standing and continuing relationship with AREVA since 1984.

The original nuclear fuel cores and a number of nuclear fuel reloads were supplied with enriched uranium from the U.S. DOE (and later USEC) for the DCPP units. According to PG&E, after 1987 the pattern changed and the front end of the fuel supplies were contracted with companies that are now subsidiaries of AREVA. PG&E has had a long-standing and continuing relationship with AREVA and its subsidiaries over the past 26 years.

In 1984, PG&E entered into negotiations with Cogema, Inc. (later AREVA NC, a current subsidiary of AREVA SA) to contract for enrichment services for Diablo Canyon Power Plant for services from 1987 to 1996. There have been subsequent contracts for enrichment services for DCPP fuel since then.

PG&E had also contracted with Cogema, Inc. (later AREVA NC) for delivery of uranium starting in 1997, with several subsequent contracts. Similarly, PG&E contracted with Comurhex (a subsidiary of Cogema/AREVA) for conversion services throughout this time period starting in 1992 with subsequent contracts in later years.

CARE's protest is denied.

We have reviewed all of the issues raised by CARE in its protest dated December 31, 2009, as well as the response by PG&E dated January 8, 2010.

As explained above, PG&E appropriately complied with the guidelines set forth in the Nuclear Fuel Procurement Plan approved in Resolution E-4177 by filing AL 3573-E rather than a separate application to seek approval of the AREVA contract.

The California Environmental Quality Act is not applicable here. AREVA's Eagle Rock Enrichment Facility (EREF) is located in Idaho, not in California. In its review process of AREVA's application to license the EREF, the NRC will perform the appropriate environmental and safety reviews and prepare a Safety Evaluation Report and an Environmental Impact Statement (EIS). On June 4, 2009, the NRC held a public meeting in Idaho Falls Idaho on the scope of the EIS for the proposed EREF. The NRC will be addressing any chemical and radiological hazards in handling UF_6. The NRC will also address the waste depleted uranium, which is about 0.3% U-235, that is generated as a byproduct of the enrichment process. Depleted uranium is generally considered to be of no commercial value. The CPUC is not involved in any safety or environmental review of the EREF.

We have reviewed the Confidential pricing and terms and conditions of PG&E's contract with AREVA for uranium enrichment services, which are just and reasonable. In the terms and conditions of PG&E's contract with AREVA, all possible scenarios with appropriate price adjustments are covered including the dates of startup and operation of the EREF, whether a license extension is approved by the NRC for the DCPP units, and if DCPP became prematurely non-operable or shutdown.

All of the issues raised by CARE are without merit, and CARE's protest is denied.

In AL 3573-E, PG&E requested confidential treatment of the Appendices to the advice letter filing that contain pricing and terms of the contract.

AL 3573-E contains two appendices: Appendix A is a summary of the contract with AREVA, and Appendix B is the contract. PG&E requests that these two appendices be treated and maintained as confidential, under General Order 66-C and Public Utilities Code Section 583.

Since the PG&E contract with AREVA contains pricing and terms and conditions information, disclosure of this information would not be in the public interest. Accordingly, the Commission notes that Appendices A and B of AL 3573-E shall be maintained as confidential.

PG&E's request in AL 3573-E should not increase PG&E's revenue requirements above what would be expected for procurement of nuclear fuel materials and services during the contract period.

According to PG&E in AL 3573-E, "The pricing terms are favorable, consistent with the pricing approved by the Commission in the Nuclear Fuel Supply (sic Procurement) Plan, and are competitive with the other suppliers of enrichment services, based on the Utility's discussions with others in the industry for long term supplies of enriched uranium."

Further, our review confirms that the pricing of the PG&E contract with AREVA is consistent with what would be expected for procurement of nuclear fuel materials and services during the contract period based upon PG&E's approved Nuclear Fuel Procurement Plan. Thus, the contract should not increase PG&E's revenue requirements above what would be expected for procurement of uranium enrichment services during the contract period.

The actual contract prices and terms are confidential.

COMMENTS

Public Utilities Code section 311(g) (1) provides that this resolution must be served on all parties and subject to at least 30 days public review and comment prior to a vote of the Commission. Accordingly, this draft resolution was mailed to parties for comments, and is placed on the Commission's agenda no earlier than 30 days from the date issued for comment.

Timely comments were submitted by PG&E on April 26, 2010.

In its comments, PG&E recommended that minor clarifications and corrections be made to the draft resolution. PG&E's comments were incorporated into Resolution E-4322.

FINDINGS AND CONCLUSIONS

1. PG&E filed AL 3573-E on December 10, 2009 requesting Commission review and approval of a long-term Uranium Enrichment Services contract for DCPP with AREVA Enrichment Services, LLC.

2. AREVA Uranium Enrichment Services, LLC is a subsidiary of AREVA, INC, a leading nuclear vendor and supplier in the U.S. electric transmission and distribution sector.

3. AREVA has a proven track record of providing nuclear fuel services for nuclear power plants, both in the U.S. and abroad.

4. Uranium enrichment is part of the nuclear fuel cycle for fuel in a nuclear power plant.

5. The principal methods for performing uranium enrichment are by use of gaseous diffusion or gas centrifuges.

6. In the United States, gaseous diffusion plants have operated at Oak Ridge in Tennessee, Paducah in Kentucky, and Piketon in Ohio.

7. Gas centrifuges have been used successfully in Europe and other foreign countries.

8. In December 2008, AREVA submitted an application to the U.S. NRC seeking a license to build and operate a gas centrifuge uranium enrichment facility in Idaho.

9. AREVA's new facility, located near the Idaho Falls National Laboratory, will be known as the Eagle Rock Enrichment Facility (EREF).

10. With start of construction of the EREF by December 2012, AREVA expects to begin operation by 2014.

11. The license application for the EREF is currently under review by the NRC.

12. PG&E's CPUC-approved Nuclear Fuel Procurement Plan anticipated activities and services related to the purchase of uranium ore, conversion to

the gaseous UF_6, and uranium enrichment for the time period 2007 through 2016.

13. The Long-Term Procurement Plan provides guidelines for PG&E's pursuing transactions outside the scope of the Plan.

14. To ensure a continued supply of nuclear fuel for its DCPP units, PG&E is pursuing new contracts for its uranium ore, conversion, and enrichment services beyond 2010.

15. Since PG&E is pursuing a long-term uranium enrichment contract with AREVA for a time period beyond the scope of its approved Nuclear Fuel Procurement Plan, PG&E filed AL 3573-E in accordance the guidelines established in that plan.

16. PG&E has had a long-standing and continuing relationship with AREVA since 1984.

17. The licenses for DCPP Units 1 and 2 currently expire in 2024 and 2025, respectively.

18. On November 23, 2009, PG&E filed a license renewal application with the NRC to extend the operating licenses for both DCPP units for an additional 20 years.

19. If approved by the NRC in 2014, DCPP could operate until 2044 and 2045 for Units 1 and 2, respectively.

20. AL 3573-E was timely protested by Californians for Renewable Energy (CARE) on December 31, 2009.

21. In its reply to CARE's protest dated January 8, 2010, PG&E addresses all issues raised by CARE.

22. CARE's protest is denied.

23. The PG&E contract for uranium enrichment services with AREVA, LLC is just and reasonable when compared against PG&E's approved Nuclear Fuel Procurement Plan.

24. When compared against PG&E's approved Nuclear Fuel Procurement Plan, PG&E's contract with AREVA should not increase PG&E's revenue requirements above what would be expected for procurement of uranium enrichment services during the contract period.

25. In accordance with the provisions regarding confidentiality under GO 66-C and Public Utilities Code Section 583, Appendices A and B of AL 3573-E that contain pricing and contract terms should be maintained as confidential.

THEREFORE IT IS ORDERED THAT:

1. Pacific Gas and Electric Company's (PG&E) request for Commission review and approval of the contract with AREVA Enrichment Services, LLC for long-term uranium enrichment services for the Diablo Canyon Power Plant is approved.

2. Appendix A, the contract summary, and Appendix B, the AREVA contract attached to AL 3573-E shall be maintained as confidential.

3. The protest by Californians for Renewable Energy (CARE) is denied.

This resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on May 6, 2010; the following Commissioners voting favorably thereon:

/s/ Paul Clanon
Paul Clanon
Executive Director

MICHAEL R. PEEVEY
PRESIDENT
DIAN M. GRUENEICH
JOHN A. BOHN
TIMOTHY ALAN SIMON
NANCY E. RYAN
Commissioners