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### "Crisis management: an outline of the legislative moves toward a solution to Brazil's energy crisis"

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*Todd Culwell, partner, and Horacio Garcia Masi and Frederico Porto, senior attorneys at Andrews Kurth, outline the legislative moves towards a solution to Brazil's Energy crisis.*

Brazil's government is facing a severe energy crisis, due in part to record low rainfall that has left the reservoirs that drive the nation's mainly hydroelectric grid at a precarious level.

Brazil is suffering from its worst drought since 1930. Reservoirs that ideally should be half full are at 34% capacity, 11% lower than last year. Rainfall in the first part of the year measured less than three-quarters of regularly expected totals.

As a result, the national government has implemented an electricity crisis program, which includes an energy rationing requirement. In the event rationing is not successful, Brazilian energy consumers may be subjected to rolling "blecautes", or power cuts. The current drought conditions have now highlighted the problem of lack of investment in the Brazilian electricity sector. Because Brazilian federal and state governments control approximately 75% of the country's power generation assets, incomplete privatization of these assets has diminished investor confidence and reduced competition in the generation arena.

The degree of any impact will ultimately depend on the duration and the severity of the drought and the level of success of the government's measures to increase the supply of power generation and, in the short term, decrease demand. The lack of electricity and the mandated rationing holds the potential of negatively impacting Brazil's GDP growth.

#### **Resulting Governmental Actions**

##### a) Emergency Plans for Thermoplants

Studies indicate that Brazil is heavily dependent upon hydroelectric power dams as an energy source, comprising up to 92% of all electricity generated in the country. In an effort to increase the supply side of the energy crisis, Brazil hopes to update its energy matrix by building 49 new thermoelectric plants and extending thousands of kilometers of transmission lines. This plan will require approximately investments of approximately \$50 billion US dollars, 70% of which is expected to come from the private sector.

The project was started two years ago, but due to delays in defining the currency risk on the imported gas, priced in US dollars, only a handful of plants are under construction. Compounding the delays is a worldwide shortage of power generation equipment.

##### b) Tax Relief

To add a further incentive to investors, the federal government has approved a tax measure which will eliminate all import taxes including state VAT until December 31, 2001. The exemption will apply to generators, engines for electricity distribution and ship-mounted thermoelectric plants.

##### c) Financing alternatives

As a result, Brazil is using Petrobras, the state-owned oil and gas company, and Eletrobras, a state holding company, as an indirect means of financing.

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### 1) Petrobras

According to recently enacted Brazilian regulations, Petrobras is expected to renegotiate natural gas supply contracts with distributors and partners in energy-generating projects. Pursuant to these natural gas supply contracts, the imported natural gas is priced between \$3.20 and \$3.30 U.S. dollars per MMBtu.

Over the next 12 months, natural gas must be sold to thermoelectric plants at \$2.58 per MMBtu, under ANEEL's mandate. The resulting monthly exchange rate variations will be accumulated into a compensation account which will then be reflected in a newly adjusted gas price at the end of the 12 months. The accumulated variations in the compensation account will then be adjusted to the Selic, Brazil's benchmark interbank rate; thereby insulating Petrobras from assuming any foreign exchange liabilities or benefits from upward or downward fluctuations between the Brazilian real value against the U.S. dollar. Instead, these fluctuations will be passed on to consumers in their yearly rate adjustment.

The success of these renegotiations remains to be seen. Bolivia has announced that Brazil should negotiate directly with the owners of the natural gas reserves rather than with the Bolivian government directly.

These renegotiations plus Petrobras recent announcement that it would invest \$1 billion on gas-powered electric production projects by 2004 reflects its growing presence as a developer in Brazil's power generation sector.

### 2) Eletrobras Holding Company

Brazil will also attempt to facilitate financing of power plants directly by having Eletrobras execute long-term power purchase agreements with power developers. Receipt of a long-term offtake agreement with a creditworthy counterparty should provide the investors with a predictable cash flow, thus mitigating the risks caused by the mismatch of cost denominated in US dollars and cash flows originated from short-term contract denominated in reals. In addition, Eletrobras will take minority equity interests in selected power projects. Eletrobras, is a state owned holding company, whose assets include the Furnas generating plants – the largest energy producer in the country, Eletronuclear – which operates two nuclear plants, Eletronorte and Chesf.

### **Brazil's Energy Crisis and It's Impact in the Region**

Since Brazil is Latin America's largest economy, Brazil's energy crisis will likely impact the other Southern Cone countries. The Brazilian government expects to import approximately 2,800 MW of electricity from Argentina, Paraguay and Uruguay in the near future. Simultaneously, 20 thermoelectric plants will be constructed to produce electricity using Bolivian natural gas.

Argentina and Brazil are currently negotiating an energy integration accord that is likely to be executed in the next Mercosur meeting to be held on June 21, 2001. The energy integration accord would permit reciprocal and unlimited access to the electric transmission systems of both Argentina and Brazil. Additionally, the accord would include basic rules for the exchange of energy and the principle of autonomy for the negotiation of agreements among energy producers and consumers.

Argentina has approximately 7,000 MW of surplus energy capacity that could be exported to Brazil, if there were appropriate transmission systems in place. However, because of limitations in Argentina's transmission capacity, Argentina is currently exporting only 1,000 MW to Brazil. The Argentine transmission systems, operating at their maximum capabilities, are only capable of transmitting a maximum of 2,000 MW to Brazil.

To facilitate electric power transfer, a 16 kilometer power transmission line is being constructed to connect Argentina's Yaciretá plant with the Garabi plant in Brazil. In addition, both countries are analyzing the possibility of the development of a transmission system infrastructure investment plan. This initiative should create business opportunities for generators, power grids constructors and related companies.

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Although significant progress needs to be made to improve regional transmission, the infrastructure, even at this phase, is starting to affect change in the region. Interconnection through gas pipeline networks, electricity transmission networks, and bi-national dams have produced a relatively advanced degree of energy market unification, notwithstanding the fact that many of these construction projects are still in the process of completion. Additionally, Mercosur's legal framework has enhanced transactions of this nature.

One of the most important ventures is the joint Brazilian and Argentine project for the construction of a thermoelectric power generating plant by Central Termoeléctrica Regional de Argentina and Tradener of Brazil. This investment is for the construction of a 3,000-MW thermoelectric plant in Puerto Iguazú, Argentina. The project would receive natural gas from a 1,200 kilometer gas pipeline to be constructed between Bolivia and Argentina, and transmit power to Brazil via an 815 kilometer power transmission line to be built between Brazil and Argentina.

Additionally, Repsol-YPF is analyzing the construction of a 1,000 MW thermoelectric plant to be located close to Sao Paulo, Brazil. Repsol-YPF already owns Termogaucha (Rio Grande do Sul), which will demand further investments of about \$300 million U.S. dollars.

Brazil also stands to benefit from Paraguay's expected investment of more than \$1.7 billion U.S. dollars for the construction of an electric interconnection corridor between Bolivia and Argentina on one side, and Brazil, on the other side, for thermoelectric plants and natural gas pipelines.

And Uruguay's UTE (National Electric Power Generation and Transmission Administration) solicitation for investors to participate in the construction of an 800 MW gas-fired thermoplant in Paysandú, Uruguay (gas to be supplied by Argentina) will help Brazil conclude their electrical interconnection system with Uruguay. This system joins San Javier, Uruguay with Porto Alegre, Brazil.

### **Issues for Financing Energy Projects in Brazil**

Some of the significant risks encountered when financing projects in Latin American Project Finance and particularly in Brazil include currency/political risks and regulatory risks.

#### **Currency Risks**

Two sources of currency devaluation risks encountered in Brazil are increases in the costs of construction items sourced offshore caused by a depreciation in loan currencies may, or cash flow problems caused by a depreciation in the revenue currencies during the operating phase. Methods to mitigate these risks include matching the currencies of the sales contracts with the currencies of supply contracts to the extent possible; denominating the loan in the most relevant foreign currency; and entering into adequate foreign currency hedging contracts.

#### **Political Risks**

Political risks include the danger of political or financial instability in the host country caused by insurrections, strikes, suspension of foreign exchange, creeping expropriation and outright nationalization. Additionally, it includes the risk that a government may be able to avoid its contractual obligations through sovereign immunity doctrines

#### **Regulatory Risks**

Regulatory risks arise from the possible challenges and denials of governmental licenses and approvals required to construct or operate a project. A brief explanation of Brazil's current regulatory framework is set forth below.

##### **a) Current Regulatory Framework**

Brazil's maze of regulatory frameworks includes the Agencia Nacional de Energia Eletrica (ANEEL), the Wholesale Energy Market (MAE), and The Operador Nacional do Sistema Eletrico (ONS).

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### I) ANEEL-CADE

ANEEL, the Agencia Nacional de Energia Eletrica, was established in 1997 as the national electric system regulator, inspector, mediator, and granting and permitting authority. Within these capacities, ANEEL sets electric rates and enforces antitrust policies. It is expected that over time, some of ANEEL's functions (establishing power quality standards, conducting inspections, resolving conflicts) will be decentralized and shifted to autonomous electricity regulatory agencies in Brazil's states.

ANEEL has the power to grant licenses without public bidding in the following cases:

- construction and operation of thermoelectric power stations,
- construction and operation of alternative energy power stations; and
- construction and operation of hydropower stations in the range of 1 MW - 30 MW, provided the project complies with the definition of a "small hydrostation".

The lack of a harmonizing regulations between CADE, the antitrust agency, and ANEEL remains a problem for investors. For example, in order to transfer ownership interests in a generation company, there must be a separate filing with both entities. If a joint filing procedure was established, it would improve ownership transfers and investor liquidity as well as avoid duplicitous efforts. A similar joint filing system has been successfully established by CADE and Anatel, the telecom agency.

### II) MAE-BOVESPA

The Wholesale Energy Market (MAE) was expected to be an important means by which the market could reach liquidity. As a result of unclear regulation and problems among the participants, the wholesale energy market has never been established.

On June 25, 2001, with the designation of the São Paulo stock exchange, BOVESPA (Bolsa de Valores de Sao Paulo), as the coordinator of daily energy auctions, companies will be able to sell their surplus electricity.

Since January of 2001, the price of one megawatt/hour in the south-east of Brazil has increased from R\$23.00 to R\$285.00 in Brazilian Reals in June. The approximately 300 generating enterprises associated with ANEEL have jointly produced 3,753 megawatts of electricity. With the new rules in place, these companies will now be able to negotiate in auctions or enter into bilateral contracts.

Although some companies are expected to make huge profits in the short term, others point to an inevitable fall in prices as other thermoelectric plants come online. In the meantime, companies which have excess electrical energy should be able to benefit from the current state of affairs.

The Brazilian government is also studying a plan which would utilize the MAE to create a regulating stock of energy prices through auctions of short and long-term blocks of "new" electric power. In order for a power plant to be considered "new" the plant must come on line as of 2001.

### III) ONS

Established in 1998, The Operador Nacional do Sistema Eletrico (ONS), Brazil's independent system operator (ISO), is responsible for operations coordination and control of electric power generation and transmission facilities in the Brazilian interconnected power system. ONS is governed and administered by its membership, which includes electric power generation, transmission and distribution/retail utilities, electricity importers and exporters, free consumers and the Ministry of Mines and Energy (MME), the policy setter and ultimate regulatory authority for the Brazilian electricity sector.

New regulations from ONS and MME are expected to ease the import of energy from other countries.

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### b. Role of Multilateral Agencies

To mitigate some of the currency and political risks, multilateral agencies may be able to utilize derivative instruments and swaps to diminish exchange rate volatility risk and provide political risk insurance. As of yet, these alternatives have been expensive or undeveloped in most Latin American countries.

#### I) OPIC

A point of concern in the project financing of Brazilian energy projects is the divergence between the natural gas priced in U.S. dollars and the electrical consumer's payments in Brazilian reals. Indeed, currency devaluation risks present a major challenge for these transactions, considering the fact that Brazil has recently devalued the Real.

Responding to that risk, a new devaluation credit facility has been developed by OPIC, which will provide \$85 million in currency inconvertibility coverage and \$30 million in devaluation coverage.

The devaluation coverage sets forth a revolving stand-by credit facility covering shortfalls in debt-service derived from the devaluation of the Brazilian real. The insurance would establish a 'floor' for the value of the project's revenues in U.S. dollars. Devaluation requests would be paid by OPIC if the project's revenues, converted into U.S. dollars, fell below the floor value and were insufficient to pay scheduled debt services.

#### II) International Development Bank (IDB)

IDB is another example of an alternative financing method to circumvent regulatory risks. Currently, IDB is participating in the Cana Brava Project, which involves the construction, operation and maintenance of a 450 MW run-of-the-river hydroelectric power plant located on the Tocantins River, between the municipalities of Minaçu and Calvacante, approximately 250 km north of Brasilia, Brazil.

IDB uses certain financial structures to generate extra funds for projects by means of the potential extension of the "preferred creditor umbrella" to private investors (i.e., the "A/B" lending structures with IDB being the lender of record, and the guarantees in which specific risks are guaranteed by IDB). The "Preferred Creditor Status" is a payment preference to multilateral creditors when resources for repaying external creditors are not available in the debtor's country.

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The Cana Brava Project operates within the integrated Brazilian electricity system and is part of Eletrobrás' ten-year expansion plan. Financing for the project is being provided through an IDB A/B Loan structure with parallel financing provided by BNDES. The project will be financed with a \$75 million A-Loan, a \$90 million B-Loan, plus a \$117 million loan to be provided by BNDES.

#### III) BNDES

Another program, established by the Brazilian development bank BNDES (Banco Nacional de Desenvolvimento Economico e Social), whose annual budget is as large as that of the World Bank, has engaged in a program to fund power projects, estimating there are 50 projects to begin construction in 2001, requiring investments of \$15 billion U.S. BNDES will fund up to 80% (formerly, 35%) of the projects approved. Also, it is expected that BNDES will take part on four out of the 49 proposed thermal electric power programs.

#### IV) MIGA

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The Multilateral Investment Guarantee Agency (MIGA), a World Bank insurance affiliate, has provided political risk insurance for the Barracuda project, a deep-sea oil and gas production project that would increase Brazil's oil production by nearly 18% and reduce its imports need. MIGA and Japan's Ministry of International Trade and Industry provided a \$500 million U.S. dollar project loan for political risk insurance.

MIGA's \$80 million political risk insurance covered an investment in two deep-sea production facilities located off the coast of the state of Rio de Janeiro. MIGA's guarantee covers the investment for up to 10 years against the risks of expropriation and transfer restrictions.

### Conclusion

The government of Brazil believes that as a result of the means by which it is dealing with the current energy crisis, it will be capable of meeting its electrical demand requirements by 2003. This goal will only be attained if it is capable of attracting the substantial private investment portion of its program. In order to do this, the government task force administering the electricity crisis program must be successful in establishing clear regulatory guidelines and procedures and transparency in the energy sector and as a next step, should complete the privatization of the power generation company.

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