

Summary of the meeting between the Deputy Secretary of Energy of the United States of America, Daniel Poneman and the Deputy Minister of Mines and Energy of the Federative Republic of Brazil, Márcio Pereira Zimmermann
On the Strategic Energy Dialogue

March 19, 2013

Mr. Daniel Poneman, Deputy Secretary of Energy of the United States of America and Mr. Márcio Pereira Zimmermann, Deputy Minister of the Ministry of Mines and Energy of the Federative Republic of Brazil (hereinafter the “Parties”) met in Brasilia on March 19, 2013 for the second meeting of the U.S.-Brazil Strategic Energy Dialogue (hereinafter the “Dialogue”) created by Presidents Barack Obama and Dilma Rousseff to further the energy security, environmental sustainability and economic development of both countries.

Both Parties recognized the advances achieved by this bilateral cooperation and are pleased to agree on the next steps of each of the following areas:

I. Biofuels

The cooperation between the two countries has advanced significantly, particularly with regard to the objectives of the biofuels sustainability analysis work, conversion R&D, and the Memorandum of Understanding, which includes cooperation in third party countries and aviation biofuels. Highlights include the signing of an agreement between Petrobras/CENPES and NREL - DOE to develop technology for producing advanced biofuels and evaluating emissions, conducted jointly by NREL, UNICAMP, CTBE and CTC.

Additionally, Brazil and the United States agreed to: 1) the creation of a working group coordinated by MME / DOE for the exchange of information about short and medium term planning on production and supply to evaluate the complementarity of biofuel production in both countries, and 2) deepen cooperation in third party

countries, through committing to accelerate dialogue and to explore joint opportunities to support biofuels advancement. The intention is to aim for the implementation of at least one specific project in a selected country.

II. Smart Grid and Transmission Systems

This initiative has identified priority areas for cooperation, including: 1) Smart Grid cooperation with focus on loss reduction, improvement of quality of energy supply via distribution automation, reliability, and resiliency. In addition, communication infrastructure, economic analysis and challenges should also be addressed, as well as the experience resulting from pilot projects. 2) Another issue of interest for potential cooperation is technology of transmissions systems, especially long distance ultra-high voltage AC and DC links and the use of phasor measurement units.

Currently, the group is working on the formulation of a transmission and smart grid workshop to be held in September 2013, in Rio de Janeiro. The Department of Electricity Sector Management, coordinator group for the Brazilian side, counts on the collaboration of CEPEL to conduct the seminar. During the 1st semester of 2013, the next steps for the group's joint activities will be mainly related to the organization of the September event.

III. Civil Nuclear Energy Generation

As part of the Dialogue, there has been collaboration on civil nuclear energy through information and technical exchanges. DOE and MME conducted a workshop in Washington, DC, in August 2011, which has strengthened the US-Brazil civil nuclear partnership by exploring important issues of mutual interest.

As a next step, it was proposed by the Brazilian coordinator to strengthen activity in the field of "Emergency Planning and Prevention." The suggestion is that DOE participate in the next emergency exercise to be held in Álvaro Alberto Nuclear Power Plant, in September 2013 and, in exchange, representatives of MME could participate in a similar activity in the U.S. Both sides agree to discuss the status of cooperation, via VTC, during the week of May 27, 2013. MME and DOE also agree to exchange information regarding nuclear power construction and operation.

IV. Oil and Natural Gas

MME and DOE held two technical workshops. The first one was held October 6 - 7, 2011, in Rio de Janeiro. It focused on exploration and production and oil and gas deep-water technologies, environmental issues, and the alternatives to burning gas on offshore platforms. The second, held in Houston, Texas, on May 3 - 5, 2012, had unconventional hydrocarbons (shale gas) as the theme, including regulatory and technological aspects. It also included technical visits to sites where shale gas is explored. Also in this area, a videoconference was held with different U.S. government experts, through the U.S. Embassy in Brasilia, on February 2, 2012, concerning the use of dispersants in the remediation of oil spills.

As a next step, the Coordination of Fossil Fuels, on the Brazilian side, has proposed the development of one technical workshop in Brazil, on unconventional oil and gas, with the participation of operators and suppliers of goods and services of both countries. The workshop will facilitate interaction between Brazilian and U.S. companies, with a view to attracting investment for the development of Brazilian oil reserves and unconventional gas. This proposal aims to support the execution the 12th concession bid round, focused on unconventional oil and gas, as well as the other two bid rounds in 2013.

V. Renewable Energy and Energy Efficiency

There are two ongoing activities under the Strategic Energy Dialogue: 1) technical engagement between Eletrobras and the Lawrence Berkeley National Lab (LBNL) related to the development of a test center for building components to be hosted at the Federal University of Santa Catarina; and 2) the ongoing cooperation between Cepel and the Oak Ridge National Laboratory (ORNL) related to industrial energy efficiency. In addition, MME and DOE have agreed to start a new conversation related to energy efficiency in other areas.

In regards to renewable energy, DOE and Cepel organized a workshop on distributed wind generation in August 2012. Meeting topics included policy and regulatory issues, the importance of technology certification, and financing mechanisms. DOE and MME also agree to discuss the possibility of cooperation between Cepel and ORNL in the area of hydropower reservoirs.

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