ARBITRATION UNDER THE RULES OF ARBITRATION OF THE UNITED NATIONS COMMISSION ON INTERNATIONAL TRADE LAW

GUARACACHI AMERICA, INC.

&

RURELEC PLC

Claimants

v.

PLURINATIONAL STATE OF BOLIVIA

Respondent

CLAIMANTS' REPLY MEMORIAL

21 JANUARY 2013

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I. INTRODUCTION

1. Guaracachi America, Inc. (***Guaracachi America***, or ***GAI***) and Rurelec PLC (***Rurelec***) (collectively, the ***Claimants***) file this Reply Memorial in support of their claims against the Plurinational State of Bolivia (***Bolivia***). This Reply is submitted pursuant to the Tribunal's Procedural Order No. 1 dated 9 December 2011, and subsequent agreements between the parties. It responds to Bolivia's Statement of Defense dated 15 October 2012 (the ***Statement of Defense***). This Reply Memorial is accompanied by documentary exhibits No. C-237 to C-361 and legal authorities No. CLA-151 to CLA-181, five statements by witnesses of fact, and a supplemental expert report by Compass Lexecon (the ***Compass Lexecon Rebuttal Report***).

2. This case arises from Bolivia's confiscation of the Claimants' investments in Guaracachi, the largest power generator in Bolivia, after the Claimants had spent years – and tens of millions of dollars – building and improving the business. Bolivia carried out this confiscation in stages, beginning with the abrogation of the regulatory framework that Bolivia created in the 1990s to attract foreign investment, and culminating with the outright seizure of Guaracachi on 1 May 2010.

3. In the Statement of Claim, the Claimants chronicled in considerable detail what happened to their 50.001% shareholding in Guaracachi. The Claimants began with the background to the Capitalization of Bolivia's electricity generation sector; explained the commitments that Bolivia provided to them and other investors in the applicable regulatory framework; described Guaracachi's extraordinary record of investments in new electricity generation; and demonstrated the interference by the Government in the key elements of the regulatory framework affecting Guaracachi, the failure to obtain justice through

the Bolivian court system in respect of such interference and, finally, the forced nationalization.

4. Notwithstanding the volume of its Statement of Defense, Bolivia offers very little to justify the nationalization and its other actions. It presents a defense that defies logic, based on a distorted narrative of an illiquid Guaracachi so "decapitalized" by the Claimants that they should have been grateful to Bolivia for taking it away. The reality is starkly different, as the evidentiary record amply demonstrates.

5. Bolivia creates a misleading factual collage, piecing together circumstances and events unconnected by chronology or context, often wholly irrelevant to this dispute. Bolivia has also added to the record volumes of factual exhibits, but largely neglects to explain how the material submitted responds to the Claimants' account of the facts. Bolivia has been forced to mischaracterize the evidence, scatter the facts and misconstrue the law in a desperate attempt to avoid liability.

6. Perhaps most significantly, Bolivia contends that Guaracachi was *entirely worthless* when it was expropriated, and that therefore the Government's refusal to provide any compensation was perfectly in accordance with the Treaties and international law. This extraordinary position is impossible to reconcile with even a cursory review of the company's fundamentals, its history of profitability, and its stock of assets – including some of the most modern and efficient generating units in the country. In support of its "zero value" defense, Bolivia has submitted an expert report that applies an astronomical discount rate and unsupported assumptions about Guaracachi's future revenues, founded in turn largely on the testimony of a Bolivian civil servant whose views contrast starkly with the evidentiary record. Compass Lexecon's analysis is reasonable, robust, and cross-verified: Guaracachi was valuable indeed when Bolivia took it away from the Claimants.

7. The Claimants have not challenged Bolivia's sovereign prerogative to nationalize or to regulate. But Bolivia must exercise these powers in accordance with

international law, and in particular with its duty to provide full compensation for the value it has appropriated and the damage it has caused to protected investments. As a result, the Claimants respectfully turn to this Tribunal to vindicate their rights and award compensation in an amount quantified at US$136.4 million.

* * * * * *

8. The Reply is structured as follows:

   (a) Section II is the factual background of this submission;

   (b) Sections III, IV and V address Bolivia's failed attempts to justify its breaches of the obligations it owes to the Claimants under the Treaties;

   (c) Section VI addresses quantum, setting out the legal and methodological bases of the compensation due to the Claimants; and

   (d) Section VII sets out the Claimants request for relief.

9. For the avoidance of doubt, the Claimants deny all of Bolivia's allegations, except to the extent expressly accepted.

II. FACTUAL BACKGROUND

10. In this Section, we once again address the facts chronologically, focusing on events that Bolivia mischaracterizes in its Statement of Defense. The Claimants explain how the evidence submitted with the Statement of Defense serves only to confirm the Claimants' account of the facts, particularly in light of the new testimony and exhibits submitted with this Reply.

A. THE FUNDAMENTAL IMPORTANCE OF FOREIGN INVESTMENT IN THE CAPITALIZATION OF BOLIVIA'S ELECTRICITY GENERATION SECTOR

11. As demonstrated in the Statement of Claim, faced with the dire need of capital investment beyond the capability of both ENDE and the Government, Bolivia undertook to reform its electricity industry with the financial assistance and technical expertise of foreign investors in the late 1980s and early 1990s.

12. Bolivia and its witnesses tell a different story,[1] focusing on the finances, expertise, investments and expansion plan of ENDE over a very limited period of time, the three years immediately preceding Capitalization (1992-1994). This story reveals remarkably little about the economic crisis that preceded Capitalization, and about the impact that this crisis had on Bolivia's electricity system more generally. It is an account that sits uneasily with the Capitalization process itself: had ENDE been the financially "prosperous" company that Bolivia now makes it out to be, in the midst of an ambitious expansion plan, privatization would have been unnecessary.[2]

13. The resolution of this tension is straightforward: Bolivia's narrow and circumscribed account is mistaken and misleading. The exposure of this distortion begins with a faithful account of the situation in the mid-1980's, where the root of Bolivia's Capitalization program can be found.

1. The impact of the 1980s economic crisis

14. Bolivia does not contest the profound impact of the economic crisis that it faced in the 1980s. Between 1981 and 1986, per capita GDP fell by one-third, prices

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1 Statement of Defense, ¶¶ 30-38; Witness Statement of Eduardo Paz Castro, 12 October 2012 (***Paz First WS***), ¶¶ 15-28.

2 Statement of Defense, ¶¶ 30, 33, 36.

rose by 20,000 percent, and Bolivia's foreign debt amounted to US$3.9 billion, over five times its exports of goods and services.[3]

15. The impact of this crisis was profound: Bolivia was facing a balance of payments disequilibrium that threatened to paralyze the country and any future growth.[4] It was against this background that Bolivia instituted a structural adjustment program in 1985 "to consolidate and preserve economic stability and to overcome the social and economic crisis the country was undergoing."[5]

16. Bolivia does not appear to contest the impact that this crisis had on Bolivia's energy sector. A sector that had been built on the financial support of multilateral financing for more than 25 years had to look elsewhere, as the flow of investment funds from international lending institutions stopped.[6]

2. The state of Bolivia's electricity generation sector prior to Capitalization

17. The Claimants established in the Statement of Claim that this crisis left Bolivia's electricity generation sector and its state-owned electricity generator, ENDE, in a strained financial position. Absent a significant infusion of funds, the continuity of normal electricity service in Bolivia was in danger.

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3 Joint UNDP/World Bank Energy Sector Management Assistance Programme, "Basis for Formulation of a Bolivian National Energy Plan," Report No. 9723, November 1987, **Exhibit C-48**, p. 1; J. Sachs, "The Bolivian Hyperinflation and Stabilization," AEA Papers and Proceedings, May 1987, **Exhibit C-47**, p. 1.

4 Joint UNDP/World Bank Energy Sector Management Assistance Programme, "Bolivia: Issues and Options in the Energy Sector," Report No. 4213-BO, April 1983, **Exhibit C-46**, p. 1.

5 Brochure of the Vice-Ministry of Energy and Hydrocarbons, 1998, **Exhibit C-16**, p. 6.

6 ESMAP, World Bank and the Bolivian Ministry of Energy and Hydrocarbons, "Primer Seminario sobre Reformas en el Sector Eléctrico Boliviano," Report No. 48268, 1 May 1993, **Exhibit C-52**, p. 51.

18. In its Statement of Defense, Bolivia claims that its electricity system was, in fact, "sustainable" prior to Capitalization, and that capital was not needed "to come and resolve the problems Bolivia confronted."[7] The evidence confirms the contrary.

19. *First*, the level of investment required for Bolivia's electricity generation sector was beyond the capability of both ENDE and the Government. ENDE no longer had the same access to international financing, and although the Government had historically stepped in to finance ENDE's obligations and investments, it could no longer do so. ENDE was *not* in fact "a prosperous company during the '90s" with an "ambitious expansion plan."[8] It is telling that Bolivia and its witnesses do not exhibit or discuss ENDE's financial performance during the 1980s, stating only that it had reported "positive financial results for several consecutive years."[9] ENDE's financial statements do not tell the whole story. Between 1986 and 1993, the Government absorbed part of ENDE's debt, and serviced ENDE's liabilities using YPFB and funds from the Treasury, in a total amount of US$102 million.[10] Mr. Andrade explains:

> Indeed, as I recall, there were several occasions where Bolivia's Treasury had to step in to cover ENDE's debts, because the costs were not reflected in the tariffs charged. Also, I am aware that COMIBOL, Bolivia's State mining company, had subsidised ENDE for many years. I should add that I have seen that in Mr. Paz's statement, he acknowledges that ENDE relied on "federal funds" for some of its largest expansion projects prior to capitalization.[11]

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7 Statement of Defense, ¶¶ 26, 31.

8 *Ibid*, ¶¶ 30, 32.

9 *Ibid*, ¶ 33.

10 Joint UNDP/World Bank Energy Sector Management Assistance Programme, "Bolivia: Restructuring and Capitalization of the Electricity Supply Industry – An Outline for Change," Report No. 21520, 12 September 1995, **Exhibit C-61**, p. 24.

11 Witness Statement of Juan Carlos Andrade, 21 January 2013 (***Andrade Second WS***), ¶ 14.

Bolivia denies that ENDE was in a "very strained financial position."[12] The record states otherwise. For instance, a 1983 Joint UNDP/ESMAP report described ENDE in *precisely* these terms.[13]

20. *Second*, the electricity tariffs charged to end-customers in Bolivia did not cover the actual costs of providing the service. At the time, the World Bank and the United Nations Development Program confirmed this in no uncertain terms:

- "The level and structure of electricity tariffs in Bolivia does not reflect the real cost of this public service."[14]
- "[E]fficiency-related issues concern the structure and level of tariffs perceived by consumers, particularly the gap between power tariffs and marginal costs, which may lead in the future to a recurrence of Government transfers to finance the investment program."[15]
- "There are three problems with electricity pricing in Bolivia. First, electricity tariffs are not aligned with long-run marginal cost. In particular, tariffs in La Paz are much lower than long-run marginal cost. A second problem concerns the structure of retail tariffs. Tariffs do not reflect marginal costs related to location, nor to peak or off-peak periods. Third, the fixed (demand) charge in ENDE's wholesale tariffs appears to provide the wrong signals."[16]

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12 Statement of Defense, ¶ 33.

13 Joint UNDP/World Bank Energy Sector Management Assistance Programme, "Bolivia: Issues and Options in the Energy Sector," Report No. 4213-BO, April 1983, **Exhibit C-46**, p. 11.

14 Joint UNDP/World Bank Energy Sector Management Assistance Programme, "Basis for Formulation of a Bolivian National Energy Plan," Report No. 9723, November 1987, **Exhibit C-48**, pp. vi – vii.

15 Joint UNDP/World Bank Energy Sector Management Assistance Programme, "ESMAP Country Paper: Bolivia," Report No. 10498, December 1991, **Exhibit C-50**, p. 8.

16 Joint UNDP/World Bank Energy Sector Management Assistance Programme, "Bolivia: Restructuring and Capitalization of the Electricity Supply Industry – An Outline for Change," Report No. 21520, 12 September 1995, **Exhibit C-61**, p. 20. *See also* Andrade Second WS, ¶ 14 ("To my knowledge, the electricity tariffs charged to end-customers in Bolivia's main cities had not covered the actual costs of providing the service for some time. I discussed this issue in my First Witness Statement, noting that in instances where costs increased but tariffs did not, the gap would be covered by credits from the Government").

21. *Third*, the technical capability of the electricity regulator at the time – the Dirección Nacional de Electricidad – was limited because of budget restraints, leaving it with few qualified employees. Bolivia appears to accept this, and discusses only the personnel employed by ENDE.[17]

22. *Fourth*, prior to capitalization Bolivia's electricity system was operationally unsustainable. As Mr. Earl explains:

> Bolivia's economic crisis in the 1980s significantly impacted the supply of electricity in the country, which was at that time highly undependable. To suggest, as Bolivia now does, that the country's electricity system was "sustainable" is inaccurate. As I recall, there was great uncertainty regarding the provision of electricity in Bolivia prior to capitalization. Power cuts and blackouts were a regular occurrence. In order to be sustainable, an electricity system must meet a society's electrical energy requirements by being both economic and reliable. The system in Bolivia prior to capitalization was neither of these things.[18]

23. In sum, Bolivia's account of its electricity system as being "sustainable" and its claim that capital was not needed "to come and resolve the problems Bolivia confronted" is unavailing.[19] On the contrary, a significant infusion of funds was necessary to ensure the continuity of normal electricity service in Bolivia.

3. Foreign investment was critical to the continuity of reliable electricity supply in Bolivia

24. To reverse the deteriorating situation in the Bolivian electricity sector, a huge amount of new capital investment was needed. Given the Government's lack of resources, this capital could only come from the private sector. At the same time, the industry structure and electricity prices in place at the time (as well as the lack of incentives and competitive environment) meant that there was little prospect of

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17 Statement of Defense, ¶ 37.

18 Witness Statement of Peter Earl, 21 January 2013 (***Earl Second WS***), ¶ 6. *See also* Andrade Second WS, ¶ 9.

19 Statement of Defense, ¶¶ 26, 31.

attracting significant private sector investment.[20] The inescapable solution was the restructuring of the sector and the establishment of a firm long term regulatory framework to convince overseas investors to provide the infrastructure that the Bolivian State could not afford itself nor support through government to government concessionary finance.

25. Bolivia itself eloquently expressed the inevitability of this solution during the Capitalization process. At the first seminar on reforms in the Bolivian electricity sector, Bolivia's Minister of Energy and Hydrocarbons clearly conveyed the state of affairs:

> There is a financial gap in the future of the sector that will have to be covered by capital (loans) which are increasingly scarce. According to the Minister, all of these problems can be to the detriment of the sector in the achievement of its essential objectives, such as the efficient and reliable supply of electricity, and even more importantly, in its role as a driver of the economy.[21]

26. The level of investment needed to modernize and expand Bolivia's electricity generation sector was not available locally. Given the devaluation and hyperinflation in Bolivia during the economic crisis, there was very little local public or private capital available in the years that followed, and no capital market at all to fund investment. Meanwhile, the largest provider of electricity generation capacity – ENDE – was state-owned, and there were few Bolivian companies with the requisite funds, experience and know-how to finance, build and operate the new infrastructure and facilities that the country needed.

27. For this reason, in the capitalization of ENDE's generation business, the Bolivian government deliberately targeted foreign investors who would be able to provide: (a) an instant injection of funds, as well as access to the long-term debt finance

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20 Earl Second WS, ¶ 7.

21 ESMAP, World Bank and the Bolivian Ministry of Energy and Hydrocarbons, "Primer Seminario sobre Reformas en el Sector Eléctrico Boliviano," Report No. 48268, 1 May 1993, **Exhibit C-52**, p. 17.

needed to fund the necessary investment; (b) experience in managing power generation businesses in their home countries; and (c) access to the best technology available internationally.

28. This focus is evident in the Bidding Rules that were issued in connection with the capitalization of ENDE's generation business. Pursuant to those rules, candidates for investment as operators of the power generation businesses were required to have five years of experience operating power generation plants and a net worth of at least US$100 million.[22] In practice, this meant that only foreign companies could qualify to become operators. Indeed, the companies that qualified to bid for the ENDE generation businesses represented "many of the world leaders in power generation."[23]

B. THE GUARANTEES PROVIDED TO INVESTORS IN THE REGULATORY FRAMEWORK APPLICABLE TO ELECTRICITY GENERATION

29. It is common ground between the parties that Bolivia undertook a program of reform to establish a new regulatory framework encouraging private sector participation and competition. That reform program included the promulgation of laws on investment, privatization, and capitalization.[24]

30. It is also undisputed that the new regulatory framework applicable to market participants, including electricity generators like Guaracachi, comprised three pillars: (i) the Electricity Law, No. 1604 (1994) which set out the basic framework for the provision of electricity service and created the SSDE, an autonomous entity charged with enforcing the Electricity Law; (ii) Supreme Decree 26,093 (2001), known as the Reglamento de Operacion del Mercado Electrico (***ROME***),

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22 Bidding Rules, **Exhibit C-7**, Article 5.6.4.

23 Witness Statement of Peter Earl, 29 February 2012 (***Earl First WS***), ¶ 25.

24 Law No. 1182, 17 September 1990, published in the *Gaceta Oficial* No. 1662 on 17 September 1990, **Exhibit C-2**; Law No. 1330, 24 April 1992, published in the *Gaceta Oficial* No. 1735 on 5 May 1992, **Exhibit C-3**; Law No. 1544, 21 March 1994, published in the *Gaceta Oficial* No. 1824 on 22 March 1994, **Exhibit C-4**.

which established the rights and obligations of agents in the market, as well as dispatch procedures and operations; and (iii) Supreme Decree 26,094, referred to as the Reglamento de Precios y Tarifas (***RPT***), which contained the price-setting mechanisms in the electricity sector.[25]

31. The 1994 Electricity Law set forth a number of mandatory principles to govern the operation of the electricity industry in Bolivia: efficiency, transparency, quality, continuity, adaptability and neutrality.[26] These principles were consistent with Bolivia's commitments in its Sector Policy Letter. As Mr. Andrade explains:

> [T]hese terms were consistent with the commitments that Bolivia undertook to engage international financial and technical assistance. As I recall, Bolivia needed to provide foreign investors with "a credible commitment that it was going to carry [out] these market based reforms," which Bolivia did. Bolivia agreed that tariffs would "reflect the economic and financial supply costs", and that it would establish a regulatory, institutional and legal environment to enable the utilities to compete on an equal basis.[27]

32. In its Statement of Defense, Bolivia appears to acknowledge the relationship between the Sector Policy Letter and the Electricity Law. Bolivia contends however that the Claimants have not indicated "a commitment to 'stability' of the new legal framework for the electricity sector in Bolivia."[28] Bolivia further claims that the Sector Policy Letter is "a general policy type statement" and that it is set out in a document prepared by the World Bank, and not by the Government.[29]

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25 Law No. 1604, 21 December 1994, published in the *Gaceta Oficial* No. 1862 on 21 December 1994, **Exhibit C-5**; Supreme Decree No. 26,903/2001, 2 March 2001, **Exhibit C-85**; Supreme Decree No. 26,094/2001, 2 March 2001, **Exhibit C-86**.

26 Statement of Claim, ¶¶ 39-42; Law No. 1604, 21 December 1994, published in the *Gaceta Oficial* No. 1862 on 21 December 1994, **Exhibit C-5**, Article 3.

27 Andrade Second WS, ¶ 19.

28 Statement of Defense, fn. 369.

29 Statement of Defense, fn. 369. To be clear, documents published by the World Bank and the UNDP during this period reflect the input and oftentimes, clearance, of the Government of Bolivia. *See, e.g.,* Joint UNDP/World Bank Energy Sector Management Assistance Programme, "ESMAP Country Paper: Bolivia," Report No. 10498, December 1991, **Exhibit C-50** ("This document was cleared by the Government of Bolivia in September 1991 and by the World Bank in October 1991").

This characterization is irrelevant for present purposes: the commitments in the Regulatory Framework were critical to attract foreign investment into the privatized Bolivian electricity generation sector. In any event, Bolivia's Sector Policy Letter was not merely a general policy statement, but a credible commitment that Bolivia provided to the international community:

> Since the study of sector reform is resource intensive, Bolivia required international assistance. To have access to this assistance, the GOB provided the international community a credible commitment that it was going to carry out these market based reforms in a Sector Policy Letter.[30]

33. Prior to capitalization, Bolivia's electricity generation sector was in dire need of private investment, from strategic investors with the technical expertise and access to foreign capital needed to modernize the electricity system. GAI was just such an investor. In order to attract investors such as GAI into the electricity sector, Bolivia put in place a regulatory framework, underpinned by long-term licenses issued to the successful bidders. It was clear to all bidders that the promised tariffs would provide sufficient income to cover reasonable costs and provide a reasonable rate of return on their investment.

34. It was based upon the stable track record of that regulatory framework, and Bolivia's consistent respect for the system it had put in place, that Rurelec invested in Guaracachi.

C. THE CAPITALIZATION PROCESS AND THE CREATION OF GUARACACHI

35. In the Statement of Claim, the Claimants explained the purpose of the Capitalization law, the unbundling of ENDE's power generation assets and the international bidding process for the tender of a 50 percent interest in Guaracachi.[31] These facts are now undisputed.[32]

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30 Joint UNDP/World Bank Energy Sector Management Assistance Programme, "Bolivia: Restructuring and Capitalization of the Electricity Supply Industry – An Outline for Change," Report No. 21520, 12 September 1995, **Exhibit C-61**, p. 33.

31 Statement of Claim, ¶¶ 48–51.

D. THE EXTRAORDINARY RECORD OF INVESTMENTS MADE BY GUARACACHI IN NEW POWER GENERATION CAPACITY IN BOLIVIA

36. Since the Capitalization process in 1995, Guaracachi's power generation capacity has more than doubled as a result of an extraordinary investment program, which intensified after Rurelec acquired a controlling stake in the company in 2006.[33] Bolivia's attempts to diminish the significance of this record is unconvincing, as explained below.

1. Guaracachi's extraordinary record of investment in Bolivia's electricity generation sector from 1999 to 2010

37. Bolivia does not dispute that Guaracachi undertook significant investments in new generation capacity following the capitalization in 1995.[34] At the time of the capitalization, Guaracachi's installed generation capacity was 248.6 MW,[35] much of which was generated by older, less efficient engines and turbines that had been transferred to Guaracachi from ENDE.[36] Following the capitalization, the company invested in newer, more efficient, and more technologically-advanced units to supplement or replace the older units. Guaracachi's installed generation capacity increased to 360 MW in 2005 (immediately prior to Rurelec's acquisition of a majority stake),[37] and to 542 MW in 2010[38] when Guaracachi was nationalized – a 50% increase in just five years, as described below.

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32 Statement of Defense, ¶¶ 39–44.

33 In its jurisdictional pleadings, Bolivia denied that Rurelec acquired an indirect controlling stake in Guaracachi in 2006. The evidence of Rurelec's acquisition is voluminous. *See* Claimants' Rejoinder on Jurisdiction, ¶¶ 16-18.

34 Statement of Defense, ¶ 50; Paz First WS, ¶¶ 33-34.

35 Witness Statement of José Antonio Lanza, 29 February 2012 (***Lanza First WS***), ¶ 21.

36 Statement of Claim ¶ 59; Paz First WS, ¶ 21. List of Guaracachi's electricity generation equipment, **Exhibit R-33**.

37 2009 Annual Report of Guaracachi, 14 April 2010, **Exhibit C-36**, p. 12.

38 *Ibid.*

a. Installation of "6FA" gas turbines (GCH-9 and GCH-10) in 1999

38. In the first ten years following the capitalization, Guaracachi undertook a significant expansion funded in part through a capital injection, in satisfaction of the investment obligations imposed by the 1995 Capitalization Contract.[39] As a result of this investment, two General Electric 6FA heavy-duty gas turbines were purchased and commissioned in 1999 (just a year after the model became commercially available), adding approximately 150 MW of installed capacity at a total cost of US$65 million.[40] These were the first "6F" technology generating units in Bolivia.[41]

39. Bolivia's witness Mr. Paz agrees that these were "state-of-the-art units", involving a greater investment than was required under the Capitalization Contract, and implemented three years before the deadline under the Capitalization Contract.[42] The commissioning of the units was completed ahead of the installation timetable,[43] contrary to Mr. Paz's allegations.[44]

40. Following Rurelec's acquisition of a majority stake in January 2006,[45] Guaracachi undertook significant investments in new generation capacity every year, as

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39 The capitalization required an investment of US$47.1 million. Capitalization Contract, 28 July 1995, **Exhibit C-14**, Clause 5.1. The investments in GCH-9 and GCH-10 cost approximately US$65 million. *See* 1999 Guaracachi Annual Report, **Exhibit C-69**, pp. 4, 16. Guaracachi's investments made pursuant to the Capitalization Contract significantly exceeded those of the other two capitalized electricity generation companies in Bolivia. *See* Statement of Claim, ¶ 63; Gover Barja and Miguel Urquiola, *Capitalization and Privatization in Bolivia: An Approximation to an Evaluation*, February 2003, **Exhibit C-96**, p. 14.

40 Guaracachi 1999 Annual Report, **Exhibit C-69**, p. 4; Lanza First WS, ¶ 28.

41 Lanza First WS, ¶ 27.

42 Paz First WS, ¶ 35.

43 Andrade Second WS, ¶¶ 19-21. *See* Resolution SSDE No. 233/98, 18 December 1998, **Exhibit C-21**; Minutes of the Meeting of the Board of Directors of Guaracachi, 9 July 1999 **Exhibit C-74**; Guaracachi 1999 Annual Report, **Exhibit C-69**, p. 4. *See also* "GPU Sells Ownership Share in California Cogen Plants," *First Energy*, 19 May 1999, **Exhibit C-73**.

44 Paz First WS, ¶ 35.

45 See *supra* note 33, above.

described below. The generation units that were added throughout this period represented high-efficiency and environmentally-sustainable technology.

b. Installation of Jenbacher engines (ARJ-9 – ARJ-12) in 2006

41. In 2006, Guaracachi commissioned four Jenbacher 616 engines (designated as ARJ-9 through ARJ-12) at the Aranjuez plant in Sucre at a cost of US$3.8 million.[46] This represented an increase of 7.6 MW of installed generation capacity.[47] As Jaime Aliaga, Guaracachi's General Manager at the time, explains: "these units were so efficient that they became 'baseload' providers, meaning that they were called upon to dispatch at all times in order to meet the system's minimum demand."[48] Contrary to Mr. Paz's allegations,[49] these were the most efficient thermal units in the national grid[50] – more efficient than the Bulo Bulo and Carrasco units.[51]

c. Installation of additional "6FA" gas turbine (GCH-11) in 2007

42. In 2007, Guaracachi commissioned another GE 6FA gas turbine (known as GCH-11) at the Guaracachi plant, similar to the ones that had been installed in 1999. This represented an investment of US$19 million, and added over 70 MW of installed capacity to the grid.[52]

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46 Witness Statement of Jaime Aliaga Machicao, 21 January 2013 (***Aliaga Second WS***), ¶ 18.

47 Guaracachi 2006 Annual Report, **Exhibit C-114**; Lanza First WS ¶ 40.

48 Aliaga Second WS, ¶ 19. The Spanish original reads: "De hecho, las unidades en cuestión eran tan eficientes que pasaron a ser proveedores de "carga base", lo que significa que se las llamaba a despachar todo el tiempo para poder satisfacer la demanda mínima del sistema. Éstas eran las unidades térmicas más eficientes del SIN, más eficientes que las unidades de Bulo Bulo y Carrasco, contrariamente a lo alegado por el Sr. Paz".

49 Paz First WS, ¶ 37.

50 Guaracachi 2006 Annual Report, **Exhibit C-114**, p. 20. Aliaga Second WS, ¶ 19.

51 *See* Aliaga Second WS, ¶ 19; CNDC Medium Term Programming Report for May 2010 - October 2014, Annex 5, **Exhibit C-267** (showing that the Jenbacher engines had a lower cost per MW the Bulo Bulo and Carrasco units).

52 Aliaga Second WS, ¶ 24(a). *See* 2007 Guaracachi Annual Report, **Exhibit C-126**, p. 21.

d. Installation of Jenbacher engines (ARJ-13 – ARJ-15) in 2008

43. In 2008, Guaracachi commissioned an additional three Jenbacher 616 engines, similar to those installed in 2006, adding 5.7 MW of installed generation capacity at the Aranjuez plant at a cost of over US$ 2.5 million.[53]

e. The investment in the Santa Cruz Co-Generation plant in 2009

44. In 2009, Guaracachi completed the construction of its fourth power generation plant, and its second in the city of Santa Cruz, known as the Santa Cruz Co-Generation plant. The new plant housed two turbines, GCH-7 and GCH-8, which had to be moved out of the Guaracachi plant to make room for the Combined Cycle Gas Turbine (***CCGT***), described further below.[54] As Jaime Aliaga explains, these two turbines were configured "such that it would be possible to capture the heat that they produced. This heat could then be sold (as heat or as steam) to local businesses, or it could be used to later convert the units to a combined cycle system."[55] This represented an investment of US$3.5 million.[56]

f. The investment in the Combined Cycle Gas Turbine Project (GCH-12)

45. In 2010, Guaracachi was expected to complete its "signature investment":[57] the technologically cutting-edge and highly efficient Combined Cycle Gas Turbine project. This ambitious undertaking involved converting two of the "open cycle" General Electric 6FA turbines at the Guaracachi plant (GCH-9 and GCH-10) into

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53 2008 Annual Report of Rurelec PLC, **Exhibit C-144**; Rurelec PLC Press Release, "Jenbacher Power Plant Successfully Commissioned", 13 August 2008, **Exhibit C-158**.

54 Statement of Claim ¶ 49, footnote 50; Aliaga Second WS, ¶ 24(b); Earl Second WS, ¶¶ 12(d)-(e); Guaracachi 2009 Annual Report, **Exhibit C-36**, p. 26.

55 Aliaga Second WS, ¶ 24(b). English translation. The Spanish original reads: "Las unidades fueron configuradas de modo que fuera posible captar el calor que producían. Este calor podía luego ser vendido (como calor o vapor) a empresas locales o podía ser utilizado para convertir luego las unidades a un sistema de ciclo combinado".

56 Aliaga Second WS, ¶ 24(b), Witness Statement of Marcelo Blanco, 21 January 2013 (***Blanco Third WS***), ¶ 26.

57 Earl First WS, ¶ 47.

a "combined cycle", capturing waste heat and using it to fuel a steam turbine (GCH-12, acquired by Guaracachi in 2007 in anticipation of the CCGT project[58]) which would, in turn, generate electricity.[59] This project, which represented an investment of approximately US$83 million as of the date of the nationalization,[60] provided an additional 96MW of installed capacity and was the largest single investment that Guaracachi made prior to nationalization.[61]

46. The CCGT, the first of its kind in Bolivia,[62] offered a sustainable and cost-effective way to generate electricity, producing significantly more electricity with the same amount of gas, and preventing over 335,000 tons of CO2 from being released into the atmosphere.[63] As a result, the CCGT project was eligible for Certified Emission Reduction Certificates (***CERs***, commonly known as "carbon credits") under the United Nations Clean Development Mechanism under the Kyoto Protocol.[64] The Rurelec/Guaracachi management team negotiated the forward sale of the carbon credits with international development banks (the CAF and KfW) in order to finance the project. As Peter Earl explains:

> We could have invested in a simple open cycle turbine at the Guaracachi plant, which would have been less costly and complex, but instead we decided to install a combined cycle turbine that was considerably more efficient, as it used waste heat from existing turbines rather than gas to generate electricity (and would therefore be first amongst thermal units to be dispatched). […] As a result, the CCGT was eligible for carbon credits under the United Nations' Clean Development Mechanism. This, in turn, made the

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58 Lanza First WS, ¶ 35.

59 *Ibid*, ¶¶ 32-33; Statement of Claim, ¶¶ 76-77.

60 Progress Report for the Combined Cycle Project, 26 March 2010, **Exhibit C-313**, p.4.

61 Presentation to a General Meeting of the Guaracachi Shareholders, "Proyecto Conversión a Ciclo Combinado/GCH-12," September 2008, **Exhibit C-161**, p. 3; Witness Statement of José Antonio Lanza, 21 January 2013 (***Lanza Second WS***), ¶ 13.

62 Earl First WS, ¶ 47; Statement of Claim, ¶ 78.

63 Earl Second WS, ¶ 12(e); Statement of Claim ¶¶ 77-78; United Nations Framework on Climate Change, Project 2671, Clean Development Mechanism Project Design Document Form, Version 03, 28 July 2006, **Exhibit C-121**, p. 3.

64 Statement of Claim, ¶ 79.

> high-tech project economically feasible, since Guaracachi could (and did) sell the carbon credits and negotiate a pre-payment of those carbon credits to help fund the construction and installation of the CCGT. (Indeed, reliance on carbon credit proceeds is a requirement for qualification under the Clean Development Mechanism, which does not fund projects that can be undertaken without such credits. This is known as the "additionality principle".) The investment in the CCGT project alone evidences the long-term perspective with which Rurelec approached its investment in Guaracachi and the Bolivian electricity sector.[65]

47. Bolivia attempts to taint this success story with allegations that the project was significantly delayed, over-budget, and largely incomplete at the time of nationalization.[66] These allegations are unfounded, as explained by José Antonio Lanza, Guaracachi's former Project and Development Manager, who oversaw the CCGT project, and as demonstrated by the extensive documentary record.

48. First, the amounts spent on the CCGT project met the revised budget approved by Guaracachi's Board and Shareholders. As Mr. Paz correctly notes, the CCGT project was born of a study by the renowned British engineering company NEL in 2005.[67] Although the project's initial budget of US$40 million was approved based on an initial capital cost estimate proposed by NEL, which contemplated the use of an 80 MW steam turbine,[68] by 2008, changes in the nature of the project (including the substitution of a 96 MW turbine) and increases in the global market prices for key raw materials and equipment[69] necessitated budget revisions.[70] In September 2008, Guaracachi's Board and Shareholders approved

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65 Earl Second WS, ¶ 13(e).

66 Paz First WS, ¶¶ 64, 68 and 72.

67 Lanza First WS, ¶ 34; Paz First WS, ¶ 63.

68 Minutes of the Meeting of the Board of Directors of Guaracachi, 23 November 2006, **Exhibit C-123**; NEL Power Limited Capital Cost Study, 31 March 2005, **Paz Annex 17**, pp. 5, 8.

69 *See* Fitch Rating for Guaracachi, September 2008, **Exhibit C-348**; Fitch Rating for Guaracachi, December 2008, **Exhibit C-348** (recognizing the increase in global prices and its effect on the budget for the CCGT project).

70 Lanza Second WS, ¶¶ 35-37; Minutes of the Meeting of the Shareholders of Guaracachi, 25 September 2008, **Exhibit C-163**.

the final budget of US$68 million for the CCGT project, reflecting those revisions.[71] The ultimate cost of project (excluding taxes and financial costs) was consistent with this figure.[72]

49. While there were operational delays in the completion of the complex project, they were by no means "constant,"[73] and they were to a large extent the fault of the Government.[74] As to Bolivia's contention that Guaracachi should have fulfilled its plan to finish the CCGT project on schedule by May 2009, such a claim is without merit, given the many governmental delays Guaracachi faced. For instance, the Municipality of Santa Cruz contributed to delays for 14 months in the issuance of environmental licenses for the drilling of wells, essential for the operation of the CCGT.[75] To take another example, the regulatory authorities delayed for 13 months the issuance of permits authorizing Guaracachi to transfer two generating units (GCH-7 and GCH-8) out of the Guaracachi plant to make room for the CCGT.[76] Nevertheless, Guaracachi was able to compensate to a large degree for these delays, and achieved an 85.8% completion rate by October 2009.[77]

50. Finally, Bolivia's assertion that the CCGT project was only 50% complete at the time of the nationalization[78] is mistaken. In fact, the CCGT Project was 95.1% complete by May 2010,[79] and 99.9% complete by December 2010.[80]

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71 Lanza Second WS, ¶ 37.

72 *Ibid*, ¶¶ 38-39; Progress Report for the Combined Cycle Project, 26 March 2010, **Exhibit C-313**.

73 Paz First WS, ¶ 68.

74 Letter from Jerges Mercado to Peter Vonk, DAF 1482-10, 13 September 2010, **Exhibit C-320**; Lanza Second WS, ¶ 59.

75 Lanza Second WS, ¶¶ 50-56.

76 *Ibid*, ¶¶ 44-49.

77 *Ibid*, ¶ 49.

78 Paz First WS, ¶ 72.

79 Progress Report for the Combined Cycle Project, 26 March 2010, **Exhibit C-313**.

g. The investment in the San Matías rural electrification project

51. Also in 2009, at the Government's request, Guaracachi embarked upon an investment in the San Matías rural electrification project.[81] The San Matías Electricity Cooperative, located on the remote Eastern border of Bolivia with Brazil, was facing significant difficulties: it was insolvent and about to cut off power to the local population of 16,000.[82] Guaracachi assumed management of the network and the local supply of electricity, and committed to building a power plant of 1.4 MW (using one Deutz engine) to supply electricity to the municipality.[83] This was to be Guaracachi's fifth power plant in the country.

52. By May 2010, Guaracachi had purchased not one but two Deutz engines at a cost of approximately US$1 million.[84] The engines had been transported to San Matías, and their overhauling and adaptation was approximately 60% complete.[85] The plant and substation had been built, and several hundred digital electricity

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80 Progress Report for Combined-Cycle Project GCH 12, December 2010, **Exhibit C-321**; Lanza Second WS, ¶¶ 56-57.

81 Witness Statement of Jaime Aliaga Machicao, 29 February 2013 (***Aliaga First WS***), ¶¶ 25-26. Aliaga Second WS, ¶¶ 27-28.

82 Aliaga Second WS, ¶ 29. Minutes of the Meeting of Board of Directors of EGSA, 13 October 2009, **Exhibit R-75**. *See also* Autoridad de Electricidad, AE Boletin Mensual No. 3, August 2009, **Exhibit C-297** (noting that San Matías had been submerged in a state of darkness for lack of secure and reliable energy, "as a result of the absence of an operator capable of guaranteeing the normal supply of electricity. To this end, on Thursday 3 September, the company Guaracachi signed with the [Electricity Authority] a contract for the supply of electricity for the locality of San Matías". English translation. The Spanish original reads: "Los planes ambiciosos comenzaron a planificarse, estratégicamente, treinta años después que San Matías, estuvo sumida en una oscuridad continua por falta de energía, segura y confiable, a raíz de la ausencia de un operador capaz de garantizar la provisión normal de electricidad. Con este fin el pasado jueves 3 de septiembre, la empresa Guaracachi firmó con la Autoridad de Fiscalización y Control Social de Electricidad (AE) un contrato de provisión de electricidad para la localidad de San Matías.")

83 Rural Electrification Contract AE-DLG-CR No. 002/2009, 20 August 200, **Paz Annex 13**. *See also* Guaracachi 2009 Annual Report, **Exhibit C-36**, p. 27.

84 Asset Sale Agreement between European Power Systems A.G. and Guaracachi, 10 August 2009, **Exhibit C-299**; Asset Sale Agreement between European Power Systems A.G. and Guaracachi, 30 September 2009, **Exhibit C-301**.

85 *See* Aliaga Second WS, ¶ 33.

meters had been purchased to help prevent electricity theft.[86] The completion of this project was interrupted by the nationalization of Guaracachi.[87]

53. While Mr. Paz acknowledges that Guaracachi's management acquired two Deutz engines for San Matías, he argues that "in May 2010 EGSA [Guaracachi] still had not made any improvement to the distribution network".[88] But improvement of the power line network in San Matías was never intended to be Guaracachi's responsibility. Indeed, this work was already being carried out by the Department of Santa Cruz when the San Matías project began.[89] There is no mention of funding or constructing power lines in the Rural Electrification Contract executed by Guaracachi and the electricity regulator in August 2009.[90]

2. Bolivia's attempts to diminish this record of investments is unconvincing

54. Guaracachi's record of investments in new power generation capacity is unparalleled. In the period between 2006 and 2010 alone, Guaracachi added 185 MW of new capacity at a cost of US$110 million.[91] As Peter Earl explains:

> The reality is that while Bolivia's electricity demand increased 15% between 2006 and the nationalization in 2010, Guaracachi was the only power generator investing in new generation capacity, adding 185 MW of new capacity – a 50% increase from the 360

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86 Memorandum from Juan Carlos Andrade to Jaime Aliaga, 15 December 2009, **Exhibit C-305**; Memorandum from Eduardo Paz to Marcelo Blanco, 3 December 2009, **Exhibit C-304**. *See also* Aliaga Second WS, ¶ 33.

87 *See* Aliaga Second WS, ¶ 35.

88 Paz First WS, ¶ 53. English translation. The Spanish original reads: "Sin embargo, al contrario de la impresión que da el Sr. Aliaga, hasta mayo de 2010 EGSA no había realizado ninguna mejora en esta Red de Distribución."

89 *See* Aliaga Second WS, ¶ 28. *See also* Guaracachi's Board of Directors Meeting Minutes, 13 October 2009, **Exhibit R-75**, p. 11 (indicating that the project to construct a network of power lines linking various communities was already underway when Guaracachi was invited by the Government to investment in the rural electrification project).

90 Rural Electrification Contract AE-DLG-CR No. 002/2009, 20 August 2009, **Paz Annex 13**, Articles 4 and 6, and Annex 1. *See also* Guaracachi's 2009 Annual Report, **Exhibit C-36**, p. 27.

91 Statement of Claim, ¶ 70; Earl First WS, ¶¶ 42, 58; Aliaga First WS, ¶ 21.

> MW of installed capacity at the time of Rurelec's acquisition. This increase was equivalent to approximately 10% of available capacity in Bolivia at the time of the nationalization. Bolivia had little excess capacity (approximately 5%) in 2010, such that without Guaracachi's investments, there would have been blackouts in Bolivia.[92]

55. Bolivia and its witness Mr. Paz seek to diminish this impressive record of investments, raising several allegations that are factually flawed.

56. First, while Mr. Paz acknowledges that Guaracachi invested in 185 MW of installed capacity under Rurelec's leadership,[93] he argues that the Claimants overestimate their contribution by referring to "installed capacity" (i.e. the nominal capacity of the generation units) instead of "effective capacity", which is based on the altitude and temperature prevailing at the location where they were installed.[94] Measuring capacity nominally is the industry convention,[95] applied by ENDE in its Annual Reports.[96] This is because the cost of generation units is based upon their installed (or nameplate) capacity, and obviously does not decrease simply because a generation unit operates less effectively due to temperature or altitude where it operates. But regardless of how generation capacity is measured, the relative increase in Guaracachi's generation capacity is unchanged.

57. Second, in his assessment of Guaracachi's investment in new capacity, Mr. Paz ignores the 82 MW of effective capacity (96 MW of installed capacity) represented by the CCGT project.[97] This is misleading. The Board approved the

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92 Earl Second WS, ¶ 12.

93 Paz First WS, ¶ 44 (indicating that 185 MW is the installed capacity at ISO conditions).

94 *Ibid*, ¶ 44.

95 Lanza Second WS, ¶ 10.

96 *See*, e.g., 1991 ENDE Annual Report, **Paz Annex 4**, p. 19 (showing the evolution of ENDE's installed capacity); 1993 ENDE Annual Report, **Paz Annex 6** (showing ENDE's installed capacity), p. 15.

97 Paz First WS, ¶ 44 (noting that EGSA installed 73.82 MW of effective capacity, discounting the 82 MW of effective capacity of the CCGT which was nearly complete). *See* Lanza Second WS,

project in November 2006 and work continued from then until nationalization, at which point the project was more than 95% complete.[98]

58. Mr. Paz also alleges that the cost of Guaracachi's expansion investments was US$92 million, and not US$110 million as the Claimants submit.[99] But Mr. Paz ignores several cost items in his calculations. His calculations do not account for financial costs, which he admits totaled "some US$11 million".[100] As Mr. Blanco, Guaracachi's former Finance Director, elucidates: "[t]here is no reason to exclude the financial costs of carrying out these investments […] no sensible electricity company undertakes large infrastructure projects without debt financing, and the costs of this financing must be accounted as part of the investment."[101] Finally, Mr. Paz ignores the Santa Cruz plant (an investment of approximately US$3.5 million)[102] and the San Matías project (an additional US$1.2 million). Once these

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¶ 13 ("[i]n reviewing 15 years of capacity 'additions' made by Guaracachi, [Mr. Paz] makes not one mention of the CCGT project. [Paz First WS, ¶ 33] […] For instance, he states that from 2002 until nationalization, Guaracachi installed only 73.82 MW of capacity and not 185 MW. He can only arrive at his figure by excluding the 96 MW capacity provided by the CCGT and by, as explained above, referring to effective capacity and not the more conventional reference, capacity in ISO conditions." English translation. The Spanish original reads: "[A]l repasar los 15 años de "adiciones" de capacidad efectuadas por Guaracachi, no menciona ni una sola vez el proyecto de CCGT. [Paz First WS, ¶ 33] […]Por ejemplo, manifiesta que desde el año 2002 hasta la nacionalización, Guaracachi instaló únicamente 73,82 MW de potencia y no 185 MW. Solamente puede llegar a su cifra si excluye los 96 MW de potencia que aporta la CCGT y, como se explicó precedentemente, si se refiere a potencia efectiva en lugar de utilizar la referencia más convencional, la potencia en condiciones ISO.")

98 *See* above, ¶ 50.

99 Paz First WS, ¶¶ 45-46 (noting that the investments made include a sum of around US$23.2 million representing the investment in GCH-11 and the seven Jenbacher engines, and "about US$67.6 million" for the CCGT project, for a total of US$92.2 million).

100 Paz First WS, ¶ 45. English translation. The Spanish original reads: "unos USD 11 millones".

101 Blanco Third WS, ¶ 26. English translation. The Spanish original reads: "No existe motivo alguno para excluir los costos financieros de llevar a cabo estas inversiones. Tal como expliqué en mi segunda declaración , ninguna empresa de electricidad sensata lleva adelante grandes proyectos de infraestructura sin recurrir a la financiación mediante deuda, y los costos de esta financiación deben contabilizarse como parte de la inversión".

102 Blanco Third WS, ¶ 26; Aliaga Second WS, ¶ 24(b).

costs are taken into account, the total cost of Guaracachi's investments between 2006 and 2010 rises to US$110 million.[103]

59. Finally, Mr. Paz complains that some of the engines that Guaracachi acquired were "used" as opposed to new.[104] The relevance of this distinction is unclear. As Mr. Lanza, Guaracachi's former Project Manager, explains: "second-hand and refurbished equipment can be just as productive and efficient as new equipment, with the added benefit of significant savings on the purchase price." [105]

3. The decommissioning or replacement of less-efficient generation units

60. Notwithstanding the significant history of investments described above, Bolivia alleges that "since 2001, a systematic process of disinvestment of [Guaracachi's] fixed capital" was carried out.[106] To support this remarkable claim, Bolivia refers to the decommissioning and sale of certain old and inefficient generation units that were no longer being called upon to dispatch sufficient electricity to cover the costs of their operation.[107]

61. The regulatory framework was intended to incentivize power generators to phase out old and inefficient equipment and to replace them with more newer and more efficient units. As Jaime Aliaga explains:

> Because this framework provided that generation units would be called upon to dispatch power to the interconnected electricity system (the ***SIN***) in the order of their efficiency (the most efficient units being called to dispatch first), less efficient equipment would often not be called upon to dispatch at all, or it would only be

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103 Blanco Third WS, ¶ 26.

104 Paz First WS, ¶¶ 42, 54.

105 Lanza Second WS, ¶ 12. In any event, the seven Jenbacher engines (ARJ-9 – ARJ-15) acquired by Guaracachi were almost new. They had never produced electricity and had only undergone only 500 testing hours. The Deutz engines had to be acquired used, given the limited budget allocated for the rural electrification project and the urgent time frame for commissioning. *See* Aliaga Second WS, ¶ 33.

106 Statement of Defense, ¶ 46.

107 *Ibid*, ¶¶ 47-49.

> called to dispatch at peak hours. Such units would not be able to generate sufficient revenues to cover their costs and would therefore become uneconomical to maintain. In these circumstances, the economic incentive for generators was either to transfer the inefficient units to a location where they would be called to dispatch more often or to replace them with more efficient units. The licenses for Guaracachi's four power plants provided that, subject to the approval of the Superintendency of Electricity (know as the *Autoridad de Electricidad* since 2009), Guaracachi could relocate, sell or dispose of generation units in certain circumstances, including when these units were no longer being called upon to dispatch power to the system.[108]

62. The withdrawal of certain units from the Guaracachi and Aranjuez plants are illustrations of these incentives at work. As explained below, decommissioned units were inefficient and uneconomical, and were ultimately replaced by more efficient units with greater generation capacity, such that there was a net gain in efficiency and capacity at both plants.

a. The decommissioning of GCH-3 and GCH-5 in 2001

63. In 2001, two older units (GCH-3 and GCH-5), "the most inefficient units in the system" at the time,[109] were no longer being called upon to dispatch. Indeed, the CNDC had indicated that they would not be delivering electricity for the next *five*

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[108] Aliaga Second WS, ¶ 6. English translation. The original Spanish reads: "Dado que este marco disponía que las unidades de generación serían convocadas a despachar energía al sistema interconectado de electricidad por orden de eficiencia (se convocaría primero a despachar a las unidades más eficientes), con frecuencia los equipos menos eficientes directamente no serían convocados a despachar o solamente se requeriría que despachen en las horas pico. Dichas unidades no podrían generar ingresos suficientes para cubrir sus costos y, por lo tanto, resultaría antieconómico mantenerlas. En esas circunstancias, el incentivo económico para las generadoras consistía en poder transferir las unidades ineficientes a una locación en las que podrían ser convocadas a despachar con mayor frecuencia o reemplazarlas por unidades más eficientes. Los contratos de licencia correspondientes a las cuatro centrales eléctricas de Guaracachi disponían que, con sujeción a la aprobación de la Superintendencia de Electricidad (denominada Autoridad de Electricidad desde 2009), Guaracachi podría reubicar o vender unidades de generación, o disponer de ellas, en determinadas circunstancias, incluyendo situaciones en que dichas unidades ya no fueran convocadas a despachar electricidad al sistema".

See also Articles 6(c) and 10(g) of the License Contracts for Power Generation at the Aranjuez, Guaracachi and Karachipampa Plants between the Superintendent of Electricity and Guaracachi, **Exhibit C-22**, **Exhibit C-23**, **Exhibit C-24**.

[109] Lanza Second WS, ¶ 23.

years, and therefore had no realistic prospect of bringing in revenue.[110] It therefore made commercial sense to decommission and sell the units, rather than incur costs that would never be recouped. Guaracachi's request to withdraw the units from the grid was approved by the electricity regulator.[111] They were subsequently sold for US$2.28 million, with the approval of Guaracachi's board.[112] Mr. Paz's allegation that Guaracachi's board was not acting "in defense of the interests of the State nor with the authorization of the State"[113] is therefore false. Indeed, Mr. Paz's present objection to this transaction is puzzling: he was directly involved in the decommissioning and sale as an analyst at Guaracachi, and expressed no discontent at the time.[114]

64. In view of the significant investments in new generation capacity in the Guaracachi plant prior and subsequent to the decommissioning of GCH-3 and GCH-5,[115] it is incredible to allege, as does Mr. Paz, that the decommissioning of these two old, inefficient and non-operational units *in 2001* caused power outages in 2011.[116]

b. The decommissioning of ARJ-4 and ARJ-7 in 2001, and ARJ-5 and ARJ-6 in 2010

65. As a result of the installation of the high-efficiency GE 6FA gas turbines (GCH-9 and GCH-10) installed in 1999, the four Worthington motors at the Aranjuez plant

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110 Lanza Second WS, ¶ 24. *See* CNDC Medium Term Programming Report, May 2001-April 2005, **Exhibit C-276**, Annexes 5 and 6 (indicating that units GCH-3 and GCH-5 were not programmed to be called upon to dispatch between 2001 and 2005).

111 Resolution SSDE 110/2001, 10 July 2001, **Exhibit C-278**, Article 1; Resolution SSDE 153/2002, 1 August 2002, **Exhibit C-279**, Article 1.

112 Minutes of the Meeting of the Board of Directors of Guaracachi, 4 December 2002, **Exhibit C-280**, at 4. *See also* Lanza Second WS, ¶ 27.

113 Paz First WS, ¶ 40. English translation. The Spanish original reads: "Sobre este punto, debo aclarar que, al contrario de la impresión que crean las Demandantes, el Directorio de EGSA no actuaba en defensa de los intereses del Estado ni con la autorización del Estado."

114 Lanza Second WS, ¶ 28.

115 Namely the investment in GCH-11 in 1999 and the CCGT in the late 2000s. *See* above, ¶ 42.

116 Paz First WS, ¶ 39.

(known as ARJ-4 through ARJ-7) were displaced from the market.[117] These units were no longer generating sufficient revenues, because they were rarely called upon to dispatch electricity. Consequently, Guaracachi requested the regulator's approval to decommission the units.

66. ARJ-4 and ARJ-7 were decommissioned with the regulator's approval in 2001.[118] In 2004, these units were transferred to a wholly-owned subsidiary of Guaracachi, Energia para Sistemas Aislados ESA S.A. (***ESA***),[119] which was subsequently sold to Rurelec (before it became a Guaracachi shareholder) for US$550,000, following a public tender.[120] Following its acquisition by Rurelec, ESA changed its name to Energais.[121] Guaracachi sought and obtained the regulator's approval to decommission ARJ-5 and ARJ-6 in 2006 and 2007, respectively.[122] Decommissioning was postponed until 30 April 2010 at the recommendation of the regulator, so that these units could provide additional capacity until voltage regulation problems in the area could be resolved.[123] In the interim, ARJ-5 and

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117 Aliaga Second WS, ¶¶ 8-23.

118 Resolution SSDE No. 147/2000, 6 December 2010, **Exhibit C-89**.

119 ESA was created to pursue projects in remote rural areas where the national grid did not extend, and where, therefore, electricity is provided through networks known as "isolated systems" (or "*sistemas aislados*"). Aliaga Second WS, ¶ 11. It was hoped that the inefficient Worthington motors, while not efficient enough to be economical to operate within the national grid, might be put to good use in remote rural areas with insufficient power generation capacity. Earl Second WS, ¶ 17.

120 Aliaga Second WS, ¶ 15. *See* Agreement for the Sale and Purchase of Empresa para Sistemas Aislados ESA S.A. between Guaracachi and Rurelec PLC, 8 October 2004, **Exhibit C-103**; Amendment to the Agreement for the Sale and Purchase of Empresa para Sistemas Aislados ESA S.A. between Guaracachi and Rurelec PLC, 28 February 2005, **Exhibit C-109**; Receipts for the Transfer of Funds from Rurelec to Guaracachi, 13 October 2004 and 4 March 2005, **Exhibit C-104**.

121 Testimonio 2388/2005, 30 December 2005, **Exhibit C-112**.

122 Resolution SSDE No. 107/2007, 2 April 2007, **Exhibit C-136**. Guaracachi requested that the two Worthington motors (ARJ-5 and ARJ-6) be replaced by three Jenbacher engines (ARJ-13 through ARJ-15), which were more efficient and had a greater generation capacity. The Dirección del Mercado Electrico Mayorista, a department within the Electricity Authority, acknowledged this in its response to Guaracachi's request. Resolution SSDE No. 107/2007, 2 April 2007, **Exhibit C-136**, quoting Informe DMY No 036/2007 of 31 January 2007.

123 Aliaga Second WS, ¶ 22; Resolution SSDE No. 185/2009, 25 September 2009, **Exhibit C-176** (also produced by Bolivia as **Paz Annex 10**), p. 3. The decommissioning was not postponed because of delays to the CCGT project as Mr. Paz suggests. *See* Paz First WS, ¶ 52.

ARJ-6 were sold to European Power Systems AG (an unrelated company) for US$500,000,[124] and were leased back to Guaracachi from 2007,[125] where they remained in operation until the nationalization.

67. Ultimately, as described above, Guaracachi invested in seven highly-efficient Jenbacher engines, which it commissioned at the Aranjuez plant in 2006 and 2008.[126] This replacement resulted in a significant increase in the value of the company's fixed assets.[127]

68. It is difficult to understand Bolivia's apparent dissatisfaction with the decommissioning of the older Aranjuez motors, when it argues that three other similar Aranjuez motors (ARJ-1 through ARJ-3, the contemplated sale of which Bolivia criticizes[128]) should have been decommissioned and substituted for more efficient units.[129]

c. The aborted decommissioning of KAR-1 in 2010

69. Mr. Paz criticizes the Claimants for failing to mention that Guaracachi had requested the decommissioning of the generation unit at the Karachipampa plant (known as KAR-1) in January 2010, which Mr. Paz characterizes as yet another attempt to empty Guaracachi of its assets.[130]

70. Guaracachi indeed requested approval to decommission the inefficient and uneconomical KAR-1 unit in January 2001, so that it could be replaced either

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124 Purchase Agreement Relating to Two Worthington Motors with Associated Equipment, 24 November 2006, **Exhibit C-124**.

125 Contrato Privado de Alquiler de Equipos de Generación, 3 October 2007, **Exhibit C-287**. Contrato Privado de Alquiler de Equipos de Generación, 6 May 2009, **Exhibit C-173**, Article 2.

126 *See* above, ¶¶ 41, 43.

127 Aliaga Second WS, ¶ 23.

128 *See* Statement of Defense, ¶ 48; Paz First WS, ¶¶ 47-51; Aliaga Second WS, ¶ 10; Earl Second WS, ¶ 16.

129 Statement of Defense, ¶ 305; Paz First WS, ¶ 90.

130 Paz First WS, ¶¶ 55-59. *See* Request for Modification of Karachimpampa Plant Generation License, 5 January 2010, **Paz Annex 15**.

with an existing unit or by acquiring a new motor.[131] The State-controlled ENDE, which was a 49.7% shareholder in Guaracachi at the time with two directors on Guaracachi's board, made no objection to this request.[132] In February 2010, Guaracachi submitted to the CDNC its dispatch programming data for the period from May through October 2010, showing that it intended to withdraw KAR-1 as of 1 August 2010.[133] CNDC never responded directly, but on 30 April 2010, issued its study for the upcoming six months, which included the KAR-1 unit.[134] This constituted a *de facto* rejection of Guaracachi's request.[135] Mr. Paz claims that the new (post-nationalization) management of Guaracachi reversed the decision to decommission KAR-1, but provides no evidence that Guaracachi withdrew its request.[136] In fact, the request to withdraw KAR-1 had been denied, which explains why it remains in place today.

E. BOLIVIA'S PRE-NATIONALIZATION MEASURES

71. The Claimants previously explained how Bolivia took certain measures prior to nationalization that artificially depressed capacity prices and spot prices, Guaracachi's two main sources of remuneration.[137]

72. In its Statement of Defense, Bolivia seeks to dismiss the Claimants' complaints in regard to these measures as "frivolous," "clearly abusive," and examples of the

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131 Andrade Second WS, ¶¶ 44-45.

132 *Ibid*, ¶ 42. Indeed, in ¶ 67 of its Defense Memorial, Bolivia indicates that the Government transferred 49% of the shares in Guaracachi to ENDE, in order to provide the "State the sufficient quorum to oppose the sale of [Guaracachi's] assets". This veto power was not used to block the request to decommission KAR-1.

133 Información remitida por EGSA al CNDC en febrero de 2010 para la programación de mediano plazo (PMP), tabla "Ingresos o Retiros", May 2010 – April 2014, **Paz Annex 16**. It also provided that Guaracachi intended to transfer GCH-4 as of 1 May 2010.

134 "Precios de Nodo de Mayo a Octubre de 2010", Informe CNDC, 30 April 2010, **Paz Annex 8**, pp. 10-11.

135 Andrade Second WS, ¶¶ 46-47.

136 Paz First WS, ¶ 58.

137 Statement of Claim, Sec. II.E, IV.B-C.

Claimants' "constant exaggeration."[138] This simply shows how blithely Bolivia viewed compliance with its regulatory framework introduced to foster a supportive investment climate and encourage private sector participation in the electricity sector.

1. Manipulation of Capacity Prices: Resolution 40 (2007)

73. In February 2007, Resolution SSDE No. 040/2007 was introduced, eliminating the complementary equipment costs component from the capacity price setting formula. The impact was severe: Guaracachi's capacity payments were permanently reduced by 17%.

74. Capacity payments are an essential source of income for generators that allow for both proper investment recovery and incentives to expand. Facing a significant reduction in one of its main sources of remuneration, Guaracachi proceeded to challenge Bolivia's manipulation of the capacity price regime before the Bolivian courts, as explained in the Statement of Claim.[139]

75. Against this background, in its Statement of Defense, Bolivia claims that Resolution SSDE No. 40 was "fully justified" and that the Claimants' legal challenges have not been subject to significant delays.[140] These arguments are unavailing. As set out in further detail below, nearly five years later Guaracachi's appeals remain unresolved before the Supreme Court, with no real prospect of adjudication.

76. In addition, Bolivia suggests that even if Resolution SSDE No. 40 had not been introduced, Supreme Decree 27302, which provides for the stabilization of tariffs to end-users (with a maximum increase of 3% per semester), should also be

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138 Statement of Defense, ¶ 291, 548.

139 Statement of Claim, ¶¶ 89-94.

140 Statement of Defense, ¶¶ 485-521.

considered to limit capacity payments.[141] There is no merit to this suggestion. Revenues from capacity sales relate to compensation for power capacity, i.e. compensation for keeping power plants available for dispatch into the grid as required. Resolution 283 has no application to the compensation of power capacity, and Bolivia has not established otherwise.

2. Manipulation of Spot Prices: Resolution 283 (2008)

a. Bolivia's Modification of the Legal Framework Relative to Spot Price Payments

77. In August 2008, Resolution SSDE No. 283 excluded liquid fuel units as potential marginal unit candidates, which also had a significant negative impact on the spot prices that Guaracachi received.[142] According to Bolivia, Resolution 283 was justified, because otherwise generators would receive "windfall profits" and "consumers would be prejudiced."[143] In support of this contention, Bolivia refers to three units at Guaracachi's Aranjuez plant (ARJ-1, ARJ-2 and ARJ-3), that Mr. Paz describes as "more than 30 years old" and "[the] most inefficient engines in Bolivia."[144] According to Mr. Paz, the increased reference cost associated with these units "explains why EGSA kept, at the Aranjuez plant, the oldest dual engines (ARJ 1, ARJ-2 and ARJ-3), which were over 30 years old and beyond the end of their service lives, instead of replacing them with more efficient units."[145] Bolivia's contentions are unavailing.

78. Guaracachi inherited the three Nordberg dual-fuel units – ARJ-1, ARJ-2 and ARJ-3 – upon capitalization, from ENDE. In 2004, Guaracachi attempted to sell

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141 Paz First WS, ¶ 133 ("Moreover, as in the case of spot energy selling price, we should consider the stabilization of consumer prices (with a maximum increase of 3%)").

142 Andrade Second WS, ¶ 23.

143 Statement of Defense, ¶ 318.

144 *Ibid*, ¶ 305.

145 *Ibid*, ¶ 305.

these units, as well as the other dual fuel units (ARJ-4 – ARJ-7) at Aranjuez, through ESA, but was ultimately prevented from doing so.[146]

79. In any event, end-users in Bolivia were not prejudiced by the regulatory framework that was in place prior to the introduction of Resolution 283. In 2003, the Electricity Superintendency created a stabilization fund to stabilize the electricity tariffs paid by end-users. That fund was designed to prevent significant consumer rate variations. Consumers were therefore already protected from sudden increases in electricity prices.[147] The pre-existing regulatory framework certainly did not incentivize the use of "inefficient generation units," as Bolivia suggests. To the contrary, the Electricity Law rewarded efficiency and encouraged investment in modern generation units, which is why similar marginal cost pricing mechanisms are in place in most jurisdictions around the world.[148]

b. The Stabilization of Electricity Tariffs Paid By End Users since 2003

80. Bolivia further argues that "electricity rates," including spot prices, were "stabilized" with the introduction of Supreme Decree No. 27302.[149] They claim that electricity generators could never recover amounts paid into the stabilization fund. Both of these contentions are false.

81. First, contrary to Bolivia's suggestion, the stabilization fund did not affect the level of spot prices received by electricity generators. As an electricity generator,

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146 Andrade Second WS, ¶ 32; Aliaga Second WS, ¶¶ 12-13.

147 Andrade Second WS, ¶ 33.

148 *Ibid*, ¶ 35 ("[t]he Electricity law provides that all units are all considered equal. Likewise, it does not say that the concept of marginal cost does not include the small units. Put simply, the Electricity Law, at Article 3, provides that Bolivia's electricity industry will be governed by the principles of 'efficiency, transparency, quality, continuity, adaptability and neutrality'." English translation. The Spanish original reads: "[L]a Ley de Electricidad establece que todas las unidades son consideradas iguales. Tampoco establece que el concepto de costo marginal no incluye las unidades pequeñas. Dicho de otro modo, la Ley de Electricidad en su Artículo 3 establece que la industria eléctrica de Bolivia se regirá por los principios de "eficiencia, transparencia, calidad, continuidad, adaptabilidad y neutralidad'.").

149 *Ibid*, ¶ 25.

Guaracachi sells its entire production of electricity on the spot market to the network, in which sales are valued at the short-term marginal cost of energy, the spot price. Node prices are the price at which distributors purchase electricity from the network and are one of two elements, along with distribution costs, that comprise the final rates charged to end-users (customers).

82. The stabilization fund has an impact on electricity generators when end user prices increase more than 3% in a semester. In those circumstances, "the differential between the regulated price (capped nodal price) and the spot price arising from the electricity systems is accumulated as a receivable for the generator in the stabilization fund."[150] As a result, Guaracachi's participation in the stabilization fund fluctuates over time, accumulating receivables during certain periods, as well as collecting them thereafter.

83. Second, Bolivia's suggestion that funds accumulated by Guaracachi could remain in the stabilization fund indefinitely is mistaken.[151] Compass Lexecon explain that no spot electricity system they are aware of "would allow stabilization funds to accrue either surpluses or deficits on a permanent basis, as this would defeat the purpose of its existence."[152] Indeed, one of Bolivia's own witnesses, Mr. Paz, testifies only that it might be unlikely for spot prices to decrease, not that stabilization funds could be left to accrue on a permanent basis, never to be recovered.[153]

c. Guaracachi Never Approved Resolution 283

84. Bolivia also alleges that Guaracachi accepted the modification of the legal framework for spot prices in 2008.[154] Specifically, Bolivia suggests that

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150 Compass Lexecon Rebuttal Report, ¶ 133.

151 Econ One Report, ¶ 125.

152 Compass Lexecon Rebuttal Report, ¶ 136.

153 Paz First WS, ¶ 115.

154 Statement of Defense, ¶ 329.

Resolution 283 was adopted in consultation with electricity generation companies and "approved" by them.[155] This is not true.

85. Beginning in 2008, Mr. Andrade attended meetings with the CNDC as the representative of the electricity generators.[156] His responsibility was, in the main, to defend the interests of the electricity generators before the CNDC, as well as liaising with the CNDC on various technical and regulatory matters.[157] On behalf of the entire industry, Mr. Andrade specifically objected when the modification to the spot price regime was proposed.[158]

86. Consistent with Mr. Andrade's account, the minutes of that meeting plainly reflect his objection on behalf of all of Bolivia's electricity generators:[159]

> El Representante de Generadores expresó su preocupación por el accionar del Gobierno, pues considera que el DS 29599 es una medida discriminatoria ya que asigna un tratamiento diferente que a las demás unidades generadoras por no permitir que las unidades Dual Fuel puedan marginar y marcar precio para el sistema. Consideró que el Decreto es contrario a la ley, al principio de igualdad, y que, los cambios si se los quería efectuar, deberían hacerse modificando la Ley y no parcialmente con Decretos, afectando a alguna empresa en particular. Considera que cualquier cambio debe producirse a través de una ley y no de un Decreto dada la jerarquía normativa.

87. Thus, Guaracachi did not approve Resolution 283.

F. GUARACACHI'S FINANCIAL SITUATION PRIOR TO NATIONALIZATION

88. In its recent submissions,[160] Bolivia has gone to extraordinary lengths to cast doubt on the established fact that Guaracachi's economic health was robust prior

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155 *Ibid.*

156 Andrade Second WS, ¶ 37.

157 *Ibid.*

158 *Ibid*, ¶¶ 38-39.

159 Acta de la Sesión No. 236 del CNDC, 30 June 2008, **Exhibit R-87**.

160 *See* Bolivia's Memorial on Jurisdiction, ¶¶ 122, 125; Witness Statement of Martha Bejarano, 14 September 2012 (***Bejarano First WS***), ¶ 14; Bolivia's Reply on Jurisdiction, ¶¶ 106, 112; Statement of Defense, ¶¶ 66, 173-279; Paz First WS, ¶ 64.

to the nationalization.[161] Bolivia attempts to characterize Guaracachi under Rurelec's administration as a company in crisis, allegedly decapitalized as a result of the imprudent distribution of dividends and laden with an untenable debt burden. But the record reveals a very different pre-expropriation reality.[162]

89. By 1 May 2010, Guaracachi had a strong history of profitability, having earned profits every year throughout the period in which Rurelec held a majority stake in the company, while sustaining an impressive investment program.[163] In the absence of Bolivia's measures affecting spot prices and capacity prices, Guaracachi would have attained even greater profitability,[164] and following the commissioning of the CCGT project (scheduled for November 2010), Guaracachi's EBITDA would have doubled.[165]

90. Between 2006 and 2010, commercial banks and international development banks provided financing to Guaracachi on competitive terms that would not have been available to a company in distress.[166] Over this period, Guaracachi obtained 18 loans with a weighted average interest rate of just 7.5%.[167] This is particularly impressive in an environment where the background risk of doing business is 7% greater than in the United States.[168] Guaracachi continued to obtain commercial loans throughout 2009-2011.[169] As already explained, Fitch and Pacific Credit

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161 Witness Statement of Marcelo Blanco, 29 February 2012 (***Blanco First WS***), ¶ 23.

162 Witness Statement of Marcelo Blanco, 26 October 2012 (***Blanco Second WS***), ¶¶ 5-17; Blanco Third WS, ¶¶ 23-26; and Earl Second WS, ¶¶ 23-25; Compass Lexecon Rebuttal Report, ¶¶ 17-24

163 Earl Second WS, ¶ 23.

164 Compass Lexecon Rebuttal Report, ¶ 18.

165 *Ibid*, ¶ 20; Earl Second WS, ¶ 25.

166 Blanco Second WS, ¶ 6(a).

167 *Ibid. See also* Blanco Third WS, ¶ 8.

168 Compass Lexecon First Report, ¶ 162. *See* also Compass Lexecon Rebuttal Report, ¶¶ 68-79.

169 Blanco Second WS, ¶ 16 and Blanco Third WS, ¶ 4, 22(a). *See also* Guaracachi's 2010 Audited Financial Statements, 25 March 2011, **Exhibit C-209**, pp. 11-12; 2011 Audited Financial Statements, 12 March 2012, **Exhibit C-224**, pp. 18-20.

Ratings rated Guaracachi's debt as "investment grade",[170] reflecting the company's "high capacity to pay capital and interest in accordance with the agreed terms and periods".[171] These ratings also confirmed that Guaracachi's debt levels were reasonable. Just two months prior to the nationalization, Pacific expressly acknowledged that: "[Guaracachi's] leverage is acceptable", with "reasonable leeway in order to fulfill its investment projects and manage its leverage properly".[172] PWC and Ernst & Young approved Guaracachi's accounts between 2007 and 2010 without any warning or reservation as to the company's debt burden or liquidity.[173]

91. Contrary to Bolivia's allegations,[174] Guaracachi's liquidity problems were temporary and short-term, and caused in part by the Government's obstruction. Guaracachi was *not* in arrears on loan payments,[175] nor did it accumulate unpaid gas bills.[176] Guaracachi's cash limitations around the time of the nationalization

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170 Fitch Rating Reports for Guaracachi, 2007-2010, **Exhibit C-348**; Pacific Credit Ratings Report on Guaracachi, 2009-2010, **Exhibit C-349**.

171 *See* Pacific Credit Rating Reports for Guaracachi, 2009-2010, **Exhibit C-349**. English translation. The Spanish original reads: "alta capacidad de pago de capital e intereses en los terminos y plazos pactados". *See also* Fitch Ratings Risk Classification Categories, **Exhibit C-355**.

172 Pacific Credit Ratings Report on Guaracachi, 31 March 2010, **Exhibit C-352**, English translation. The Spanish original reads: "La asignación de las clasificaciones se sustenta en los siguientes puntos: […] Nivel de endeudamiento aceptable, ello debido al incremento patrimonial derivado de las utilidades generadas durante los últimos años, a una adecuada política de reparto de dividendos y a una política clara de endeudamiento Al 31 de diciembre de 2009, el ratio deuda financiera/patrimonio alcanzó el valor de 0.71 veces, en tanto que el de pasivo total/patrimonio fue de 0.95 veces. Con ello se concluye que este indicador muestra un margen aceptable para que la empresa pueda realizar proyectos de inversión y mantener un adecuado manejo de endeudamiento de la empresa." *See also* Compass Lexecon Rebuttal Report, ¶¶ 21-22.

173 *See* 2006-2007 Audited Financial Statements of Guaracachi, **Exhibit C-216**; 2007-2008 Audited Financial Statements of Guaracachi, **Exhibit C-217**; 2008-2009 Audited Financial Statements of Guaracachi, **Exhibit C-148**.

174 Statement of Defense, ¶ 51.

175 Witness Statement of Martha Bejarano, 26 November 2012 (***Bejarano Third WS***), ¶ 11 (alleging that Guaracachi was in arrears on loan payments). Compare Blanco Third WS, ¶ 6(a) ("Throughout my tenure as Guaracachi's Finance Director, Guaracachi always paid its financial creditors on time". English translation. The Spanish original reads: "Durante mi gestión como Director Financiero de Guaracachi, la empresa siempre pagó a sus acreedores financieros a tiempo").

176 Bejarano First WS, ¶ 33; Bejarano Third WS, ¶ 12; Statement of Defense, ¶ 66. Compare Blanco Third WS, ¶ 21 ("Guaracachi paid over US$6.3 million to YPFB, the State-controlled

were primarily the result of investments in the CCGT project, which was expected to begin yielding significant revenue just a few months later, and the Government's hindrance of a € 3.3 million carbon credit pre-payment.[177] Liquidity was simply not a major concern for Guaracachi:

> [T]he liquidity constraints that Guaracachi was facing in early 2010 were temporary in nature and presented no cause for concern. Power companies with operating assets are typically geared two-to-one in terms of debt to equity ratios, whereas in May 2010 Guaracachi was geared at closer to a one-to-one ratio. Guaracachi's liquidity position would have been significantly alleviated once the US$5 million [€ 3.3 million] carbon credit pre-payment was released to Guaracachi and all liquidity issues would have been definitely resolved once the CCGT came online and began generating revenues.[178]

92. To add insult to injury, Bolivia fabricates the allegation that the Claimants "extracted all of the value possible from [Guaracachi] (through divestitures and excessive dividends)".[179] The Claimants led Guaracachi to carry out an impressive investment program, more than doubling Guaracachi's power generation capacity, as already demonstrated.[180] In addition Guaracachi's dividend policy was reasonable – and even cautious, with the shareholders agreeing indefinitely to

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hydrocarbons company, between January and April 2010, making monthly payments of between US$1.2 million and US$2 million and paying more than three quarters of the total amount billed in 2010 prior to nationalization (approximately US$8.3 million)". English translation. The Spanish original reads: "Guaracachi pagó entre enero y abril de 2010 más de US$6,3 millones a YPFB, la empresa de hidrocarburos controlada por el Estado, mediante pagos mensuales de entre US$1,2 millones y US$2 millones y canceló más de tres cuartos de la suma total facturada en 2010 antes de la nacionalización (aproximadamente US$8,3 millones)"); Aliaga Second WS, ¶¶ 50-52.

177 For a description of the causes of Guaracachi's limited liquidity at the time of the nationalization, *see* Blanco Third WS, ¶¶ 12, 15-19; Earl Second WS, ¶ 23-24, 32. For a description of issues relating to the carbon credit prepayment, *see* Aliaga Second WS, ¶¶ 36-39 and Earl Second WS, ¶¶ 26-30. *See also* Compass Lexecon Rebuttal Report, ¶ 24.

178 Earl Second WS, ¶ 32.

179 Statement of Defense, ¶ 51. English translation. The Spanish original reads: "Lejos de haber proporcionado 'the levels of investment required and know-how for Bolivia's electricity sector' [footnote reference to Statement of Claim, ¶ 5] que pretenden las Demandantes, estas, como se detallará a continuación, extrajeron todo el valor posible de EGSA (incluido mediante desinversiones y dividendos excesivos) hasta dejarla en un estado de iliquidez crónico a la fecha de su nacionalización".

180 *See* above, ¶ 36.

defer distributions for 2008 and 2009 without interest.[181] ENDE, representing the State as minority shareholder, actively approved the declaration of dividends in 2010, with no sign of discontent or concern.[182] Rurelec's goal was obviously not extraction of short-term profits. Had Rurelec's goal been to maximize dividends, it would not have engineered and supported Guaracachi's capital-intensive, multi-year investment program, involving more than US$110 million that would obviously not be distributed to shareholders in the near term.[183]

G. THE NATIONALIZATION OF GUARACACHI WITHOUT ANY COMPENSATION

93. Guaracachi was nationalized on 1 May 2010 with the enactment of the Nationalization Decree.[184] The rather dramatic events of that day are described at length in the Claimants' Statement of Claim.[185] Bolivia makes three unfounded allegations with respect to the nationalization.

94. *First*, Bolivia contends that the nationalization was carried out peacefully – relying on the testimony of Mr Paz who, by his own admission, was not present.[186] But Bolivia accepts that the occupying soldiers wore balaclava masks and carried machine guns. It accepts that Bolivian forces smashed the front door of the Guaracachi administrative office. Mr Aliaga (who was present on that day)

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181 Blanco Third WS, ¶ 12; Earl Second WS, ¶ 14; Minutes of Guaracachi Board of Directors Meeting, 26 March 2010, **Exhibit C-184**, p. 5; Minutes of Guaracachi Shareholder Meeting, 14 April 2010, **Bejarano Annex 5**, p. 4; Minutes of Guaracachi Shareholder Meeting, 23 April 2009, **Bejarano Annex 5**.

182 Blanco Third WS, ¶ 12; Earl Second WS, ¶ 15; Minutes of Guaracachi Shareholder Meeting, 14 April 2010, **Bejarano Annex 5**, p. 4.

183 Earl Second WS, ¶ 15.

184 Supreme Decree No. 0493, 1 May 2010, published in the Gaceta Oficial No. 127NEC on 1 May 2010 (the Nationalization Decree), 1 May 2010, **Exhibit C-37**.

185 Statement of Claim, ¶¶ 98-102; Aliaga First WS, ¶¶ 46-51; Blanco First WS, ¶¶ 38-42; Witness Statement of Juan Carlos Andrade, 29 February 2012 (***Andrade First WS***), ¶¶ 57-60; Lanza First WS, ¶¶ 45-50.

186 Paz First WS, ¶ 80.

testifies that a number of other doors were broken with crowbars and security cameras were destroyed.[187]

95. *Second*, Bolivia misconstrues the Claimants' submission that the nationalization occurred "without warning",[188] and dedicates significant space to the argument that the nationalization was foreseeable from the very start of Rurelec's involvement.[189] This is somewhat of a non-sequitur: the suddenness with which the expropriation took place is wholly unrelated to the question whether Government officials had ever mentioned nationalization before. In any event, there was certainly no basis to believe that expropriation was imminent. While President Morales was elected on a platform that called for the nationalization of the hydrocarbons sector, there were no signs at the time of his election in late 2005 that the electricity sector might be brought under full State control.[190]

96. Bolivia contends that – at the very least – the Claimants should have known that the nationalization was imminent in 2010, after negotiations with the Government regarding a potential partial sale of Guaracachi's shares collapsed.[191] The relevance of this allegation is unclear, given that by this time the Claimants had

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187 Aliaga Second WS, ¶ 55.

188 Statement of Claim, ¶ 15; Earl First WS, ¶¶ 58-59. Bolivia appears to accept that it gave no advance warning to the Claimants prior to the 1 May 2010 nationalization.

189 Statement of Defense, ¶¶ 85, 71-73. In fact, neither of the two Government policy documents submitted as evidence for the "foreseeability" proposition actually supports Bolivia's argument. The Government's Development Plan for 2006-2010 describes the Government's policy of "consolidating the State's participation in the development of the electricity sector with sovereignty and social equity", but does not mention the nationalization of the electricity sector. *See* Plan Nacional de Desarrollo para el período 2006 a 2010, **Exhibit R-55**, p. 110. The governing political party's plan for 2006-2010 proposes holding a national referendum regarding the State's plan to acquire 51% of the shares in the capitalized generation companies (including Guaracachi). It provides that that acquisition would be carried out by "acquiring shares from the workers and one percent of the shares of foreign companies." It does not mention expropriation. Programa de Gobierno del Movimiento al Socialismo-Instrumento Político por la Soberanía de los Pueblos (MAS-IPSP) 2006-2010, **Exhibit R-52**, p. 114.

190 Earl Second WS, ¶ 38. *See also*, Earl First WS, ¶ 40, Hichens, Harrison & Co. Analyst Report on Rurelec PLC, 3 February 2006, **Exhibit C-117**; and Hichens, Harrison & Co. Analyst Report on Rurelec PLC, 26 October 2006, **Exhibit C-122**.

191 Statement of Defense, ¶¶ 67-68.

long since committed themselves to Guaracachi and could no longer change course. In any event, the negotiations with Bolivia continued until late April 2010, just days before the nationalization.[192] Until the end, the Claimants did not expect Guaracachi to be seized, in light of its strong record of investments and cooperation with the Government. As Peter Earl explains:

> Throughout the period in which I was negotiating with the Government, its officials made several public statements, at times contradictory, regarding plans to nationalize the electricity sector. While Guaracachi's managers and I were concerned and closely monitored the Government statements in the press, I believed, as did others, that the risk of Guaracachi being nationalized was mitigated by the considerable investments that had been made by Guaracachi over the years under Rurelec control, under what we believed to be a close working relationship with the Government. Neither of the other capitalized generators – Corani and Valle Hermoso – had made any significant investments in new generation capacity beyond those required under their capitalization contracts. I thought that the Government might nationalize them, and indeed also COBEE, the La Paz private sector hydro company which had suspended its Zongo expansion project under the Morales administration, but I believed that Guaracachi, with its extraordinary record of investments and good relationship with the Government, would be spared. Put plainly, why would the Government be asking us to step in and help fix the dire problems in San Matías and negotiating the sale of a portion of Rurelec's shares in Guaracachi if it intended to take over the company by force?[193]

97. Peter Earl's views were shared by ratings agency, Pacific Credit Ratings, which noted in its 2009 and 2010 reports on Guaracachi that:

> the possibility of the nationalization of the electricity sector is also considered a risk factor; however, it is mitigated due to the process of investment which Guaracachi is engaged in, which will make

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[192] Earl Second WS, ¶ 43. This is contrary to Bolivia's allegation that the negotiations failed in 2009; Statement of Defense, ¶¶ 67, 78.

[193] Earl Second WS, ¶ 45. *See also* Aliaga Second WS, ¶¶ 53-57.

> the Government cautious about nationalizing the sector and Guaracachi in particular.[194]

98. *Third*, Bolivia argues that it assessed compensation for Guaracachi openly and fairly.[195] In fact, the Government unilaterally imposed an opaque valuation process in which the Claimants could not participate. The methodology and results were never disclosed, beyond a terse statement that "no payment of compensation would be forthcoming".[196] Despite having recognized its obligation to pay compensation to the Claimants within 120 days,[197] Bolivia has never offered a cent to the Claimants.[198] The Government has still produced no contemporaneous documentation suggesting that an objective calculation underlay the allegedly negative value of the country's largest power generation company. And the post-hoc justifications of Econ One have now been wholly debunked.[199] Bolivia was intent on avoiding payment of compensation; transparency and objectivity were of no import to the Government in this regard.

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194 Pacific Credit Ratings Reports for Guaracachi, September 2009, **Exhibit C-349**, p. 2: "La posibilidad de la nacionalización del sector eléctrico es considerado también un factor de riesgo; sin embargo, se ve mitigado debido al proceso de inversión en el cual se encuentra enfrascado Guaracachi, lo cual hace que el gobierno tome con cautela la nacionalización del sector y particularmente la de Guaracachi. Sin embargo, a la fecha, ha habido una transferencia de acciones de las AFP hacia ENDE (Empresa Nacional de Electricidad), siguiendo la administración y el control accionario en manos del principal accionista (Rurelec)". *See also* Pacific Credit Ratings Reports for Guaracachi, March 2010, **Exhibit C-349**, p. 2.

195 Statement of Defense, ¶¶ 116-146.

196 Aliaga First WS, ¶ 56. English translation. The Spanish original reads: "Durante el encuentro se me informó que el ENDE había contratado a varias empresas para realizar la valuación económica y legal y las auditorías técnicas, y que ya se habían recibido los resultados preliminares. La señora Arismendi explicó que, según la valuación económica, el valor de las acciones de Guaracachi America que se nacionalizaron era negativo y que, por consiguiente, la posibilidad de una compensación parecía remota."

197 Nationalization Decree, 1 May 2010, **Exhibit C-37**.

198 Aliaga Second WS, ¶ 59. *See also* Aliaga First WS, ¶ 58; Andrade First WS, ¶ 64.

199 Compass Lexecon Rebuttal Report, ¶ 53 *et seq*.

III. BOLIVIA UNLAWFULLY EXPROPRIATED CLAIMANTS' INVESTMENTS

99. The Parties agree that the Claimants' investments in Guaracachi were expropriated. In their Statement of Claim, the Claimants established that this expropriation was unlawful because the Treaties guarantee that expropriation will be carried out with due process of law and accompanied by fair market value compensation.[200]

A. CLAIMANTS' SHAREHOLDING INTEREST IN GUARACACHI WAS UNLAWFULLY EXPROPRIATED

100. The Claimants have demonstrated that the Nationalization Decree established an ambiguous and unilateral process for the valuation of the Claimants' investment, and that Bolivia failed to pay any compensation to the Claimants.[201] Bolivia's justification for withholding compensation was an undisclosed valuation purportedly showing that Guaracachi – which had been profitable for years – had a negative value.[202] This valuation process – if it was conducted at all – was carried out in secret, without the Claimants' involvement. As noted, no analysis or calculation has ever been disclosed.[203] The expropriation of Guaracachi was consequently illegal, both because it was unaccompanied by compensation, and because it was carried out in contravention of basic concepts of due process.[204]

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200 Statement of Claim, IV.A.

201 *Ibid*, ¶ 168.

202 *Ibid*, ¶¶ 167–69.

203 *Ibid.*

204 The legality of the expropriation is of secondary, but by no means negligible, importance. Full compensation is due regardless of whether a taking is legal or illegal. However, as explained further in section VI.B.1 below, certain aspects of quantification may be impacted by a finding that expropriation was wrongful.

1. Bolivia's failure to pay compensation to the claimants renders the expropriation unlawful under the Treaties

101. Both Treaties provide that expropriation must be accompanied by the payment of compensation equal to the fair market value of the investment taken, and that the State must pay compensation "promptly" or "without delay."[205] Bolivia's failure to pay any compensation for Claimants' investment renders the expropriation unlawful under the Treaties.[206]

102. Bolivia has stated that pursuant to a valuation process established under the Nationalization Decree, it "in good faith and efficiently" calculated the fair market value of Guaracachi to be less than nothing, and therefore no compensation was due: its refusal to pay was consonant with the Treaties' requirements for a lawful expropriation.[207] Bolivia then argues that even a "manifestly inadequate" calculation could render the expropriation illegal.[208] According to its submission, the mere attempt to quantify market value of

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205 UK Treaty, **Exhibit C-1**, Article 5(1); US Treaty, **Exhibit C-17**, Article III(1) and (2).

206 *Burlington Resources Inc. v. Republic of Ecuador* (ICSID Case No. ARB/08/5), Decision on Liability, 14 December 2012, **Exhibit CL-179**, ¶¶ 543–45; *Marion and Reinhard Unglaube v. Republic of Costa Rica* (ICSID Case Nos. ARB/08/1 and ARB/09/20) Award, 16 May 2012, **Exhibit CL-176**, ¶ 305; *Gemplus and others v. United Mexican States* (ICSID Case Nos. ARB(AF)/04/3 and ARB(AF)/04/4), Award, 16 June 2010, **Exhibit CL-67**, ¶ 8-25; *Sistem Mühendislik Inşaat Sanayi ve Ticaret A.Ş. v. Kyrgyz Republic* (ICSID Case No. ARB(AF)/06/1), Award, 9 September 2009, **Exhibit CL-171**, ¶ 119; *Bernardus Henricus Funnekotter and others v. Republic of Zimbabwe* (ICSID Case No.ARB/05/6), Award, 22 April 2009, **Exhibit CL-168**, ¶ 98; *Rumeli Telekom A.S. and Telsim Mobil Telekomikasyon Hizmetleri A.S. v. Republic of Kazakhstan* (ICSID Case No. ARB/05/16), Award, 29 July 2008, **Exhibit CL-52**, ¶ 706; *Compañía de Aguas Del Aconquija S.A. and Vivendi Universal S.A. v. Argentine Republic* (ICSID Case No. ARB/97/3), Resubmitted Case, Award, 20 August 2007, **Exhibit CL-45**, ¶ 7.5.21. *See also Marguerite de Joly de Salba (United States) v. Panama*, Award, 29 June 1933, VI RIAA 358, **Exhibit CL-151**, p. 366 ("It is axiomatic that acts of a government in depriving an alien of his property without compensation impose international responsibility").

207 Statement of Defense, ¶ 139.

208 *Ibid.* English translation. The Spanish original reads: "Si las Demandantes no están de acuerdo con dicho cálculo, deberán probar que el mismo due manifiestamente inadecuado."

expropriated property should be sufficient to insulate the State from liability. This argument is untenable.[209]

103. In support of its extreme position, Bolivia cites an excerpt from Ripinsky and Williams' treatise *Damages in International Investment Law*, suggesting that States should be accorded some margin of appreciation in the quantification of appropriate compensation for expropriated property.[210] But the following paragraph, which reveals the commentators' basic position on the subject, is missing from Bolivia's brief:

> However, the non-payment of *any* compensation for an unreasonable length of time cannot be seen as lawful behavior because this would undermine the whole regime of international law on expropriation. Therefore, it seems that those takings, where no compensation at all has been paid for a protracted period of time or where the compensation paid or offered has been manifestly unreasonable, should be treated as unlawful.[211]

104. Bolivia contends that its conduct was lawful because the Nationalization Decree established an obligation to pay compensation, and because the Government engaged an expert to conduct a valuation of Guaracachi.[212] But the result was clearly pre-ordained: no objective observer could have reached the conclusion that no compensation was due.

105. As explained above,[213] Guaracachi was profitable and financially sound.[214] At the time of the nationalization, Guaracachi was about to complete the CCGT project,

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209 Rudolf Dolzer and Cristoph Schreuer, *Principles of International Investment Law* (Second Edition, Oxford University Press 2012) **Exhibit CL-175**, pp. 99–100; S. Ripinsky and K. Williams, *Damages in International Investment Law* (BIICL 2008), **Exhibit RL-75**, p. 68.

210 Statement of Defense, ¶ 138 *quoting* S. Ripinsky and K. Williams, *Damages in International Investment Law* (BIICL 2008), **Exhibit RL-75**, p. 68.

211 S. Ripinsky and K. Williams, *Damages in International Investment Law* (BIICL 2008), **Exhibit RL-75**, p. 68.

212 Statement of Defense, ¶¶ 120, 135, 139.

213 Section II.F, above.

214 Compass Lexecon Rebuttal Report, ¶¶ 15-24.

which would have boosted profits significantly.[215] Compass Lexecon has now demonstrated the obvious: no proper valuation process could have attributed negative value to Guaracachi. And there was no such process – if there had been one, Bolivia would surely have submitted it in this arbitration to illustrate the rationality of its methodology. Instead, Econ One has been hired to reconstruct a negative valuation after the fact by inflating the discount rate and suppressing revenue projections.[216] In the present case, even if Bolivia's depiction of Guaracachi's financial situation was correct (which it is not), it is clear that the company had the ability to continue generating revenues and profits going forward, and could therefore not, in good faith, be deemed worthless.

106. But in any event, good faith efforts are irrelevant for present purposes. Unless the Tribunal believes that a willing buyer would have paid *nothing* for Guaracachi prior to the nationalization, then Bolivia's expropriation is wrongful. The Government paid no compensation to the Claimants for their property, and this is itself a violation of the Treaties.

2. Bolivia's nationalization was carried out without due process of law

107. The Respondent's nationalization was also carried out in the absence of "due process." This was also a contravention of the Treaties, rendering the taking unlawful.

108. Article 5(1) of the UK Treaty states that a "national or company affected [by an expropriation] shall have the right to establish promptly by due process of law […] the amount of the compensation in accordance with the principle set out in

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215 *Ibid*, ¶ 20.

216 In *Rumeli v. Kazakhstan*, the State effectively expropriated the investor's telecommunications business, offering no compensation on the basis of a valuation suggesting a market value of zero. Although the business was *insolvent* at the time (unlike Guaracachi), the Tribunal rejected Kazakhstan's valuation and found the taking to be illegal, because the valuator had failed to take into account the value of the telecommunications license to a willing buyer. *Rumeli Telekom A.S. and Telsim Mobil Telekomikasyon Hizmetleri A.S. v. Republic of Kazakhstan* (ICSID Case No. ARB/05/16), Award, 29 July 2008, **Exhibit CL-52**, ¶¶ 10, 706, 806, 811, 814.

this paragraph."[217] Article III(1) of the US Treaty states in relevant part that: "[n]either Party shall expropriate or nationalize a covered investment […] except for a public purpose; in a non-discriminatory manner; upon payment of prompt, adequate and effective compensation; and in accordance with due process of law […]".[218]

109. Despite this clear text, Bolivia argues that "[t]he Treaty with the United Kingdom does not contain the condition of respect for due process."[219] But the authoritative English text of the UK Treaty expressly uses the words "by due process of law".[220] In any event, Bolivia does not dispute that the US Treaty requires "due process" in relation to any expropriation.[221]

110. Bolivia further argues that it was under no obligation to put in place a valuation process that complied with due process requirements.[222] It argues that the due process obligation applies "to the expropriation or nationalization alone",[223] and not to the associated compensation process. Again, the text of the Treaties and persuasive authority reveal Bolivia's argument to be specious. The UK Treaty refers clearly to "the right to establish promptly by due process of law […] the amount of the compensation […]".[224] Due process thus must apply to the entire

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217 UK Treaty, **Exhibit C-1**, Article5(1) (emphasis added).

218 US Treaty, **Exhibit C-17**, Article III(1) (emphasis added).

219 Statement of Defense, footnote 127. English translation. The Spanish original reads: "El Tratado con el Reino Unido no contiene la condición de respecto del debido proceso."

220 UK Treaty, **Exhibit C-1** ("Done in duplicate at La Paz this twenty fourth day of May 1988 in the English and Spanish languages, both texts being equally authoritative."). Although Bolivia omits the reasoning underlying its position, it appears to be related to the slight difference between the English and Spanish texts, which are equally authoritative. The Spanish version of the UK Treaty translates the phrase "due process of law" as "*por procedimientos juridicos*". This is obviously a distinction without a difference.

221 Article 3 of the UK Treaty includes a most-favored-nation (***MFN***) clause. A UK investor would have the benefit of the US Treaty's language regarding due process even if it were not expressly provided by the UK Treaty. *See CME Czech Republic B.V. v. The Czech Republic* (UNCITRAL), Final Award, 14 March 2003, **Exhibit CL-27**, ¶ 500.

222 Statement of Defense, ¶¶ 155–59.

223 Statement of Defense, ¶ 159 (emphasis in original).

224 UK Treaty, **Exhibit C-1**, Article 5(1).

process of expropriation, including the assessment of compensation. Similarly, under the US Treaty, if "due process of law" were not intended to cover valuation, then the Contracting Parties would not have placed the phrase "in accordance with due process of law" after the phrase relating to payment of compensation.

111. Bolivia mistakenly challenges Claimants' reference to *ADC v. Hungary* and *Kardassopolous v. Georgia* on the basis that due process requirements "appl[y] to the expropriation or nationalization alone".[225] The tribunals in both *ADC* and *Kardassopoulos* stated that, in the expropriation context, "the legal procedure must be of a nature to grant an affected investor a reasonable chance within a reasonable time to claim its legitimate rights and have its claims heard."[226] These "rights" and "claims" necessarily relate to the right to or claim for compensation for the expropriation. Bolivia bore an obligation to establish a compensation process that was procedurally and substantially fair, in accordance with due process. As has been demonstrated, it breached this duty.[227]

112. Bolivia admits that the valuation process (if there was one) was unilateral and opaque.[228] It remains opaque even today. The Claimants were not even notified that the valuation process was underway.[229] They were kept in the dark about the

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225 Statement of Defense, ¶ 159 (emphasis in original). English translation. The Spanish original reads: "Dichos casos, correctamente citados, confirman sin ambages que la exigencia de debido proceso se aplica a la expropiación o nacionalización únicamente."

226 *ADC Affiliate Limited and ADC & ADMC Management Limited v. Republic of Hungary*, Award, ICSID Case No. ARB/03/16, 2 October 2006, **Exhibit CL-38**, ¶ 435; *Ioannis Kardassopoulos and Ron Fuchs v. Republic of Georgia* (ICSID Case Nos. ARB/05/18 and ARB/07/15), Award, 3 March 2010, **Exhibit CL-65**, ¶ 396 ("The Tribunal agrees with the reasoning of the *ADC* tribunal and, in particular, with the proposition that whatever the legal mechanism or procedure put in to place, it "*must be of a nature to grant an affected investor a reasonable chance within a reasonable time to claim its legitimate rights and have its claims heard*" if its to be found to have been carried out under due process of law").

227 Statement of Defense, section 3.3.

228 *Ibid*, ¶ 161.

229 Bolivia accepts that the only notification that the Claimants received was a press report "that the State had engaged the PROFIN company to conduct the valuation of the three nationalized generators" and the online posting of tender conditions for the expert. Statement of Defense, ¶ 170; "Profin valora acciones de Elfec", Los Tiempos, 13 August 2010, **Exhibit R-81**.

timetable and procedure, and were prevented from questioning the expert or providing relevant information.[230] The Claimants were never informed of the final results of the valuation, nor given a copy of the valuation report (if one exists).[231] Due process required that Bolivia establish a transparent process that would accord the Claimants an opportunity to test the validity of the valuation.[232] Bolivia failed to do so, and its expropriation of the Claimants' investments was consequently unlawful.

B. THE WORTHINGTON MOTORS WERE UNLAWFULLY EXPROPRIATED

113. Bolivia admits that it seized the two Worthington motors known as ARJ-4 and ARJ-7.[233] It accepts that this action was beyond the scope of the Nationalization Law.[234] And it is undisputed that no compensation has been paid for the property.[235] There can therefore be no doubt that this taking was unlawful.

114. Bolivia argues only that ENDE and Guaracachi retained ARJ-4 and ARJ-7 after the expropriation without State authorization, and their conduct is therefore not attributable to Bolivia.[236] This is incorrect.

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230 Statement of Claim, ¶¶ 105-110; Earl First WS, ¶¶ 61-62; Aliaga First WS, ¶¶ 52-58.

231 The Claimants were informed only that the initial results of the valuation indicated a negative value. Aliaga First WS, ¶ 56; Statement of Claim, ¶ 169.

232 *See Mohammad Ammar Al-Bahloul v. Republic of Tajikistan* (SCC Case No. V (064/2008)), Partial Award on Jurisdiction and Liability, 2 September 2009, **Exhibit CL-64**, ¶ 221 ("due process" includes "[t]he obligation to notify an investor of hearings and not to decide about a claim in his absence […]"). *See also ADC Affiliate Limited and ADC & ADMC Management Limited v. The Republic of Hungary*, Award, ICSID Case No. ARB/03/16, 2 October 2006, **Exhibit CL-38**, ¶ 435.

233 Statement of Defense, ¶ 600.

234 *Ibid*, ¶ 603 ("[i]t is not in dispute that the old Worthington motors ARJ-4 and ARJ-7, nor any other asset of Energais, were part of the Nationalization Decree." English translation. The Spanish original reads: "Por lo tanto, no está en disputa que los viejos motores *Worthington* ARJ-4 y ARJ-7, ni ningún otro activo de Energais, eran parte del Decreto de Nacionalización".

235 *Ibid*, ¶¶ 600-601.

236 Statement of Defense, ¶¶ 610–611. Bolivia cites the ILC's Guiding Principles on unilateral declarations of States, **Exhibit RL-65**, which is irrelevant to determining whether State conduct constitutes expropriation.

115. The Nationalization Decree charged ENDE with carrying out the expropriation and empowered it to administer the expropriated assets.[237] ENDE was also authorized to appoint Guaracachi's management and directors.[238] During the expropriation process, the Worthington motors were seized. The General Manager of ENDE and Guaracachi's directors subsequently rejected requests for the release of the motors, insisting that they had been nationalized pursuant to the Nationalization Decree.[239] Rurelec's related petitions to the Attorney General's office went unanswered.[240]

116. The seizure of the Worthington motors is attributable to Bolivia, regardless of the State entity that carried out the expropriatory function. ENDE was empowered to exercise Governmental authority in the framework of the nationalization, and its actions consequently engage Bolivia's State responsibility, as set out in Article 5 of the ILC Draft Articles on State Responsibility:

> The conduct of a person or entity which is not an organ of the State […] but which is empowered by the law of that State to exercise elements of the governmental authority shall be considered an act of the State under international law, provided the person or entity is acting in that capacity in the particular instance.[241]

The commentary to this Article states specifically that an entity's "administration of allegedly expropriated property" will result in the attribution of its conduct to the State.[242]

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237 Nationalization Decree, 1 May 2010, **Exhibit C-37**, Articles 2 and 3.

238 Statement of Claim, ¶ 102.

239 *Ibid*, ¶ 112; Earl First WS, ¶ 51.

240 Earl First WS, ¶ 52 citing Letter from Freshfields to Procurador General del Estado, 25 October 2011, **Exhibit C-199** and Letter from Freshfields to Procurador General del Estado, 29 November 2011, **Exhibit C-201**.

241 International Law Commission, "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with commentaries," (2001), **Exhibit CL-158**, Article 5.

242 *Ibid,* Article 5, ¶ 2.

117. That the seizure was outside the scope of the Nationalization Decree[243] does not preclude Bolivia's liability:

> [t]he conduct of an organ of a State or of a person or entity empowered to exercise elements of the governmental authority shall be considered an act of the State under international law if the organ, person or entity acts in that capacity, even if its exceeds authority or contravenes instructions.[244]

118. In any event, there is no evidence that Bolivia in fact opposed the retention of the motors, or otherwise considered the conduct of ENDE and Guaracachi after the nationalization to be *ultra vires.* Given that Rurelec brought the situation promptly to the Attorney General's attention,[245] Bolivia's complete inaction strongly suggests the contrary.

119. Therefore, the taking of the Worthington motors is attributable to Bolivia and is unlawful.

IV. BOLIVIA'S ALTERATION OF THE REGULATORY FRAMEWORK FOR SPOT PRICES CONTRAVENED STANDARDS OF TREATMENT IN THE TREATIES

120. The Claimants explained that Supreme Decree No. 29,599 and Resolution SSDE No. 283 of 2008 artificially depressed spot prices by eliminating the costs of liquid fuel units (the units with the highest marginal cost) from the price-setting mechanism. This measure reduced efficient generators' margins and fundamentally altered the basic principles underlying spot price formation set out

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243 Statement of Defense, ¶ 603.

244 International Law Commission, "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with commentaries," (2001), **Exhibit CL-158**, Article 7. *See also Noble Ventures Inc v. Romania* (ICSID Case No. ARB/01/11), Award, 12 October 2005, **Exhibit CL-162**, ¶ 81 ("Even if one were to regard some of the acts […] as being *ultra vires*, the result would be the same."); *Ioannis Kardassopoulous v. Georgia* (ICSID Case No. ARB/05/18), Decision on Jurisdiction, 6 July 2007, **Exhibit CL-119**, ¶ 190 ("Article 7 of the *Articles on State Responsibility* provides that even in cases where an entity empowered to exercise governmental authority acts *ultra vires* of it, the conduct in question is nevertheless attributable to the State").

245 Letter from Freshfields to Procurador General del Estado, 25 October 2011, **Exhibit C-199**; Letter from Freshfields to Procurador General del Estado, 29 November 2011, **Exhibit C-201**.

in the Electricity Law.[246] Guaracachi and its shareholders relied on these principles in making their investments. By altering the fundamental premise of the Claimants' investment and frustrating their legitimate expectations, Bolivia violated its obligation under the Treaties to accord investments fair and equitable treatment,[247] to provide full protection and security for investments,[248] and to refrain from impairing investments by unreasonable measures.[249]

121. Bolivia's responses to these claims are unavailing, as explained below.

A. BOLIVIA BREACHED THE FAIR AND EQUITABLE TREATMENT PROVISION OF THE TREATIES

122. Bolivia advances three arguments in response to the fair and equitable treatment claim.

123. *First*, Bolivia argues that, in the absence of a specific State commitment to complete legal stabilization, modification of the regulatory framework cannot be unfair or equitable. Bolivia contends in this regard that "there can be no reasonable and legitimate expectation, *in abstracto*, that the host State of the

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246 Statement of Claim, ¶¶ 189-193, 203-205, 261.

247 The UK and US Treaties both ensure fair and equitable treatment. Article 2(2) of the UK Treaty states that "[i]nvestments of nationals or companies of each Contracting Party shall at all times be accorded fair and equitable treatment […]" UK Treaty, **Exhibit C-1**, Article 2(2). Article II.3(a) of the US Treaty establishes that "[e]ach Party shall at all times accord to covered investments fair and equitable treatment […]" US Treaty, **Exhibit C-17**, Article II.3(a).

248 Both the UK and US Treaty guarantee full protection and security for investments. The UK Treaty provides in Article 2(2) that "[i]nvestments of nationals or companies of each Contracting Party […] shall enjoy full protection and security in the territory of the other Contracting Party." UK Treaty, **Exhibit C-1**, Article 2(2). Article II.3(a) of the US Treaty states that "[e]ach Party shall at all times accord to covered investments […] full protection and security." US Treaty, **Exhibit C-17**, Article II.3(a).

249 Both the UK and US Treaties prevent the Contracting Parties from impairing investments through the use of unreasonable measures. UK Treaty, **Exhibit C-1**, Article 2(2) ("Neither Contracting Party shall, in any way, impair by unreasonable or discriminatory measures the management, maintenance, use, enjoyment or disposal of investments in its territory of nationals or companies of the other Contracting Party."); US Treaty, **Exhibit C-17**, Article II.3(b) ("Neither Party shall in any way impair by unreasonable and discriminatory measures the management, conduct, operation and sale or other disposition of covered investments").

investment not change its laws and regulations".[250] Although it admits that the capitalization process took place against the backdrop of electricity sector reforms designed to attract foreign investors, Bolivia insists that it never committed to preserve the reformed framework, including the spot price regime.[251]

124. Obviously, not every legislative or regulatory change constitutes a breach of the fair and equitable treatment standard. However, the standard protects investors against fundamental alterations of the conditions based upon which they reasonably relied in making their investment. The *CMS* tribunal held that measures that transform the regulatory environment that formed the basis for the claimant's decision to invest constitute a breach of the fair and equitable standard, explaining:

> [F]air and equitable treatment is inseparable from stability and predictability.
>
> It is not a question of whether the legal framework might need to be frozen as it can always evolve and be adapted to changing circumstances, but neither is it a question of whether the framework can be dispensed with altogether when specific commitments to the contrary have been made. The law of foreign investment and its protection has been developed with the specific objective of avoiding such adverse legal effects.[252]

125. In the present case, Bolivia fundamentally altered the spot price regime that attracted the Claimants' investment. For fourteen years beginning in 1995, the regulatory regime was based on certain basic principles, the establishment of which was absolutely necessary for the Government to ensure the inflow of capital and sustainability of the electricity system. Most importantly, the price paid to generators in the spot market was to be determined by the variable costs of

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250 Statement of Defense, ¶ 356. English translation. The Spanish original reads: "No existe, *in abstracto*, una expectiva legítima y razonable de que el Estado receptor de la inversión no cambiará sus leyes y reglamentaciones o no regulará su economía".

251 *Ibid*, ¶ 356.

252 *CMS Gas Transmission Company v. Republic of Argentina* (ICSID Case No. ARB/01/8), Award, 12 May 2005, **Exhibit CL-35**, ¶¶ 276-77.

the least efficient or marginal unit. Because all generators were to receive this uniform price they knew they would be able to obtain a margin adequate to recoup their investments, and to justify capital outlay for more efficient generating units.

126. This framework was in place and served to attract the long-term foreign investment of Guaracachi America in 1995 and Rurelec beginning in late 2005 . In 2008, Bolivia eliminated relatively inefficient liquid fuel units from the price-setting mechanism. This artificially depressed spot prices whenever these units were dispatched, reducing efficient generators' margins. This destroyed the fundamental principles upon which the regime was based. The calculus that had led companies to enter the Bolivian power market, and to invest in capital-intensive high-efficiency turbines, was suddenly invalid. A significant portion of their outlay would never be recouped.

127. Very similar facts arose in *Total v Argentina*. There, Argentina had abandoned a uniform spot price and discarded the marginal cost system in favor of a mechanism linked to the costs of natural gas-fired (*ie*, relatively efficient) generators. The claimant argued that this modification violated the fair and equitable treatment standard of the applicable investment treaty.[253] The tribunal agreed, concluding that the investor had been entitled to expect that the Government would respect the basic principles of the regulatory regime that had attracted its investment, "even in the absence of specific promises by the Government".[254]

128. *Second*, Bolivia argues that Article 5 of the 2006 Dignity Tariff Agreement represented no commitment to maintain the stability of the spot price regime.[255]

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253 *Total S.A. v. the Argentine Republic* (ICSID Case No. ARB/04/1), Decision on Liability, 27 December 2010, **Exhibit CL-69**, ¶¶ 325–27.

254 *Ibid*, ¶ 333. In the case at hand, unfairness is more evident still: unlike Argentina in the *Total* case, Bolivia extended a specific promise to Guaracachi – Article 5 of the 2006 Dignity Tariff Agreement – as explained immediately below.

255 Statement of Defense, ¶¶ 381-391.

Article 5 of the Dignity Tariff Agreement. This submission is moot, since a stabilization commitment is unnecessary to a finding of unfair and inequitable treatment. But the undertaking in the agreement is rather clear: In Article 5, Bolivia "commits to making every effort to maintain the current system of fixing prices for [electricity] generation […] activities."[256] The clause further states that if "changes are made to the governing norms currently in force" they will "be made in consultation with the companies of the sector" and changes would only be made "ensuring that their income allows them to ensure the sustainability and reliability of supply."[257] Thus, Bolivia committed to alter the spot price regime only upon consultation with stakeholders, and on condition of sustainable income levels.[258]

129. Bolivia also contends that since the 2006 Dignity Agreement did not yet exist when Guaracachi America and Rurelec invested, it cannot contribute to a legitimate expectation on the part of the Claimants.[259] Obviously, an investor is entitled to be treated fairly and equitably throughout the life of its investment.[260] As explained above,[261] the Claimants made significant investments (through Guaracachi) in new power generation capacity in Bolivia every year from 2006 onwards. They did so in reliance on the commitment that the existing regulatory framework would be maintained, such that these investments would be

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256 Agreement of the Strategic Alliance Between the Government of Bolivia and the Electricity Companies, 21 March 2006, **Exhibit C-119**, Article 5. English translation. The Spanish original reads: "El Supremo Gobierno se compromete a agotar esfuerzos para mantener el actual sistema de fijación de precios en las actividades de generación, transmisión y distribución".

257 *Ibid.*

258 Andrade Second WS, ¶ 22.

259 Statement of Defense, ¶¶ 385–86.

260 *Saluka Investments BV (The Netherlands) v. Czech Republic* (UNCITRAL), Partial Award, 17 March 2006, **Exhibit CL-36**, ¶ 446 (holding that Czech Republic breached the fair and equitable treatment standard of the applicable treaty by failing to provide state aid after the investment had been made).

261 See Section II.D, above.

remunerated and that they would recover capital invested and earn a reasonable rate of return.[262]

130. Bolivia also argues that in any event Guaracachi confirmed Bolivia's compliance with the 2006 Dignity Tariff Agreement when it signed the 2010 Dignity Tariff Agreement.[263] In fact, Guaracachi refused to sign the 2010 Dignity Tariff Agreement.[264] This refusal was met with threats from Government officials.[265] In an attempt to stave off nationalization, Guaracachi relented and signed the agreement. Under such circumstances, the extension of the 2006 Dignity Tariff Agreement says nothing about whether Bolivia adhered to the terms of the predecessor contract, which it manifestly did not.

131. *Third*, Bolivia argues that its alterations of the spot price regime were reasonable and justified as a matter of fact, and therefore cannot violate the fair and equitable treatment standard.[266] Ultimately, this position is irrelevant: where a protected investor has reasonably relied on an existing regulatory regime, the alteration of the rules of the game need not be arbitrary (*ie*, unreasonable) to be unfair.[267]

132. In any event, the Claimants have debunked Bolivia's *ex post* rationale for altering the spot price regime.[268] Compass Lexecon explain that, contrary to Bolivia's assertion, the decision to exclude liquid fuel plants from spot price formation does not create a more efficient market. It does the opposite: "if spot energy prices do not reflect the true economic cost of electricity production, the system is rendered less efficient. This means that investors would have fewer incentives to invest,

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262 *Ibid.*

263 Statement of Defense, ¶ 345

264 Aliaga Second WS, ¶¶ 40-48.

265 *Ibid*, ¶¶ 48-49.

266 Statement of Defense, ¶¶ 351, 401-421.

267 *National Grid PLC v. Argentine Republic* (UNCITRAL), Award, 3 November 2008, **Exhibit CL-55**, ¶ 173.

268 *See* above, ¶¶ 77-79.

which in turn delays the replacement of electricity from liquid fuel plants with less expensive gas-fired or hydro plants."[269]

133. Moreover, Bolivia admits in its Statement of Defense that this fundamental alteration of the regulatory regime was undertaken at a time when the State was planning to nationalize the electricity sector, and was actively negotiating to acquire a portion of the Claimants' shares in Guaracachi.[270] Using regulatory change to reduce the value of the company it sought to acquire was thus expedient for the Government, but hardly "rational" from a policy standpoint.

134. Thus, Bolivia fundamentally altered the regulatory regime relating to spot prices, frustrating the legitimate expectations underlying the Claimants' investment decisions. The Spot Price Measure was neither rational or proportional, but short-sighted and self-serving. The Spot Price Measure therefore violated the fair and equitable treatment standard.

B. BOLIVIA BREACHED ITS OBLIGATION TO PROVIDE FULL PROTECTION AND SECURITY

1. The full protection and security standard extends to legal protection and security

135. In their Statement of Claim, the Claimants demonstrated that the full protection and security standard "is one of due diligence, requiring Bolivia to exercise reasonable care and actively to protect the Claimants' investments."[271] The Claimants also noted that arbitral tribunals have found that the withdrawal of legal protection and security can constitute a violation of the full protection and

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269 Compass Lexecon Rebuttal Report, ¶ 145.

270 Statement of Defense, ¶¶ 66-68, 81; Earl Second WS, ¶ 40(a).

271 Statement of Claim, ¶ 197.

security standard.[272] The Claimants further established Bolivia's duty to apply the established "legal, regulatory and contractual framework" with due diligence.

136. Bolivia contends that the full protection and security standard is only "relevant to the protection and physical integrity of the investor and its assets in the territory of the State."[273] But the Treaties' provisions are broad, and Bolivia identifies no wording suggesting that their protection provisions should be limited to purely physical security.[274] Nor is the application by arbitral tribunals of full protection and security to legal security "clearly in the minority" as Bolivia asserts.[275] In addition to *CME* and *Azurix*,[276] numerous recent decisions confirm that full protection and security extends to the legal security of investments.

137. For example, the *Biwater Gauff* tribunal cited *Azurix* with approval, concluding that:

> when the terms 'protection' and 'security' are qualified by 'full', the content of the standard may extend to matters other than physical security. It implies a State's guarantee of stability in a secure environment, both physical, commercial and legal. It would in the Arbitral Tribunal's view be unduly artificial to confine the notion of "*full security*" only to one aspect of security, particularly in light of the use of this term in a BIT, directed at the protection of commercial and financial investments.[277]

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272 *Ibid*, ¶ 199.

273 Statement of Defense, ¶ 432. English translation. The Spanish original reads: "Numerosos tribunales internacionales han interpretado de manera constante el estánder de plena protección y seguridad, desde el primer caso de arbitraje CIADI basado en un tratado de inversiones (*AAPL c. Sri Lanka*), como relativo a la protección e integridad físicas del inversor y sus bienes en el territorio del Estado".

274 *Cf. Compañía de Aguas Del Aconquija S.A. and Vivendi Universal S.A. v. Argentine Republic* (ICSID Case No. ARB/97/3), Resubmitted Case, Award, 20 August 2007, **Exhibit CL-45**, ¶ 7.5.21.

275 Statement of Defense, ¶ 429. English translation. The Spanish original reads: "En cualquier caso, conviene recorder que los citados por las Demandantes son claramente minoritarios y han sido criticados por la jurisprudencia posterior".

276 Statement of Claim, ¶¶ 199–200.

277 *Biwater Gauff (Tanzania) Ltd. v. United Republic of Tanzania* (ICSID Case No. ARB/05/22), Award, 24 July 2008, **Exhibit CL-51**, ¶ 729.

Likewise, the *National Grid* tribunal held that measures dismantling a regulatory framework violated the full protection and security standard of an applicable investment treaty.[278] In arriving at this conclusion, the arbitrators reasoned that "the phrase 'protection and constant security' as related to the subject matter of the Treaty does not carry with it the implication that this protection is inherently limited to protection and security of physical assets."[279]

138. A plain reading of the treaty texts and a review of legal authority thus support the proposition that the full protection and security standard includes an obligation to ensure the legal security of qualifying investments.[280]

2. Bolivia did not afford the Claimants' investment full protection and security

139. As explained above, the spot price regime that was in place for fourteen years in Bolivia was an extension of a rational policy consonant with international practice, which enhanced the overall efficiency and reliability of Bolivia's electricity market and fostered investment.[281] Bolivia breached its obligation of vigilance under the full protection and security standard by disregarding its legislative and contractual commitments when it fundamentally altered the spot price regime with Supreme Decree No. 29,599 and Resolution SSDE No. 283/2008.[282]

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278 *National Grid PLC v. Argentine Republic* (UNCITRAL), Award, 3 November 2008, **Exhibit CL-55**, ¶ 189.

279 *Ibid.*

280 *See, e.g., Total S.A. v. Argentine* Republic (ICSID Case No. ARB/04/1), Decision on Liability, 27 December 2010, **Exhibit CL-69**, ¶ 343; *Frontier Petroleum Services Ltd. v. Czech Republic* (UNCITRAL), Final Award, 12 November 2010, **Exhibit CL-173**, ¶ 263; *Compañía de Aguas del Aconquija S.A. and Vivendi Universal S.A. v. Argentine Republic* (ICSID Case No. ARB/97/3), Resubmitted Case, Award, 20 August 2007, **Exhibit CL-45**, ¶ 7.5.21; *Ceskoslovenka obchodni banka, a.s. v. Slovak Republic* (ICSID Case No. ARB/97/4), Award, 29 December 2004, **Exhibit CL-161**, ¶ 170 (incorporating BIT by reference into contract).

281 Compass Lexecon Rebuttal Report, ¶¶ 146-151.

282 *See* Compass Lexecon Rebuttal Report, ¶ 143 *et seq*.

140. In its Statement of Defense, Bolivia argues that it did not breach the full protection and security obligation with the promulgation and implementation of Supreme Decree No. 29,599 and Resolution SSDE No. 283/2008 relating to spot prices because these measures were "reasonable and justified."[283] Yet this argument is irrelevant. For example, the National Grid tribunal found that Argentina's dismantling a legal framework constituted a violation of the full protection and security standard, even in the midst of Argentina's financial crisis.[284] Therefore, the present of some justifiable policy motive is not a defense to an allegation that the full protection and security standard of an investment treaty has been breached.

141. Yet, Bolivia's changes were not based on a rational policy motive. Prior to the 2008 modifications, Bolivia had a stable, rational energy system that promoted efficiency, reliability, and increased generation capacity.[285] The inclusion in spot price formation of the marginal cost of the least efficient generator is an essential part of compensating generators fully for the investments they have made.[286] When the spot price mechanism is altered to exclude part of the cost of the system, those generators who made investment decisions based upon the prior system are heavily penalized, and future investments are de-incentivized.[287] Such a modification, against the current of standard electricity regulation around the world, was the result of an idiosyncratic political calculus.

142. Bolivia thus deprived the Claimants of the protection and security once provided by the long-standing spot price formation system, in breach of the Treaties.

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283 Statement of Defense, ¶ 441.

284 *National Grid PLC v. Argentine Republic* (UNCITRAL), Award, 3 November 2008, **Exhibit CL-55**, ¶¶ 189-90.

285 Compass Lexecon Rebuttal Report, ¶¶ 146-151.

286 Compass Lexecon Rebuttal Report, ¶ 149.

287 *Ibid*, ¶ 145.

C. BOLIVIA IMPAIRED THE CLAIMANTS' INVESTMENT BY UNREASONABLE MEASURES

143. As described above, as well as in the Compass Lexecon Rebuttal Report,[288] the alteration of the spot price framework bears no "reasonable relationship to some rational policy."[289] As a result, these measures constituted an unreasonable impairment of the Claimants' investment, prohibited under the Treaties.[290]

144. In its defense, Bolivia first argues that under the US Treaty, impairment of investment is wrongful only if the measure in question is both unreasonable and discriminatory.[291] It appears to accept that the UK Treaty prohibits unreasonable impairment even in the absence of discrimination, and this concession fatally undermines its position. The UK Treaty's protection from measures that impair investments by "unreasonable *or* discriminatory" measures forms part of the US Treaty as well, by operation of the most-favored-nation clause of Article 2(1).[292] Therefore, under both Treaties the relevant standard is identical: an unreasonable measure is illegal regardless of whether it is also discriminatory.[293] As explained below, Bolivia's conduct in relation to spot prices was unreasonable.

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288 *See* above, ¶¶ 131-134. *See also* Compass Lexecon Rebuttal Report, ¶¶143 *et seq*.

289 *Saluka Investments BV (The Netherlands) v. Czech Republic* (UNCITRAL), Partial Award, 17 March 2006, **Exhibit CL-36**, ¶ 460; Statement of Claim, Section B.3.

290 Bolivia seeks to draw support from the Spanish text of the UK Treaty, which uses the phrase "arbitrarias o discriminatorias", as compared to "unreasonable or discriminatory" in the English version. *See* UK Treaty, **Exhibit C-1**, Article II(2). This distinction is without legal consequence. *See National Grid plc v. Argentine Republic* (UNCITRAL), Award, 3 November 2008, **Exhibit CL-55**, ¶ 197.

291 Statement of Defense, ¶ 450.

292 UK Treaty, **Exhibit C-1**, Article 2(2) ("Neither Contracting Party shall, in any way, impair by unreasonable or discriminatory measures the management, maintenance, use, enjoyment or disposal of investments in its territory of nationals or companies of the other Contracting Party"); US Treaty, **Exhibit C-17**, Article II(1).

293 C. Schreuer, Protection Against Arbitrary or Discriminatory Measures, in CA Rogers and RP Alford (eds), THE FUTURE OF INVESTMENT ARBITRATION (2009), **Exhibit C-167**, 183, 184 ("[a] violation of either standard is sufficient"); *see also Azurix Corp. v. Argentine Republic*, (ICSID Case No. ARB/01/12), Award, 14 July 2006, at ¶ 391.

145. Bolivia further contends that mere unreasonableness is in any event insufficient to breach the Treaties, and that measures must be demonstrably "arbitrary" to run afoul of the impairment clause.[294] This is a semantic battle without a cause: the terms "arbitrary" and "unreasonable" are used interchangeably in investment treaties, and tribunals have not distinguished between them.[295] The Claimants have amply established the content of the legal standard, and Bolivia has done nothing to undermine this analysis.[296]

146. At the center of its defense to the impairment claim is Bolivia's contention that the spot price measure was "reasonable and justified."[297] Its submission is inadequate to overcome the weight of evidence to the contrary. As the *Saluka v. Czech Republic* tribunal explained, "[t]he standard of 'reasonableness' […] requires […] a showing that the State's conduct bears a reasonable relationship to some rational policy […]."[298] This same standard was expressly adopted by the tribunals in *Biwater Gauff* and *Rumeli*.[299] The spot price framework established by Supreme Decree No. 29,599 and Resolution SSDE No. 283/2008 was not based upon economically rational policies. The exclusion of certain generating units from the spot price calculation meant that prices no longer reflect the cost of

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294 Statement of Defense, ¶ 451. The word "arbitrary" does not appear in Article 2(2) of the English version of the UK Treaty (which protects against "unreasonable or discriminatory measures"), but does appear in the Spanish version of the UK Treaty. UK Treaty, **Exhibit C-1**, Article 2(2); Statement of Defense, fn. 429, ¶ 451.

295 C. Schreuer, Protection Against Arbitrary or Discriminatory Measures, in CA Rogers and RP Alford (eds), THE FUTURE OF INVESTMENT ARBITRATION (2009), **Exhibit C-167**, 183.

296 Statement of Claim, ¶¶ 206–09.

297 Statement of Defense, ¶ 453.

298 *Saluka Investments BV (The Netherlands) v. Czech Republic* (UNCITRAL), Partial Award, 17 March 2006, **Exhibit CL-36**, ¶ 460.

299 *Biwater Gauff (Tanzania) Ltd. v. United Republic of Tanzania* (ICSID Case No. ARB/05/22), Award, 24 July 2008, **Exhibit CL-51**, ¶ 693; *Rumeli Telekom A.S. and Telsim Mobil Telekomikasyon Hizmetleri A.S. v. Republic of Kazakhstan* (ICSID Case No. ARB/05/16), Award, 29 July 2008, **Exhibit CL-52**, ¶ 609. *See also* Statement of Claim, ¶ 208 (citing *CME v. Czech Republic*).

the system, distorting incentives to invest and undermining the efficiency and long-term sustainability of the Bolivian electricity market.[300]

147. In sum, the Spot Price Measure was an unreasonable measure that impaired the Claimants' investment in Bolivia.

V. BOLIVIA DENIED THE CLAIMANTS EFFECTIVE MEANS OF ASSERTING THEIR CLAIMS AGAINST BOLIVIA'S MEASURES RELATING TO CAPACITY PRICES

148. The "effective means" provision of the US Treaty ensures that qualifying foreign investors will have access to efficient judicial recourse.[301] The provision is incorporated into the UK Treaty through the most-favored-nation clause of Article 3.[302] The Claimants have demonstrated that Bolivia denied them an "effective means of asserting claims and enforcing rights" with respect to the Capacity Price Measure.[303]

149. As explained in the Statement of Claim, Guaracachi challenged Resolution No. 40 through an administrative proceeding in February/March 2007.[304] After the challenge had been rejected by the relevant regulatory bodies, Guaracachi filed an action before the Supreme Court on 3 April 2008.[305] Guaracachi initiated a parallel nullification proceeding in February 2007,[306] which was placed before the

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300 *See* above, ¶ 132. Indeed, Bolivia has faced rolling outages due to its bid to "reclaim" its electricity sector. *See* "Gobierno dispone cortes de electricidad en el país", *Los Tiempos*, 12 August 2011, **Exhibit C-333**.

301 US Treaty, **Exhibit C-17**, Article II(4) ("[e]ach Party shall provide effective means of asserting claims and enforcing rights with respect to covered investments").

302 UK Treaty, **Exhibit C-1**, Article 3.

303 Statement of Claim, Section IV.C.

304 Statement of Claim, ¶¶ 217–18.

305 Appeal by Guaracachi of Resolution SSDE No. 1612/2008, 3 April 2008, **Exhibit C-151**.

306 Petition for Annulment of Resolution CNDC No. 209/2007-1, 12 February 2007, **Exhibit C-130**; Recurso de Revocatoria contra la Resolución CNDC 209/2007-1 y otras resoluciones, 15 February 2007, **Exhibit R-92**.

Supreme Court on 10 June 2008.[307] Nearly five years later, both appeals remain unresolved, and with no real prospect of adjudication.

150. Bolivia's first response to this claim is that incorporation of the "effective means" provision into the UK Treaty is "an abuse", because most-favoured-nation clauses were not meant to "harmoniz[e] […] all the standards for protection of investments."[308] To the contrary – this is precisely what MFN clauses were designed to do. This basic principle was confirmed in *White Industries v. India*, where the tribunal incorporated an "effective means" provision into the applicable BIT by operation of an MFN clause. The arbitrators reasoned that a claimant "availing itself of the right to rely on more favourable substantive provisions in [a] third-party treaty […] achieves exactly the result which the parties intended by the incorporation in the BIT of an MFN clause."[309] Other tribunals are in accord with the use of the MFN clause of investment treaties to incorporate other beneficial substantive protections.[310]

151. Bolivia next advances four separate defenses on the merits of the "effective means" claim.

152. *First*, Bolivia argues that the "effective means" obligation is breached only when a denial of justice has occurred, as defined in general international law.[311] But Article II(4) of the US Treaty does not refer to denial of justice. Nor does the

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307 Appeal by Guaracachi of Resolution SSDE No. 1706/2008, 10 June 2008, **Exhibit C-153**.

308 Statement of Defense, ¶ 531. English translation. The Spanish original reads: "La armonización de todos los estándares de protección de las inversiones específicamente negociados y acordados por Bolivia en tratados bilaterales distintos, con países distintos, por medio de la cláusula NMF, es un abuso de dicha cláusula".

309 *White Industries Australia Limited v. Republic of India* (UNCITRAL), Final Award, 30 November 2011, **Exhibit CL-73**, ¶¶ 11.2.3–11.2.4.

310 *See, e.g., EDF International S.A., SAUR International S.A. and Leon Participaciones Argentinas S.A. v. Argentine Republic* (ICSID Case No. ARB/03/23), Award, 11 June 2012, **Exhibit CL-141**, ¶¶ 932–33, 939; *Bayindir Insaat Turizm Ticaret ve Sanayi A.Ş. v. Islamic Republic of Pakistan* (ICSID Case No. ARB/03/29), Award, 27 August 2009, **Exhibit CL-170**, ¶¶ 153–60; *MTD Equity Sdn. Bhd. and MTD Chile S.A. v. Republic of Chile* (ICSID Case No. ARB/01/7), Award, 25 May 2004, **Exhibit CL-30**, ¶¶ 103–04.

311 Statement of Defense, ¶¶ 533–34.

provision reference customary international law or link "effective means" with denial of justice. In his study of US BIT practice, Professor Vandevelde explains that the "effective means" provision "was intended […] to create a separate obligation to develop an effective judicial system and in that way to promote the rule of law."[312] The *Chevron* tribunal specifically distinguished between effective means of recourse and protection from the denial of justice:

> [i]n view of . . . the language of [the effective means provision in the US-Ecuador BIT], the Tribunal agrees . . . that a distinct and potentially less-demanding test is applicable under this provision as compared to denial of justice under customary international law. The test for establishing a denial of justice sets . . . a high threshold. . . . By contrast, under [the effective means provision], a failure of domestic courts to enforce rights 'effectively' will constitute a violation . . . , which may not always be sufficient to find a denial of justice under customary international law.[313]

Thus, the standard is not one prohibiting only "particularly grievous conduct"[314] as Bolivia alleges. It means what it says: that Bolivia must ensure "effective means of asserting claims and enforcing rights".

153. *Second,* Bolivia argues that the delay in adjudication was *prima facie* reasonable under the circumstances.[315] Central to this contention is a superficial review of delays typical in the Bolivian court system and certain other administrative law systems.[316] Such a comparison is irrelevant, since the obligation to ensure

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312 Kenneth J. Vandevelde, *U.S. International Investment Agreements* (OUP 2009), **Exhibit CL-166**, p. 581.

313 *Chevron Corporation and Texaco Petroleum Corp v. The Republic of Ecuador*, Partial Award on the Merits, 30 March 2010, **Exhibit CL-66**, ¶ 244. *White Industries Australia Limited v. The Republic of India* (UNCITRAL), Final Award, 30 November 2011, **Exhibit CL-73**, ¶¶ 11.3.2(a), 11.3.3 (citing *Chevron* with approval, finding that "the 'effective' means standard is *lex specialis* and is a distinct and potentially less demanding test, in comparison to denial of justice in customary international law […]"). Bolivia's selective quotation from *Chevron* creates the false impression that the tribunal reached a contrary conclusion. *See* Statement of Defense, ¶ 534.

314 Statement of Defense, ¶ 535. English translation. The Spanish original reads: "De acuerdo con este exigente estándar en cuanto a la carga de la prueba, las Demandantes deben demostrar que hubo una conducta especialmente grave por parte del poder judicial boliviano."

315 Statement of Defense, ¶¶ 541–61.

316 *Ibid*, ¶¶ 551–61. *See also* Witness Statement of Carlos Quispe Lima, 12 October 2012 (***Quispe Second WS***), ¶¶ 1–3.

effective recourse is objective: it does not matter if Bolivian courts are equally slow for all, or if other countries also lack effective judiciaries. In any event, the delays that Guaracachi has faced are exceptional, caused by fundamental institutional defects. Not long before the relevant appeals were filed, four out of the twelve seats at the Bolivian Supreme Court stood vacant.[317] In mid-2006, no less than 3,500 cases were pending there.[318] Congress failed to fill the vacancies, rendering the Court inoperable. In December 2006, President Morales issued a decree confirming that the situation was dire .[319] Morales declared that the resulting delay "violate[d] the fundamental right […] of access to justice."[320]

154. The situation worsened after Guaracachi had launched its appeals. By 2009, only six justices remained at the Supreme Court,[321] less than the legally-required quorum for plenary sessions.[322] The court's backlog consequently rose to 8,000

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317 Organization of American States, *Report – Access to Justice and Social Inclusion: The Road Towards Strengthening Democracy in Bolivia*, 28 June 2007, **Exhibit C-286**, p. 20. This report by the Inter-American Commission was supplemented by a follow-up report dated 7 August 2009 that called on Bolivia to "[i]mmediately appoint the judges of the Constitutional Court, the Supreme Court of Justice, and the Attorney General, in keeping with the appropriate constitutional legal procedures." It further noted that there were "procedural delays" in the Constitutional Court because "it has been inoperative for more than on year." Organization of American States, *Report – Access to Justice and Social Inclusion: The Road Towards Strengthening Democracy in Bolivia*, 28 June 2007, **Exhibit C-286**, ¶ 247(3).

318 "Otro ministro renuncia a la Suprema", *Los Tiempos*, 15 May 2006, **Exhibit C-283**.

319 Supreme Decree No. 28,993, 30 December 2006, **Exhibit C-284** (stating that there were "innumerable judicial cases, pending resolution before the Supreme Court of Justice, due to [judicial vacancies at] the Court after the resignation of four justices, which clearly implies a delay in justice"). English translation. The Spanish original reads: "Es en este sentido que se ha tomado conocimiento de innumerables casos judiciales, pendientes de ser resueltos en la Corte Suprema de Justicia, a causa de las acefalias que se presentaron en dicha Corte por la renuncia de cuatro (4) magistrados, lo que implica claramente retardación de justicia […]" (emphasis added).

320 *Ibid* English translation. The Spanish original reads: "Que las acefalias judiciales, que se prolongan durante mucho tiempo, lesionan el derecho fundamental de los ciudadanos al acceso a la justicia, situación que afecta al Estado de Derecho y a los valores democráticos que éste encama, máxime si consideramos que nuestro ordenamiento constitucional, no prevé ninguna figura de suplencia automática para los magistrados de la máxima instancia judicial, como si lo hace, para otras autoridades como es el caso del Tribunal Constitucional."

321 *See* "La Corte Suprema de Justicia designará hoy a 12 conjueces", *Los Tiempos*, 16 December 2009, **Exhibit C-306**

322 Judicial Organization Law, 18 February 1993, **Exhibit C-275**, Article 57.

cases by 2010.[323] Matters were made still worse by the adoption of a new constitution in 2009. The Supreme Court was reconstituted as the Supreme Tribunal of Justice (*Tribunal Supremo de Justicia*), with justices chosen by popular election. The court was constituted only in October 2011.[324] Even then, by law the Supreme Tribunal of Justice could only decide cases filed *after* 31 December 2011.[325] Earlier cases would be adjudicated by twelve alternate justices.[326] This two-tiered system exacerbated delays for cases filed before 2012, such as Guaracachi's Supreme Court actions.

155. The Bolivian judiciary was subject to complete deadlock, which deepened with each "reform" implemented after Guaracachi sought recourse. The resulting delay was unreasonable by any standard, and Bolivia therefore failed to provide "effective means" of judicial redress as the Treaties required.

156. *Third*, Bolivia argues that since Guaracachi did not take advantage of certain available remedies, it cannot claim that it was denied the "effective means" to defend its interests.[327] But as the *White Industries* tribunal explained, "a claimant alleging a breach of the ["effective means"] standard does not need to prove that it has exhausted local remedies."[328] Rather, it is for Bolivia to demonstrate that the remedy not taken "could have had a significant effect on the expediency of the Claimants' court proceedings prior to their having reached the limit of reasonable delay."[329] Bolivia argues specifically that the Claimants could have mitigated the

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323 In 2010, there were more than 8,000 cases pending before the Supreme Court, some dating back to 2003. *See* 2010 Human Rights Report: Bolivia, U.S. Department of State, 8 April 2011, **Exhibit C-326**, p. 9.

324 Bolivia Constitution of 2009, **Exhibit R-57**, Article 182.I.

325 Law No. 212/2011, 23 December 2011, **Exhibit C-334**, Article 9.

326 *Ibid*, Article 8.

327 Statement of Defense, ¶¶ 535, 564–71.

328 *White Industries Australia Limited v. Republic of India* (UNCITRAL), Final Award, 30 November 2011, **Exhibit CL-73**, ¶ 11.3.2(g).

329 *Chevron Corporation and Texaco Petroleum Corporation v. Republic of Ecuador* (UNCITRAL), Partial Award on the Merits, 30 March 2010, **Exhibit CL-66**, ¶ 329.

effects of delay at the Supreme Court by applying for preliminary measures.[330] But this procedural device is applicable only in civil proceedings, and not in contentious-administrative cases.[331] In any event, the Supreme Court was effectively dormant at the time, and there is consequently no basis to conclude that it could have issued interim relief protecting Guaracachi. Nor would preliminary measures have been effective, given that nationalization nullified the Claimants' interest in May 2010. Bolivia's proposed alternative course of action would thus have had no significant effect on the expediency of the recourse available.

157. *Finally*, Bolivia takes the position that Guaracachi's litigation, had it moved forward, would have been unsuccessful in any event.[332] This is an issue of causation of damages, rather than liability, and should not affect the Tribunal's consideration of whether Bolivia complied with the Treaties. But in any event, there is ample evidence to conclude that Guaracachi's appeal is more likely than not to have succeeded, had it passed properly to adjudication before the Supreme Court.

158. In its appeals, Guaracachi advanced a number of compelling arguments under Bolivian law:

- The *Reglamento de Precios y Tarifas* is a legal norm superior to Resolution No. 40. Article 18(a) of the *Reglamento* requires that, for the purpose of calculating capacity payments, a Generating Unit be considered

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330 Quispe Second WS, ¶ 6; Statement of Defense, ¶¶ 565-568.

331 Mr Quispe, Second WS ¶ 6, claims that Guaracachi could have pursued a "prohibición de innovar" and other injunctions pursuant to Articles 167 and 169 of the Civil Procedure Code, but these remedies were either not available or would not have been of assistance to Guaracachi. The "prohibición de innovar" (Art 167 of the Civil Procedure Code) serves to maintain the status quo while proceedings are pending. However, once the capacity price regime was altered, taking measures to preserve the status quo would not have reversed that alteration. Moreover, pre-emptive injunctions under Art 169 of the Civil Procedure Code may only be invoked where there is a risk of imminent and irreparable harm, which was not Guaracachi's case as it could have been made whole through an award of compensation.

332 Statement of Defense, Section 3.2.3.

in its totality, encompassing not only the turbine, but also the complementary equipment that allows the turbine to deliver electricity to the system. Resolution No. 40 specifically excluded complementary equipment from the Generating Unit for capacity payment calculations, and therefore contravenes the *Reglamento de Precios y Tarifas*.[333]

- The SSDE violated mandatory procedures in enacting Resolution No. 40. Article 4 of the *Reglamento de Operción del Mercardo Eléctrico* provides that only the CNDC can develop and approve operating norms, and that the SSDE can only establish an operating norm with the CNDC's prior approval.[334] The SSDE drafted Resolution No. 40 itself, and ordered the CNDC to approve it. CNDC rejected the draft Resolution, but the SSDE nevertheless implemented it.[335]

- Resolution No. 40 violated the Law on Administrative Procedure, because it was promulgated in an administrative proceeding that had been initiated for other purposes, and was concluded.[336] The SSDE was only empowered to issue its resolution in a new administrative proceeding, which would have allowed the CNDC to intervene and participate in the regulatory process as required by Bolivian law.[337]

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333 Appeal by Guaracachi of Resolution SSDE No. 1612/2008, 3 April 2008, **Exhibit C-151**, pp. 25-35.

334 Supreme Decree No. 26,093/2001, 2 March 2001, **Exhibit C-85**; Appeal by Guaracachi of Resolution SSDE No. 1612/2008, 3 April 2008, **Exhibit C-151**, pp. 14-16; Appeal by Guaracachi of Resolution SSDE No. 1706/2008, 10 June 2008, **Exhibit C-153**, pp. 11-14.

335 Appeal by Guaracachi of Resolution SSDE No. 1612/2008, 3 April 2008, **Exhibit C-151**, pp. 14-16; Appeal by Guaracachi of Resolution SSDE No. 1706/2008, 10 June 2008, **Exhibit C-153**, pp. 12-14.

336 Article 51-1 of Law 2341 of Administrative Procedure, **Exhibit R-91**. Resolution No. 40 was promulgated in an administrative proceeding as a result of successful challenges by other power generators to a different administrative regulation.

337 Appeal by Guaracachi of Resolution SSDE No. 1612/2008, 3 April 2008, **Exhibit C-151**, p. 14; Appeal by Guaracachi of Resolution SSDE No. 1706/2008, 10 June 2008, **Exhibit C-153**, pp. 11-12.

- Resolution No. 40 breached the 2006 Dignity Tariff Agreement, which prevented Bolivia from enacting regulatory changes without first consulting with generators and ensuring that the resulting revenues would permit the sustainability and reliability of electricity supply.[338] The SSDE enacted Resolution No. 40 without complying with these commitments.[339]

159. Bolivia's dysfunctional institutions and extreme delays deprived the Claimants of the effective means to defend their rights within the Bolivian legal system. As a result of this breach of the Treaties, the Claimants suffered substantial damage.

VI. THE CLAIMANTS ARE ENTITLED TO FULL COMPENSATION

A. INTRODUCTION

160. In the Statement of Claim, the Claimants demonstrated their entitlement to compensation in an amount of US$142.3 million for the harm resulting from Bolivia's breaches of the Treaties and international law in relation to the Nationalization, the Spot Price Measure and the Capacity Price Measure.[340] Rurelec also proved its entitlement to US$661,535 for Bolivia's breaches of the Treaties and international law concerning the expropriation of the Worthington motors.[341] Both amounts are inclusive of applicable pre-award interest (calculated as of 29 February 2012, as a temporary proxy for the date of the Tribunal's final award).

161. Bolivia has made the extraordinary claim that Guaracachi's fair market value was "negative"[342] when the nationalization took place, and that the Claimants

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338 Agreement of the Strategic Alliance Between the Government of Bolivia and the Electricity Companies, 21 March 2006, **Exhibit C-119**, Article 5.

339 Appeal by Guaracachi of Resolution SSDE No. 1612/2008, 3 April 2008, **Exhibit C-151**, pp. 18-20; Appeal by Guaracachi of Resolution SSDE No. 1706/2008, 10 June 2008, **Exhibit C-153**, pp. 15-18.

340 Statement of Claim, ¶ 221 *et seq*.

341 Statement of Claim, ¶¶ 254-259.

342 Econ One Report, ¶ 15.

therefore suffered no cognizable loss from the taking. Indeed, Bolivia's illogic and faulty calculations suggest that the Claimants should have been grateful to the Government for taking Guaracachi off their hands. This position is based largely on Econ One's adoption of an artificially elevated discount rate in its discounted cash flow valuation of the company. Bolivia also endeavors to escape its obligation to compensate the Claimants by contending that Guaracachi was in a state of illiquidity at the time of the nationalization, such that any loss suffered by the Claimants arose from events preceding the Treaty breaches. This argument, which is not supported by Econ One, is untenable in the light of objective indications of Guaracachi's financial health and future viability.

162. Bolivia also argues that the Claimants have no entitlement to compensation in relation to the Spot and Capacity Price Measures, due to a lack of causation, and that Rurelec has failed to prove the fair market value of the Worthington motors as of the date of valuation.

163. All of these positions are without merit. This section, supported by the rebuttal report prepared by Dr. Manuel Abdala of Compass Lexecon,[343] explains in detail why the Tribunal should reject Bolivia's facile, illogical and extreme positions, and should award full compensation as claimed.

B. GUIDING PRINCIPLES

164. The parties largely agree on the legal principles applicable to the quantification of damages. There remains a dispute as to the law governing the standard of compensation payable by Bolivia, and as to the appropriateness of restitution as a remedy. These legal issues, together with Bolivia's statement of the law on causation and the burden of proof, are addressed below.

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343 *See* Compass Lexecon Rebuttal Report.

1. Customary international law determines the standard of compensation payable

165. Bolivia argues that the expropriation provisions of the Treaties govern the quantification of compensation to the Claimants.[344] It appears to accept as a general matter that these texts are inapplicable where expropriation is unlawful, and that general international law governs the assessment of damages in such circumstances. However, Bolivia contends that the mere failure to pay compensation did not render its expropriation of Guaracachi unlawful.[345]

166. The Claimants have already demonstrated that the compensation provisions of the Treaties apply only to expropriations that are carried out in accordance with *all* of the conditions for legality, including the payment of appropriate compensation.[346] This position has been endorsed by numerous courts and tribunals.[347] There is an accepted distinction between the measure of compensation required to render expropriation lawful and reparation for the harm that results from unlawful expropriation – an internationally wrongful State act like any other.[348] The text of

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344 Statement of Defense, ¶ 194 *et seq*.

345 *Ibid*, ¶ 199. *See* section III.A.1, above. Bolivia also considers that the debate on applicable law is without practical impact, as both parties undertook a fair market valuation using the DCF methodology: Statement of Defense, ¶¶ 175(a) and 198.

346 Statement of Claim, ¶ 228.

347 *ADC Affiliate Limited and ADC & ADMC Management Limited v. Republic of Hungary* (ICSID Case No. ARB/03/16), Award, 2 October 2006, **Exhibit CL-38**, ¶ 481; *Compañía de Aguas del Aconquija S.A. and Vivendi Universal S.A. v. Argentine Republic*, (ICSID Case No. ARB/97/3), Award, 20 August 2007, **Exhibit CL-45**, ¶ 8.2.3; *Siemens A.G. v. Argentine Republic* (ICSID Case No. ARB/02/8), Award, 6 February 2007, **Exhibit CL-41**, ¶ 349; *Waguih Elie George Siag & Clorinda Vecchi v. Arab Republic of Egypt* (ICSID Case No. ARB/05/15), Award, 1 June 2009, **Exhibit CL-62**, ¶ 540; *Saipem S.p.A. v. People's Republic of Bangladesh* (ICSID Case No. ARB/05/07), Award, 30 June 2009, **Exhibit CL-169**, ¶ 201; *Marion and Reinhard Unglaube v. Republic of Costa Rica* (ICSID Case No. ARB/08/1 and ARB/09/20), Award, 16 May 2012, **Exhibit CL-176**, ¶ 306. *See* also *Factory at Chorzów* (Merits), PCIJ Series A No 17, 1928, **Exhibit CL-2**, p. 47; S. Ripinsky and K. Williams, "Damages in International Investment Law" (2008), **Exhibit CL-180**, pp. 83-84.

348 *ADC Affiliate Limited and ADC & ADMC Management Limited v. Republic of Hungary* (ICSID Case No. ARB/03/16), Award, 2 October 2006, **Exhibit CL-38**, ¶ 481; M. Sornarajah, *International Law on Foreign Investment* (3rd edition, 2010), **Exhibit CL-172**, pp. 414-415.

the Treaties provides guidance only with respect to the former measure, not the latter.

167. Although this distinction "may not make a significant practical difference"[349] in every case, it can have an important impact on the quantification of damages. In the case of unlawful expropriation, customary international law imposes a broad standard of compensation, including proximately-caused losses incurred after the expropriation and any increase in the value of the asset after the taking.[350] The illegality of expropriation "may also influence other discretionary choices made by arbitrators in the assessment of compensation."[351] Moreover, the interest rate codified in the Treaties is relevant only with respect to the compensation due for lawfully expropriated property.[352]

2. Restitution is an inappropriate remedy

168. Bolivia contends that restitution is the only available remedy under customary international law if the expropriation of the Worthington motors is deemed unlawful.[353] This position is somewhat incongruous, given its recognition that

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349 *Waguih Elie George Siag & Clorinda Vecchi v. Arab Republic of Egypt* (ICSID Case No. ARB/05/15), Award, 1 June 2009, **Exhibit CL-62**, ¶ 541. *See* also *Marion and Reinhard Unglaube v. Republic of Costa Rica* (ICSID Case No. ARB/08/1 and ARB/09/20), Award, 16 May 2012, **Exhibit CL-176**, ¶ 307 ("treaty-based compensation will often provide the same result as compensation based on customary international law").

350 *See Amoco International Finance Co v. Islamic Republic of Iran* (Iran-US Claims Tribunal), Partial Award, 14 July 1987, **Exhibit CL-6**, ¶ 196; *Compañía de Aguas del Aconquija S.A. and Vivendi Universal S.A. v. Argentine Republic*, (ICSID Case No. ARB/97/3), Award, 20 August 2007, **Exhibit CL-45**, ¶ 8.2.5; *Ioannis Kardassopoulos and Ron Fuchs v. Georgia* (ICSID Case No. ARB/05/18 and ARB/07/15), Award, 3 March 2010, **Exhibit CL-65**, ¶¶ 513-514; *Siemens A.G. v. Argentine Republic* (ICSID Case No. ARB/02/8), Award, 6 February 2007, **Exhibit CL-41**, ¶ 352. *See also Phillips Petroleum v. Iran* (Iran-US Claims Tribunal), Award, 29 June 1989, **Exhibit RL-85**, ¶ 110.

351 *Marion and Reinhard Unglaube v. Republic of Costa Rica* (ICSID Case No. ARB/08/1 and ARB/09/20), Award, 16 May 2012, **Exhibit CL-176**, ¶ 307.

352 *See* section VI.F, below.

353 Statement of Defense, ¶ 612 *et seq*.

restitution is impossible with respect to the remainder of the Claimants' investments in Guaracachi.[354]

169. Restitution is the primary remedy for internationally wrongful acts under customary international law.[355] However, in practice restitution will be appropriate only in very limited circumstances, as it is often unworkable or inadequate to provide full reparation.[356] As a result, restitution is "frequently not in the best interests of claimants" and is rarely awarded in investment treaty arbitration.[357]

170. Restitution of the Worthington motors would be entirely inappropriate in the present case. Most importantly, the Claimants have not requested such a remedy, having sought monetary compensation in accordance with international law. As a result, an order of restitution would be outside the scope of the Tribunal's authority. Secondly, restitution would not provide full reparation of the Claimants' loss as international law requires. The motors have been in Bolivia's possession since they were expropriated on 1 May 2010, and are apparently "now unusable" due to poor maintenance.[358] Only restoration of the motors to their pre-seizure condition would enable restitution of the sort contemplated by international law.[359] Finally, given that all of the Claimants' business interests in

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354 *Ibid*, ¶ 174(b). Bolivia suggests that the Claimants have accepted that they have no right to restitution of their investment in Guaracachi. In fact, the Claimants have consistently explained that while restitution is an available alternative, it is "neither possible nor practical". Statement of Claim, ¶ 227.

355 International Law Commission, "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with commentaries" (2001), **Exhibit CL-21**, Articles 34, 35 and 36; *Factory at Chorzów* (Merits), PCIJ Series A No 17, (1928), **Exhibit CL-2**, p. 47.

356 International Law Commission, "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with commentaries" (2001), **Exhibit CL-21**, Article 36, ¶ 3 of commentary.

357 S. Ripinsky and K. Williams, "Damages in International Investment Law" (2008), **Exhibit CL-180**, p. 57.

358 Statement of Defense, ¶ 625. *See* section VI.D, below.

359 International Law Commission, "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with commentaries" (2001), **Exhibit CL-21**, Article 35, ¶ 4 of commentary. Bolivia's allegation that the Worthington motors were in disrepair when taken (Statement of Defense, ¶ 624) is false. *See* below, ¶ 198. Bolivia makes no attempt to explain why it bothered to

Bolivia have now been expropriated, they have no means to use the motors should they be returned. For this additional reason, compensation is the most appropriate remedy.

3. Burden and standard of proof of damages

171. Bolivia emphasizes that the Claimants bear the burden of proving economic harm.[360] It cites the *ELSI* case before the International Court of Justice and the *Biwater Gauff* award as examples of cases in which claimants failed to meet this burden.[361] The Claimants accept that it is for them to prove the damage that they have suffered as a result of Bolivia's wrongful acts,[362] as they have done in the Statement of Claim and further below.[363] By the same token, Bolivia must prove all facts underlying its defense to the Claimants' claim for compensation.[364]

172. While concentrating on the burden of proof, Bolivia says nothing of the applicable *standard of proof*, a much more salient concept for present purposes. Here, the standard of proof is a "balance of probabilities,"[365] which has been defined in the context of compensation to mean that "it is enough for the judge to be able to

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expropriate the motors (and rejected requests to release them) if they were valueless, particularly given that they fell outside the scope of the Nationalization Decree: Statement of Claim, ¶ 167.

360 Statement of Defense, ¶ 183.

361 *Ibid*, ¶¶ 179-181.

362 *See S.D. Myers v. Canada* (UNCITRAL), Partial Award, 13 November 2000, **Exhibit CL-157**, ¶¶ 316-317; *Técnicas Medioambientales Tecmed, S.A. v. Mexico* (ICSID Case No. ARB (AF)/00/2), Award, 29 May 2003, **Exhibit CL-28**, ¶ 190.

363 *See* Statement of Claim, ¶ 121 *et seq*; *see* section VI.C *et seq*, below.

364 *Técnicas Medioambientales Tecmed, S.A. v. Mexico* (ICSID Case No. ARB (AF)/00/2), Award, 29 May 2003, **Exhibit CL-28**, ¶ 190; S. Ripinsky and K. Williams, "Damages in International Investment Law" (2008), **Exhibit CL-180**, p. 162.

365 *Ioannis Kardassopoulos and Ron Fuchs v. Georgia* (ICSID Case No. ARB/05/18 and ARB/07/15), Award, 3 March 2010, **Exhibit CL-65**, ¶ 229; *Impregilo S.p.A. v. Argentine Republic* (ICSID Case No. ARB/07/17) Award, 21 June 2011, **Exhibit CL-71**, ¶ 371. In the case of future profits, *see Compañía de Aguas del Aconquija S.A. and Vivendi Universal S.A. v. Argentine Republic* (ICSID Case No. ARB/97/3), Award, 20 August 2007, **Exhibit CL-45**, ¶ 8.3.10.

admit with sufficient probability the existence and extent of the damage".[366] Proving the amount of damages "is not therefore an exercise in certainty, as such, but … an exercise in 'sufficient certainty'".[367] As a result, a respondent State cannot "invoke the burden of proof as to the amount of compensation for such loss to the extent that it would compound the respondent's wrongs and unfairly defeat the claimant's claim for compensation".[368]

173. Bolivia cites the *Biwater Gauff* award to suggest that – as there – no damages have been proven in the present case. The comparison is inapposite. In *Biwater Gauff*, a majority of the Tribunal found that the Claimant had grossly mismanaged the expropriated concessionaire, City Water, such that it was already unable to maintain operations before the State intervened.[369] There was stark evidence that the Claimant's equity was in fact devoid of value by the relevant date. In particular, City Water had reported its shareholders' equity to be worthless (negative US$8 million) just before the concession was terminated.[370] This was

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366 *Sapphire International Petroleums Ltd. v. National Iranian Oil Co.* (1963) 35 ILR 136, **Exhibit CL-152**, p. 188.

367 *Gemplus SA v. United Mexican States* (ICSID Case No. ARB(AF)/04/3 & ARB(AF)/04/4), Award, 16 June 2010, **Exhibit CL-67**, ¶ 13.91. *See* also *Compañía de Aguas del Aconquija S.A. and Vivendi Universal S.A. v. Argentine Republic* (ICSID Case No. ARB/97/3), Award, 20 August 2007, **Exhibit CL-45**, ¶ 8.3.4; International Law Commission, "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with commentaries" (2001), **Exhibit CL-21**, Article 36, ¶ 27 of commentary; UNIDROIT Principles Of International Commercial Contracts 2010, Article 7.4.3. Indeed, "it is well settled that the fact that damages cannot be assessed with certainty is no reason not to award damages when a loss has been incurred". *Southern Pacific Properties (Middle East) Limited v. Arab Republic of Egypt* (ICSID Case No. ARB/84/3), Award, 20 May 1992, **Exhibit CL-155**, ¶ 215; *Compañía de Aguas del Aconquija S.A. and Vivendi Universal S.A. v. Argentine Republic* (ICSID Case No. ARB/97/3), Award, 20 August 2007, **Exhibit CL-45**, ¶ 8.3.16.

368 *Gemplus SA v. United Mexican States* (ICSID Case No. ARB(AF)/04/3 & ARB(AF)/04/4), Award, 16 June 2010, **Exhibit CL-67**, ¶ 13.92.

369 *Biwater Gauff (Tanzania) Limited v. United Republic of Tanzania* (ICSID Case No. ARB/05/22), Award, 24 July 2008, **Exhibit CL-51**, ¶¶ 789-792.

370 *Ibid*, ¶ 790.

the primary basis for the *Biwater* tribunal's conclusion that no economic harm had been caused by the respondent State's actions.[371]

174. By contrast, Guaracachi was prospering when the nationalization took place. As Dr. Abdala explains,[372] Guaracachi yielded robust profits between 2005 and 2009, ranging between US$6.7 and US$10 million. These results would have been better still, had Bolivia not enacted the Spot Price and Capacity Price Measures. Although Guaracachi required loans to fund the CCGT project, its balance sheet was consistently positive and showed an increase in equity book value of US$42.4 million between 2005 and 2009.[373] Guaracachi used some of its excess cash flows to pay dividends between 2005 and 2008.[374] Still higher revenues were expected from 2011 as the investment in combined cycle units began to yield returns, with increased efficient capacity coming on line in November 2010.[375] In short, Guaracachi bore no resemblance to the ramshackle water systems operator in *Biwater Gauff*. It was thriving until Bolivia seized the business, and was set to become still more successful in the years to come. This prospect was reflected in the excellent credit ratings accorded to Guaracachi at the time by prominent rating agencies, who never questioned Guaracachi's solvency and prospects.[376]

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371 *Ibid*, ¶¶ 788-799.

372 Compass Lexecon Rebuttal Report, ¶ 18.

373 *Ibid*, ¶ 19. As Pacific Credit Ratings stated only weeks before the nationalization, "[Guaracachi's] leverage is acceptable, due to the capital increase related to higher profits over the last years, an adequate dividend distribution policy and a clear financing strategy." Pacific Credit Rating, "Empresa Eléctrica Guaracachi SA", 31 March 2010, p. 4, quoted in Compass Lexecon Rebuttal Report, ¶ 21. As explained in section VI.C.2 below, Bolivia's allegation that Guaracachi suffered from an insoluble cash crunch is unfounded, and any temporary liquidity issues could not have affected the value of shareholder equity.

374 *Ibid*, ¶ 19.

375 Earl Second WS, ¶ 31; Lanza Second WS, ¶ 65; Aliaga Second WS, ¶ 24(c); Blanco Third WS, ¶ 19; Compass Lexecon Rebuttal Report, ¶ 20. Further, Guaracachi's CCGT project was at least 90% complete, not 50% complete, as Bolivia incorrectly asserts in its Statement of Defense, ¶ 192(b). *See* Lanza Second WS, ¶¶ 57-60; Blanco Third WS, ¶ 17; Compass Lexecon Rebuttal Report, ¶ 20.

376 *See* below, ¶ 193. Bolivia's invocation of the *ELSI* judgment is equally inapposite. As the tribunal in *Lemire v Ukraine* remarked, the passage that Bolivia cites contains the ICJ's analysis of the

4. Causation

175. Bolivia's position that the Claimants must prove causation, expressed in the context of the Spot and Capacity Price Claims, is uncontroversial.[377] Article 31 of the ILC Articles embodies the "notion of a sufficient causal link which is not too remote", such that "the injury should be in consequence of the wrongful act".[378] Content was given to this standard by the *Lemire v Ukraine* Tribunal: "[p]roof of causation requires that (A) cause, (B) effect, and (C) a logical link between the two be established."[379] Contrary to Bolivia's emphasis on directness,[380] this link may be direct or indirect, but not too remote.[381] Expressed conversely, there must be "a sufficient causal link", such that the breach was "the proximate cause of the harm".[382]

176. Causal links take varying forms.[383] In the context of the Claimants' claim for breach of the "effective means" provision, it should be proven, on the balance of probabilities, that a judgment would have been rendered in their favor, had Bolivia's judicial and administrative systems offered the Claimants adequate recourse.[384] For the other claims, the Claimants must establish that Bolivia's

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alleged treaty violations, and is unrelated to proof of economic harm or causation. *Joseph Charles Lemire v. Ukraine* (ICSID Case No. ARB/06/18), Award, 28 March 2011, **Exhibit CL-70**, ¶ 211.

377 Statement of Defense, ¶¶ 459-462 and 575-576.

378 International Law Commission, "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with commentaries" (2001), **Exhibit CL-21**, Article 31, ¶ 10 of commentary. *See* generally Articles 31 and 36.

379 *Joseph Charles Lemire v. Ukraine* (ICSID Case No. ARB/06/18), Award, 28 March 2011, **Exhibit CL-70**, ¶ 157.

380 Statement of Defense, ¶ 463.

381 *Joseph Charles Lemire v. Ukraine* (ICSID Case No. ARB/06/18), Award, 28 March 2011, **Exhibit CL-70**, ¶¶ 164 and 166.

382 *S.D. Myers v. Canada* (UNCITRAL), Second Partial Award, 21 October 2002, **Exhibit CL-160**, ¶ 140. *See also Gemplus SA v. United Mexican States* (ICSID Case No. ARB(AF)/04/3 & ARB(AF)/04/4), Award, 16 June 2010, **Exhibit CL-67**, ¶¶ 11.8.

383 International Law Commission, "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with commentaries" (2001), **Exhibit CL-21**, Article 31, ¶ 10 of commentary.

384 *Chevron Corporation and Texaco Petroleum Company v. The Republic of Ecuador* (UNCITRAL), Partial Award on the Merits, 30 March 2010, **Exhibit CL-66**, ¶ 374; *White Industries Australia*

measures caused a reduction in the value of Guaracachi.[385] As will be demonstrated below, the Claimants have satisfied these requirements for each of their claims.[386]

C. THE FAIR MARKET VALUE OF GUARACACHI WAS SUBSTANTIAL WHEN EXPROPRIATED

1. The competing Discounted Cash Flow models

177. Econ One, like Compass Lexecon, has advanced a DCF model to estimate the fair market value of Guaracachi at the time of the Nationalization Measure.[387] Although Econ One arrives at an enterprise value for Guaracachi (*ie*, before the subtraction of debt) that is approximately one-third the figure that Dr. Abdala's valuation yields,[388] the experts' respective DCF models are functionally very similar. The gap between the experts' assessments is largely caused by their divergence on two key elements: the discount rate and the projected level of future regulated income. As will be discussed below,[389] Econ One has adopted an unreasonably high WACC and wrongly assumed that spot prices and capacity payments would have been unusually low in the years immediately following the expropriation. These two errors account for approximately 95% of the gap

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Limited v. The Republic of India (UNCITRAL), Final Award, 30 November 2011, **Exhibit CL-73**, ¶¶ 14.3.1-14.3.4.

385 *S.D. Myers v. Canada* (UNCITRAL), Second Partial Award, 21 October 2002, **Exhibit CL-160**, ¶ 140.

386 *See* sections VI.C,VI.D and VI.E, below.

387 Econ One Report, ¶ 8. Given that the DCF model is reserved for assets that are going concerns with a track record of profitability (The World Bank Group, "Legal Framework for the Treatment of Foreign Investment Guidelines on the Treatment of Foreign Direct Investment, Volume II: Guidelines", (1992), **Exhibit CL-14**, Chapter IV, p. 42, ¶ 6(i)), Econ One's use of this methodology constitutes an endorsement of the Claimants' position that Guaracachi was financially viable, both at the date of nationalization and in the future.

388 Compass Lexecon Rebuttal Report, ¶ 4.

389 *See* sections VI.C.1.a and VI.C.1.b , below.

between the experts, and transform Guaracachi (on paper) from the profitable business that it was into a derelict.[390]

a. Discount rate

178. As explained in the Statement of Claim, Dr. Abdala has discounted future cash flows at Guaracachi's weighted average cost of capital (***WACC***), carefully constructed according to orthodox corporate finance practices.[391] Bolivia's primary position (advanced without the support of Econ One) is that the WACC is an "unrealistic" discount rate, which ignores some of the risks likely to be taken into account by transacting parties.[392] It argues that the "normal practice" is to employ a discount rate higher than the WACC to account for this alleged deficiency.[393]

179. This is unconvincing. The WACC is designed to reflect the very risks that a willing buyer would face upon its acquisition of the Claimants' interest in Guaracachi.[394] Although the WACC may not capture the totality of the asset's risks when there is a likelihood of a cash flow shortage, there is no such bankruptcy risk for Guaracachi.[395] It is the "best estimate for a discount rate in this case".[396] Bolivia's position is also at odds with investment law practice, as tribunals routinely apply the WACC without adjusting it upwards for phantom risks.[397] Bolivia's own expert appears to concur, applying a WACC (albeit miscalculated) in his DCF model as "an appropriate discount rate".[398]

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390 Compass Lexecon Rebuttal Report, ¶ 10.

391 Statement of Claim, ¶ 252.

392 Statement of Defense, section 2.4.4.6, p. 82.

393 *Ibid*, ¶ 264.

394 Compass Lexecon First Report, ¶¶ 93-94 and 147.

395 Compass Lexecon Rebuttal Report, ¶ 58.

396 *Ibid*, ¶ 103.

397 *See*, e.g., *ADC Affiliate Limited and ADC & ADMC Management Limited v. The Republic of Hungary* (ICSID Case No. ARB/03/16), Award, 2 October 2006, **Exhibit CL-38**, ¶¶ 510 and 514; *Sempra Energy International v. Argentine Republic* (ICSID Case No. ARB/02/16), Award,

180. As a second line of defense, Bolivia and its expert artificially boost Guaracachi's WACC (and decrease the compensation allegedly payable). Econ One employs a remarkably impressionistic approach to arrive at a shockingly high figure. Whereas Dr. Abdala proposes a discount rate of 10.63% based on Guaracachi's WACC as of 1 May 2010,[399] Econ One arrives at a WACC of 19.85%.[400] Econ One's inflated discount rate accounts for 78.5% of the difference in the experts' valuations.[401] This divergence is mainly caused by two key errors committed by Econ One:[402]

(a) Econ One adds a "size premium"[403] of 6.28% to Guaracachi's cost of equity, despite the illogic of such an addition in the valuation of Latin American generating companies. Guaracachi's size within its market and low default risk also render a size premium inappropriate.[404]

(b) Econ One multiplies the agreed country-risk premium by 1.5, ostensibly to reflect the ratio between the volatility of Bolivian share prices and

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28 September 2007, **Exhibit CL-46**, ¶¶ 416 and 430-431; *Alpha Projektholding GmbH v. Ukraine* (ICSID Case No ARB/07/16), Award, 8 November 2010, **Exhibit CL-68**, ¶¶ 482-483; *EDF International S.A., SAUR International S.A. and León Participaciones Argentinas S.A. v. Argentine Republic* (ICSID Case No. ARB/03/23), Award, 11 June 2012, **Exhibit CL-141**, ¶ 1242 *et seq*. Further, Bolivia's citation of case-law and commentary in which compensation is reduced to account for investment risk is misplaced (*see* Statement of Defense, ¶¶ 266-269). As Ripinsky and Williams note in a passage following that which is cited by Bolivia, one means of accounting for such risk is factoring it into the discount rate in the DCF analysis, as the Claimants have done. S. Ripinsky and K. Williams, "Damages in International Investment Law" (2008), **Exhibit RL-75**, pp. 337-338.

398 Econ One Report, ¶¶ 50-51.

399 Compass Lexecon First Report, ¶ 94; Compass Lexecon Rebuttal Report, ¶ 55.

400 Econ One Report, ¶ 86.

401 Compass Lexecon Rebuttal Report, ¶ 7.

402 In addition to these two key discrepancies, Dr. Abdala also contests Econ One's calculation of the risk-free rate, market risk premium, beta coefficient and industry debt/equity ratio, and optimal capital structure. Compass Lexecon Rebuttal Report, ¶¶ 80-102.

403 The size premium is a factor added to the cost of equity, intended to reflect the fact that small firms in certain circumstances are subject to additional risks and yield higher risk-adjusted returns. Compass Lexecon Rebuttal Report, ¶ 60.

404 Compass Lexecon Rebuttal Report, ¶¶ 60-67.

bonds.[405] Applying such a multiplier is directly contrary to the recommendation of Professor Damodaran (upon whom Econ One purports to rely).[406] Because the multiplier is inappropriate in long-term valuations, it is practically unknown in investment treaty arbitration.[407] As a result of this error, Econ One posits a country-risk premium almost double Professor Damodaran's figure.[408] The implausibility of Econ One's bloated country-risk premium is confirmed by Bolivia's recent issuance of sovereign debt, which carried an implicit country-risk premium of just 309 basis points (*i.e.*, 3.09%), more than 700 basis points lower than Bolivia's assumption.[409]

181. The result of these two improper elements is a discount rate of nearly 20%, massively reducing Econ One's estimate of firm value and facilitating the spurious conclusion that Guaracachi's equity was swamped by debt and therefore worthless.[410]

182. Dr. Abdala has employed the traditional CAPM methodology to arrive at a discount rate that it is commensurate with the rates applied in several Latin American investment treaty awards.[411] The reasonableness of Dr. Abdala's

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405 Econ One Report, ¶ 74.

406 Compass Lexecon Rebuttal Report, ¶¶ 70-73.

407 Tribunals typically accept the unadjusted country-risk premium as part of the discount rate. *See, e.g.*, *Joseph Charles Lemire v. Ukraine* (ICSID Case No. ARB/06/18), Award, 28 March 2011, **Exhibit CL-70**, ¶¶ 282 and 285.

408 Compass Lexecon Rebuttal Report, ¶ 73. Compare Econ One Report, ¶ 74.

409 Compass Lexecon Rebuttal Report, ¶ 74.

410 At the same time, Bolivia insists that the electricity sector is subject to low profitability and therefore low returns. Statement of Defense, ¶ 189. This proposition, while incorrect, is inconsistent with a discount rate of nearly 20%, which suggests expectations of very substantial annual returns. Shannon Pratt, *Lawyer's Business Valuation Handbook* (2002), **Exhibit CL-159**, p. 118 ("The discount rate is the expected *total rate of return* the investor requires to commit funds to the particular investment") (emphasis in original). If the country-risk premium for Bolivia were as Econ One assumes, there would have been no private investment in power generation in the country.

411 *See*, e.g., *Siemens A.G. v. The Argentine Republic* (ICSID Case No. ARB/02/8), Award, 6 February 2007, **Exhibit CL-41**, ¶ 382 (discount rate of 13% was applied); *Enron Corporation*

calculations is confirmed by the fact that his estimate of country risk is almost 400 basis points *higher* than the premium implicit in Bolivia's recent bond issuance.[412] If he had adopted a premium consistent with these sovereign bonds, the WACC would have dropped to 8.95%, and damages would have increased to US$103.9 million.

b. Revenue projections

183. Econ One's second critical error is the underestimation of future counterfactual spot prices and capacity payments. Here, Econ One relies almost exclusively on evidence from fact witness Mr. Paz, who is not an independent expert, but a current employee of the Bolivian Government.[413]

184. As explained in the Statement of Claim,[414] Dr. Abdala projected Guaracachi's future revenues from spot prices and capacity payments with the assistance of an independent specialized engineering firm, MEC,[415] which carried out dispatch simulations for the period from May 2010 to December 2018 using the software employed by the CNDC. Dr. Abdala then adjusted MEC's 2018 figures using the US PPI to calculate spot prices in the but-for scenario between 2019 and 2038. To determine future capacity payment revenues, Dr. Abdala used the results of MEC's dispatch runs along with the regulated capacity price of Guaracachi's units

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v. Argentine Republic (ICSID Case No. ARB/01/3), Award, 22 May 2007, **Exhibit CL-42**, ¶¶ 411 and 413 (discount rate of 12.6% was applied); *Sempra Energy International v. Argentine Republic* (ICSID Case No. ARB/02/16), Award, 28 September 2007, **Exhibit CL-46**, ¶¶ 430-431 (discount rates of 13.77% and 14.12% were applied); *EDF International S.A., SAUR International S.A. and León Participaciones Argentinas S.A. v. Argentine Republic* (ICSID Case No. ARB/03/23), Award, 11 June 2012, **Exhibit CL-141**, ¶ 1277 (discount rate of 11.34% was applied).

412 Compass Lexecon Rebuttal Report, ¶ 74.

413 Paz First WS, ¶¶ 11 and 94-133.

414 Statement of Claim, ¶ 252.

415 As explained in the Claimants' letter to the Tribunal of 12 December 2012, MEC withdrew from its role of providing technical support to Compass Lexecon, after Bolivia pressured the Inter-American Development Bank to exclude MEC from certain regional projects. On the advice of Compass Lexecon, the Claimants engaged Estudios de Infraestructura (***EdI***), a Uruguayan engineering firm with access to MEC's dispatch simulation, to undertake the dispatch runs. Dr. Abdala "continued to make the judgment calls relating to the assumptions used as input into [MEC and EdI's] dispatch simulation analysis". *See* Compass Lexecon Rebuttal Report, ¶ 107.

(assuming the Capacity Price Measure would remain in place), and again used the US PPI to extrapolate post-December 2018 revenue streams.

185. Econ One accepts the software and methodology employed by MEC, and Mr. Paz constructed Bolivia's competing dispatch simulations using precisely the same tools. Econ One contends primarily that MEC improperly employed data that was either out of date or unavailable at the time of the nationalization, and Mr. Paz consequently used different (and more pessimistic) data.[416] However, MEC only used information that would have been available to a willing buyer or seller as of the date of nationalization, except where the information was either inaccurate or misleading. Each of Mr. Paz's specific complaints in this regard is thus without foundation:

(a) Mr. Paz insists that the May 2010-April 2014 SDDP database should have been used, because it was published closer to the date of valuation than the November 2009-October 2013 SDDP database upon which MEC drew.[417] But the former SDDP database was incomplete and therefore inferior.[418] In any event, the impact of Mr. Paz's suggestion is immaterial.[419]

(b) Mr. Paz contends that MEC should not have used the CNDC's December 2010 'plan optimo de expansion' (***2010 POE***) in relation to future generation capacity, because it was published after the valuation date.[420] But the CNDC document reflects information that would have been available to the market in May 2010, and has proven more accurate than

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416 Paz First WS, ¶¶ 94-112.

417 *Ibid*, ¶¶ 96-97.

418 Compass Lexecon Rebuttal Report, ¶ 110.

419 *Ibid*, ¶ 111.

420 Paz First WS, ¶ 101.

other contemporaneous projections; it was therefore wholly appropriate to incorporate it into the MEC model, with certain adjustments.[421]

(c) Mr. Paz objects to the inclusion of the Karachipampa Plant in the dispatch runs, because Guaracachi requested permission to take it offline before the nationalization.[422] But Bolivia never granted the decommissioning request,[423] and the Karachipampa Plant continues to operate today and for the foreseeable future.[424] There is therefore no basis to exclude it from the analysis.[425]

(d) Mr. Paz criticizes MEC for using the 2011-2022 SIN Long-Term Electricity Scheduling, published in July 2011. [426] In fact, the MEC actually used the 2010 POE, [427] for the same reasons mentioned above.[428]

186. Econ One's two complaints with respect to the Claimants' analysis of 'but-for' capacity payment revenues are equally unavailing. Econ One first complains that some of Guaracachi's older units would have been completely displaced by newer generators, and would no longer have attracted capacity payments.[429] But Compass Lexecon demonstrates that Guaracachi's units would have continued to be employed and to receive capacity payments, in the light of demand growth projected at up to 12% per year.[430] Secondly, Econ One notes that Dr. Abdala's

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421 Compass Lexecon Rebuttal Report, ¶¶ 112-116.

422 Paz First WS, ¶ 55 *et seq*.

423 Andrade Second WS, ¶¶ 41, 45-46; Earl Second WS, ¶ 21; Lanza Second WS, ¶ 70.

424 Paz First WS, ¶ 58; Earl Second WS, ¶ 21.

425 Compass Lexecon Rebuttal Report, ¶¶ 117-119.

426 Paz First WS, ¶ 100.

427 The reference to the 2011-2022 SIN Long-Term Electricity Scheduling in Appendix C of the First Compass Lexecon Report was a typographical error. Compass Lexecon Rebuttal Report, ¶¶ 121-122.

428 *See* above, ¶ 185(b).

429 Econ One Report, ¶ 23.

430 Compass Lexecon Rebuttal Report, fn 138 and ¶¶ 169-170.

projection of future turbine prices, a key element in the calculation of capacity payments, outstrips general inflation measures such as the US PPI.[431] Dr. Abdala explains that his estimate of turbine prices is based upon the specialized Turbine US PPI index, which is by definition more appropriate than the general US PPI.[432]

187. Each of the unfounded critiques outlined above leads Econ One to reduce its projections of Guaracachi's future cash flows. It is unsurprising that the resulting meager revenues, once reduced to present value at an artificially boosted discount rate, shrink to less than the company's debt. This manipulation of figures is transparent, and should not distract the Tribunal from the substantial value that Guaracachi actually represented when it was expropriated.

c. Dr. Abdala's revised assessment of Guaracachi's fair market value

188. Having made minor corrections on the basis of Econ One's observations concerning carbon credit revenues, administrative costs and taxation,[433] Dr. Abdala calculates the counterfactual equity value of Guaracachi at US$155.1 million as of 1 May 2010, of which the Claimants' equity value is US$77.5 million.[434] Unlike Econ One's analysis, Dr. Abdala's valuation has been tested and confirmed as reasonable against the value obtained using the market multiple comparables valuation method.[435] Using this alternative methodology, Dr. Abdala arrives at a comparable equity value of US$143 million.[436]

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431 Econ One Report, ¶¶ 27-28.

432 Compass Lexecon Rebuttal Report, ¶¶ 123-125.

433 *Ibid*, ¶¶ 138-142.

434 Compass Lexecon Rebuttal Report, ¶ 142.

435 Compass Lexecon First Report, ¶¶ 103-105. Dr. Abdala has refuted each of Econ One's criticisms of the market multiple comparables method (presented in Econ One Report, ¶¶ 89-98) in a dedicated section in his report. Compass Lexecon Rebuttal Report, ¶¶ 30-52.

436 Compass Lexecon Rebuttal Report, ¶ 51.

Guaracachi's 2009 book value of US$133.7 million also confirms the reliability of Dr. Abdala's valuation.[437]

2. The Claimants have established economic harm

189. As discussed above,[438] Bolivia has alleged that the Claimants failed to prove economic harm resulting from the nationalization of Guaracachi, because the company was already worthless when seized by the government.[439] It argues that the "economic context" at the time of the nationalization was extremely poor,[440] allegedly undermining Dr. Abdala's positive assessment of Guaracachi's fair market value. But Bolivia's description of the economic context is distorted: Guaracachi's prospects were excellent when the nationalization took place.

190. For example, Bolivia argues that the Bolivian electricity market is subject to "low profitability."[441] The only support for Bolivia's position in this regard is a skeletal overview of the Bolivian electricity market presented in the Econ One report.[442] But this analysis was offered as a critique of Dr. Abdala's use of the market multiple comparables approach, and bears no relation to overall profitability of the sector.[443]

191. Contrary to Bolivia's allegations, Guaracachi was not in an "illiquid state."[444] Guaracachi simply had limited free cash as of the date of the nationalization,

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437 *Ibid*, ¶ 27.

438 *See* above, ¶¶ 173-174.

439 Statement of Defense, ¶ 184.

440 *Ibid*, section 2.4.2, p. 55.

441 *Ibid*, ¶ 189. As noted above, this contention is inconsistent with Econ One's adoption of a discount rate of nearly 20%, a figure that would normally reflect very high profitability.

442 *Ibid*, ¶ 189.

443 Econ One Report, ¶ 94.

444 Statement of Defense, ¶ 191(a). Bolivia's related allegation that Guaracachi had failed to pay its gas supplier YPFB due to its illiquidity is also inaccurate: Guaracachi continued to make payments to its suppliers. Aliaga Second WS, ¶¶ 50-52; Blanco Third WS, ¶ 21. Further, an alleged US$33 million loss in the sale of Guaracachi in 2003 has no bearing on Guaracachi's financial situation at the date of the nationalization, seven years later (*see* Statement of Defense, ¶ 188).

primarily due to its large-scale investment in the CCGT project.[445] This state of affairs was clearly temporary, as Guaracachi's liquidity was set to improve as soon as it received revenues from the CCGT project from November 2010, as well as the anticipated €3.3 million (approximately US$5 million) carbon credit pre-payment.[446] The situation was also being addressed by the bank loans that Guaracachi was in the process of obtaining at the time of the nationalization, as a matter of caution.[447]

192. Bolivia's allegations of illiquidity are particularly disturbing given that Bolivia itself undermined Guaracachi's cash position by its own deliberate conduct. Indeed, the delays to the CCGT project were in large part due to Bolivia's failure to provide necessary governmental authorizations and licenses.[448] Bolivia also prevented Guaracachi from obtaining the aforementioned carbon credit pre-payment by delaying the *pro forma* approvals required for its release.[449] In addition, Guaracachi's cash flows were markedly reduced by Bolivia's introduction of the Spot and Capacity Price Measures, as well as by Guaracachi's funding of both the San Matías rural electrification project and the dignity tariff program, obligations that Guaracachi assumed at Bolivia's request.[450]

193. Independent indicators abound confirming Guaracachi's robust financial structure at the time of the nationalization. As explained above,[451] Guaracachi had strong margins and profitability, as reflected in its financial statements, which were

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445 Blanco Third WS, ¶ 17; Earl Second WS, ¶ 23; Compass Lexecon Rebuttal Report, ¶ 24.

446 Earl Second WS, ¶¶ 23 and 31; Blanco Third WS, ¶ 19. *See* also Compass Lexecon Rebuttal Report, ¶ 24.

447 It appeared at the time of the nationalization that the CAF was willing to approve the required adjustment to Guaracachi's loan conditions. Blanco Third WS, ¶ 20; Earl Second WS, ¶ 30. Contrary to Bolivia's contention, it was not necessary for Guaracachi to obtain "emergency" loans from Corani and Valle Hormoso (Statement of Defense, ¶ 191(b)). Guaracachi was able to obtain commercial bank loans at that time. Lanza Second WS, ¶ 66.

448 Lanza Second WS, ¶¶ 41-56.

449 Aliaga Second WS, ¶ 44; Earl Second WS, ¶¶ 26-28.

450 Blanco Third WS, ¶ 18; Earl Second WS, ¶ 24. *See also* Aliaga Second WS, ¶¶ 27 and 44.

451 *See* above, ¶ 174.

approved – without any reservations or warnings – by Guaracachi's external auditors.[452] Guaracachi also continued to obtain financing on competitive terms throughout 2009 and 2010.[453] Further, despite Bolivia's allegations of Guaracachi's unreasonable debt levels,[454] credit rating agencies had affirmed its reasonable debt burden by issuing strong ratings for Guaracachi immediately before and after the nationalization.[455] For example, when providing Guaracachi with an "AA" rating in March 2010, Pacific Credit Ratings noted the appropriateness of Guaracachi's debt levels arising from the CCGT project.[456] It is based upon just such evidence that the tribunal in *EDF* recently rejected Argentina's argument that the disputed business had no equity value at the relevant time.[457] The *Lemire* tribunal pointed to similar information in concluding that causation had been established, in that the Claimants' "damages, its loss of business, can in no way be due to the situation in which [the Claimants] found [themselves] immediately prior to the violation of the BIT."[458]

194. In the light of these considerations, contrary to Bolivia's contention,[459] there is nothing unusual in the increase in value of the Claimants' investment between 2006 and 2010 as posited by Dr. Abdala. In order to create the impression of an

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452 Blanco Third WS, ¶ 22(c); Lanza Second WS, ¶ 74.

453 Blanco Third WS, ¶ 22(a); Earl Second WS, ¶ 22.

454 Statement of Defense, ¶ 191(b).

455 Compass Lexecon Rebuttal Report, ¶¶ 21-24; Blanco Third WS, ¶ 22(b); Earl Second WS, ¶ 22. Indeed, Guaracachi's debt levels were reasonable. Blanco Third WS, ¶¶ 4-9.

456 Pacific Credit Rating, "Empresa Eléctrica Guaracachi SA", 31 March 2010, p. 4, quoted in Compass Lexecon Rebuttal Report, ¶ 21.

457 *EDF International S.A., SAUR International S.A. and León Participaciones Argentinas S.A. v. Argentine Republic* (ICSID Case No. ARB/03/23), Award, 11 June 2012, **Exhibit CL-141**, ¶¶ 1192-1193. Similarly, the Iran-US Claims Tribunal found the positive value in the relevant business' financial statements persuasive in rejecting assertions that an expropriated business was insolvent when expropriated. *Faith Lita Khosrowshahi, Susanne P. Khosrowshahi and others v. The Government of the Islamic Republic of Iran, The Ministry of Industries and Mines, The Alborz Investment Corporation and others* (IUSCT Case No. 178 (558-178-2)), Final Award, 30 June 1994, **Exhibit CL-156**, ¶¶ 41-47.

458 *Joseph Charles Lemire v. Ukraine* (ICSID Case No. ARB/06/18), Award, 28 March 2011, **Exhibit CL-70**, ¶ 211.

459 Statement of Defense, ¶ 187.

exaggerated 2010 valuation, Bolivia suggests that this increase was 363%.[460] This figure is distorted, as it accounts for debt in the initial 2006 value, but excludes it from the 2010 value – comparing "apples and oranges" and increasing the apparent gap between them. As is obvious from Dr. Abdala's reports, Guaracachi's May 2010 *equity* value would have been US$77.5 million in the absence of Treaty breaches, not US$127.2 million.[461] Bolivia also miscalculates the increase in equity value over the initial investment, inexplicably arriving at a figure of 231%,[462] rather than the arithmetically correct 131%. In addition, while Rurelec purchased its interest in Guaracachi for US$35 million, the assets that it acquired were recognized to be more valuable soon thereafter. According to an independent valuator at the time, Rurelec's equity stake was in fact worth approximately US$61.88 million in 2006.[463] On this basis, Rurelec's investment grew in value by approximately US$15.62 million, about 25%, over four years, rather modest given the significant additional investments made by Guaracachi over that period.

D. RURELEC IS ENTITLED TO FULL COMPENSATION FOR THE WORTHINGTON MOTORS

195. Rurelec sought compensation for the expropriation of the Worthington motors, ARJ-4 and ARJ-7, which were nationalized along with Guaracachi's other assets, despite being excluded from the Nationalization Decree.[464] Bolivia contests this claim, alleging that Rurelec has failed to establish the price that a willing buyer would have paid for the motors as of 1 May 2010.[465] In particular, Bolivia claims

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460 *Ibid*, ¶ 187.

461 Compass Lexecon Rebuttal Report, ¶ 175.

462 Statement of Defense, ¶ 187.

463 Rurelec PLC Annual Report 2006, 8 May 2007, **Exhibit C-113**, pp. 56 and 69. Rurelec's stake was assessed at 50.001% of Guaracachi's value of £69,924,000 (approximately US$123,759,292 using the average 2006 USD-GBP exchange rate of 0.565).

464 Statement of Claim, ¶ 254 *et seq*.

465 Statement of Defense, ¶ 617.

that the 2004 acquisition cost of the motors and the price of a comparable sale in 2006 do not establish the motors' value at the valuation date.[466]

196. As discussed above,[467] Rurelec's proof of economic harm is to the standard of a balance of probabilities. By establishing the acquisition cost of the motors as US$550,000 in 2004[468] and by presenting evidence of a comparable sale in 2006,[469] Rurelec has provided salient evidence of the probable value of the motors at the date of valuation. The burden of proof has now shifted to Bolivia with respect to its allegation that these figures do not reflect the 2010 value of the motors.

197. In evaluating Rurelec's evidence, it should be recalled that Bolivia's unlawful expropriation of the motors has deprived Rurelec of access both to the motors and to documentation relevant to its valuation. In falling back upon an alleged shortcoming of evidence, Bolivia seeks to "invoke the burden of proof as to the amount of compensation for such loss to the extent that it would compound the respondent's wrongs and unfairly defeat the claimant's claim for compensation".[470]

198. Bolivia has attempted to discharge its burden of proof by contending that the 2004 acquisition price fails to account for both depreciation and the poor condition of the motors.[471] Bolivia's arguments fall short on both grounds. First, depreciation

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466 *Ibid*, ¶¶ 619-622.

467 *See* above, ¶ 172.

468 Aliaga Second WS, ¶ 8; Earl Second WS, ¶ 19; Agreement for the Sale and Purchase of Empresa para Sistemas Aislados ESA S.A. between Guaracachi and Rurelec Limited, 8 October 2004, **Exhibit C-103**; Amendment to the Agreement for the Sale and Purchase of Empresa para Sistemas Aislados ESA S.A. between Guaracachi and Rurelec PLC, 28 February 2005, **Exhibit C-109**; Receipts of Transfer of Funds from Rurelec to Guaracachi, 13 October 2004 and 4 March 2005, **Exhibit C-104**.

469 Purchase Agreement relating to Two Worthington Motors with Associated Equipment, 24 November 2006, **Exhibit C-124**; Earl Second WS, ¶ 19; Aliaga Second WS, ¶ 21.

470 *Gemplus SA v. United Mexican States* (ICSID Case No. ARB(AF)/04/3 & ARB(AF)/04/4), Award, 16 June 2010, **Exhibit CL-67**, ¶ 13.92.

471 Statement of Defense, ¶ 619.

is an accounting concept that is applied in order to allocate the cost of an asset over time in a company's financial statements. It has no impact whatsoever on the market value of the asset and is thus irrelevant for present purposes. Secondly, the Worthington motors were not in a "state of abandonment" due to their outdoor location.[472] Only certain parts of the motors that were durable were stored outside, as they were while they were in operation.[473] It is unsurprising that these motors, which were decommissioned for nearly nine years, required maintenance and that certain parts had to be (inexpensively) replaced.[474] In any case, Energais had in fact carried out maintenance work on the motors before the nationalization, in line with the recommendations made in the October 2009 memorandum to which Bolivia refers.[475] Further, the best evidence that ARJ-4 and ARJ-7 were in fact valuable and in condition to be used is Bolivia's continued refusal to return them to Rurelec, despite several requests having been made to this effect.[476]

199. Bolivia has also criticized Rurelec's reliance on the comparable sale of the ARJ-5 and ARJ-6 units in 2006, claiming that the sale price included additional items (taxes and transport charges) and that the sale did not take place.[477] Both of these claims are without merit: no such taxes or charges were incurred by Guaracachi during the sale, which did indeed occur in 2006.[478] Moreover, ARJ-5 and ARJ-6 were the only units sold in that transaction.[479]

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472 *Ibid*, ¶ 624.

473 Aliaga Second WS, ¶ 16.

474 *Ibid*, ¶ 17.

475 *Ibid*, ¶ 17. *See* Statement of Defense, ¶ 625.

476 *See* several requests made by Energais on 27 August 2010, 30 September 2010, 29 November 2010, 24 February 2011, 25 April 2011, 22 June 2011, 3 August 2011, 25 October 2011 and 29 November 2011. Correspondence between Energais and Guaracachi, concerning the return of the Worthington engines owned by Energais, 2010-2011, **Exhibit C-169**; Letter from Freshfields to Procurador General del Estado, 25 October 2011, **Exhibit C-199**; Letter from Freshfields to Procurador General del Estado, 29 November 2011, **Exhibit C-201**.

477 Statement of Defense, ¶¶ 621-622.

478 Aliaga Second WS, ¶¶ 21(a) and (c). Indeed, the inaccuracy of Bolivia's allegation that the Worthington motors were unlikely to be sold (on the basis of a comment in a 2005 memorandum)

E. GAI AND RURELEC ARE ENTITLED TO FULL COMPENSATION FOR PRE-NATIONALIZATION LOSSES

1. Spot Price Measure

200. The Claimants have requested discrete damages equivalent to the reduction in Guaracachi's profits that was caused by Bolivia's modification of the spot price formation mechanism through the Spot Price Measure.[480] Bolivia contends that this claim suffers from a lack of causation and is "exaggerated".[481] These arguments are unconvincing.

201. As a preliminary point, Bolivia alleges that the Claimants have adopted an inconsistent position on the legality of the Spot Price Measure, applying it in the 'but-for' scenario for Guaracachi's fair market valuation and simultaneously seeking separate compensation for a breach of the Treaties caused by that measure.[482] Bolivia is confused. As Dr. Abdala clearly explained in his first report, his valuation of Guaracachi was carried out on the basis of the "*status quo* present at the time of nationalization."[483] This valuation thus projects revenues assuming that the Spot and Capacity Price Measures remain permanently in place, resulting in a substantially lower equity value.[484] Losses arising from those measures were then calculated *separately*, and naturally only once. This presents no "contradiction".[485] Rather, it isolates the impact of each wrongful act (nationalization, Spot Price Measure, and Capacity Price Measure) and eliminates any possibility of double-counting.

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is borne out by the fact that ARJ-5 and ARJ-6 were sold the next year. (*See* Statement of Defense, ¶ 623).

479 Aliaga Second WS, ¶ 21(b).

480 Statement of Claim, ¶ 261 *et seq*.

481 Statement of Defense, ¶¶ 456-484.

482 *Ibid*, ¶¶ 473-474. This argument is also made with respect to the Capacity Price Measure. Statement of Defense, ¶ 587.

483 Compass Lexecon First Report, ¶ 65.

484 *Ibid*, ¶ 65, fn 49.

485 *See* Statement of Defense, ¶¶ 473-474.

202. With respect to causation, Bolivia first argues that the Claimants have failed to prove a "direct" causal connection between the Spot Price Measure and the Claimants' economic harm.[486] It then alleges that the Spot Price Measure could not have caused any reduction in the Claimants' revenues, because spot prices were already impermissibly in excess of the stabilized rate.[487]

203. The direct relationship between the Spot Price Measure and a reduction of Guaracachi's net revenues is plain. On 29 August 2008, Resolution SSDE No. 283/3008 excluded all liquid fuel units from the spot price formation mechanism.[488] Given that the cost of the marginal generating unit was used to determine the hourly spot price, the exclusion of the generators with the highest marginal costs necessarily resulted in an immediate reduction of that price.[489] The spot price of electricity formed the primary driver of Guaracachi's revenues. The causal link between the Spot Price Measure and the reduction in the Claimants' revenues could hardly be more evident.

204. Econ One's related position that Dr. Abdala's estimation of Guaracachi's lost spot price revenues was simply "theoretical" (because revenues from spot prices in excess of a regulatory ceiling would not be paid in full to the generator, but to the Stabilization Fund) is unconvincing.[490] Although Guaracachi was obliged in circumstances of high spot prices to deposit a proportion of its revenues in the Stabilization Fund, such revenues were recorded as Guaracachi's accounts receivable that were accessible (with interest) when spot prices decreased.[491]

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486 *Ibid*, ¶ 463.

487 *Ibid*, ¶¶ 464-470; Econ One Report, ¶¶ 123-125.

488 Statement of Claim, ¶ 96.

489 Compass Lexecon First Report, ¶ 107.

490 Econ One Report, ¶ 121.

491 Compass Lexecon Rebuttal Report, ¶ 135. These funds could not be accumulated indefinitely. Compass Lexecon Rebuttal Report, ¶ 136. Compare Econ One Report, ¶ 125.

Regardless of when spot prices decreased (and reduced prices were projected for the 2010-2018 period[492]), those revenues remained owing to Guaracachi.

205. On the question of compensation, Bolivia offers an alternative method of calculating the spot price revenues that would have been paid to Guaracachi, had the Spot Price Measure not been implemented. Instead of simulating dispatch runs as Dr. Abdala has done, Econ One prefers to rely on pre-May 2010 data contained in a 2012 CNDC study to estimate the September 2008-April 2010 spot price revenues.[493] Econ One then eschews the standard 'but-for' simulation of future spot prices carried out by Dr. Abdala for its calculation of revenues for the May 2010-2016 period. Instead, Econ One calculates the difference between the experts' estimates of pre-nationalization spot-price revenues and multiplies Dr. Abdala's May 2010-2016 estimate by this figure, to produce its own estimate.[494]

206. There are two key problems with this method. First, the CNDC study on which Econ One bases its analysis produces a much less accurate estimate that the dispatch simulations carried out by MEC. This is principally because the CNDC study did not use actual dispatch conditions across the September 2008-May 2010 period, as MEC did, but rather simulated conditions according to mid-2008 estimates.[495] Secondly, Econ One's failure to use a 'but-for' dispatch simulation to calculate post-nationalization spot-price revenues has the effect that demand growth and capacity additions are excluded from its calculations.[496] This effect is exacerbated by the fact that Econ One's multiplier is derived only from pre-nationalization data. Both of these elements combine to result in a serious underestimation of the Claimants' damages.

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492 Compass Lexecon Rebuttal Report, ¶ 137.

493 Econ One Report, ¶¶ 112-116.

494 *Ibid*, ¶ 117.

495 Compass Lexecon Rebuttal Report, ¶¶ 154-157.

496 *Ibid*, ¶ 160.

207. The Claimants' revised figure for damages due to the Spot Price Measure, which takes into account Dr. Abdala's corrected tax assessment, is US$5.1 million as of 29 February 2012.[497]

2. Capacity Price Measure

208. In the Statement of Claim, the Claimants demonstrated that capacity payments received by Guaracachi were reduced by 17% because of the Capacity Price Measure, and sought compensation for the resulting reduction in free cash flows.[498] In response, Bolivia posits that the Claimants' loss lacks a sufficient causal link with the treaty breach in question and that the claim for compensation is incorrectly calculated.[499]

209. On the question of causation, Bolivia argues specifically that the Capacity Price Claim is "hypothetical", because it arises from the implementation of the Capacity Price Measure, and not from the Supreme Court's delay in hearing Guaracachi's challenge of the measure.[500] As explained above,[501] the Claimants contend that (on the balance of probabilities) their claims would have been successful in the Bolivian domestic courts, had an adequate means of redress been accorded as the Treaty required. As a matter of Bolivian law, Guaracachi would in fact have succeeded in its two pending appeals before the Bolivian Supreme Court, had the judiciary operated properly. The result of the Supreme Court's judgment would have been the nullification of the Capacity Price Measure.[502] Capacity prices would not have been artificially depressed in the absence of Bolivia's failure to provide adequate means of legal protection, and therefore the economic impact of

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497 *Ibid*, ¶ 175. *See* also Compass Lexecon Rebuttal Report, fn 199.

498 Statement of Claim, ¶¶ 95-97 and 267 *et seq*.

499 Statement of Defense, ¶¶ 573-597.

500 *Ibid*, ¶ 582.

501 *See* above, ¶ 157 *et seq*.

502 Petition for Annulment of Resolution CNDC 209/2007-1, 12 February 2007, **Exhibit C-130**; Appeal by Guaracachi of Resolution SSDE No. 1612/2008, 3 April 2008, **Exhibit C-151**.

the Capacity Price Measure has been properly claimed as compensation for this Treaty breach.

210. In respect of the quantification of that compensation, Bolivia only disputes Dr. Abdala's calculation for the post-nationalization period.[503] As Dr. Abdala explains,[504] the discrepancy between his damages figure and that of Econ One is largely due to Econ One's use of an inflated discount rate, which has been critiqued above.[505] The remaining deviations by Econ One are minor and technical, based on unfounded critiques of MEC's dispatch simulation assumptions. Dr. Abdala demonstrates in his Rebuttal Report why his model is reasonable and should be preferred.[506]

211. The Claimants' revised figure for damages due to the Capacity Price Measure, which reflects Dr. Abdala's corrected tax assessment, is US$38 million as of 29 February 2012.[507]

F. INTEREST

212. As explained in the Statement of Claim,[508] the Claimants are entitled to pre-award interest for the two expropriation claims (the expropriation of Guaracachi and of its Worthington motors), which are assessed at a valuation date preceding the date of the final award. They are also entitled to post-award interest with respect to all amounts awarded. Bolivia does not object in principle to the application of pre- and post-award interest to the Tribunal's award of compensation. It disputes the compounding of interest[509] and objects to the accrual of interest at a rate

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503 Statement of Defense, ¶¶ 592-593; Econ One Report, ¶ 130.

504 Compass Lexecon Rebuttal Report, ¶ 168.

505 *See* section VI.C.1.a, above.

506 Compass Lexecon Rebuttal Report, ¶¶ 169-173.

507 *Ibid*, ¶ 175. *See* also Compass Lexecon Rebuttal Report, fn 199.

508 Statement of Claim, ¶¶ 238-245.

509 Statement of Defense, ¶¶ 288-290.

equivalent to Guaracachi's WACC.[510] In this regard, Bolivia contends that the Treaties establish the applicable rate of interest, which should be a "risk-free" rate.[511]

213. As explained above,[512] the compensation provisions of the Treaties are inapplicable to Bolivia's unlawful expropriation of the Claimants' investment in Guaracachi. And it is undisputed that those provisions bear no relation at all to Treaty breaches committed by Bolivia other than expropriation. As a consequence, the Tribunal is obliged to apply principles of general international law to the determination of interest for all of the claims presented.

1. Rate of interest

214. Bolivia argues that applying the WACC as the rate of interest would overcompensate the Claimants, as it would amount to "remunerating them for a non-existent risk".[513] To the contrary, a failure to employ the WACC as the rate of pre- and post-award interest would deprive the Claimants of the full reparation to which they are entitled. The Claimants were denied significant future cash flows due to Bolivia's breaches of the Treaties. The value of those lost funds over time corresponds to the cost of replacing them in the market as necessary to engage in the Claimants' normal course of business.[514] This opportunity cost of capital is precisely represented by the WACC, which averages the return that debt- and equity-holders require before committing money to a venture.

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510 *Ibid*, ¶¶ 280-284. The Claimants note that Bolivia's objection to the application of the WACC does not appear to extend to the Worthington motors claim.

511 Statement of Defense, ¶¶ 283 and 287. *See* US Treaty, 17 April 1998, **Exhibit C-17**, Article III(3).

512 *See* section VI.B.1, above.

513 Statement of Defense, ¶¶ 286-287.

514 *See Compañía de Aguas del Aconquija S.A. and Vivendi Universal (formerly Compagnie Générale des Eaux) v. Argentine Republic* (ICSID Case No. ARB/97/3), Award, 20 August 2007, **Exhibit CL-45**, ¶ 9.2.8.

215. The application of a risk-free rate as Bolivia proposes would ignore the commercial reality that companies do not raise capital through risk-free investments. As Professors Sénéchal and Gotanda explain:

> Above all, businesses do exist to generate shareholder value and positive net present values (NPVs) for investors. Therefore, it is not correct to assume that the claimant is not compensated for the returns generated in a consistent manner over the years. As such, interest should not be awarded at the risk-free interest rate. As a result, an investor is right in asking for a rate above the risk-free rate.[515]

216. This reality was recently confirmed in *ConocoPhillips v. PDVSA*, where the tribunal awarded compound interest at a rate corresponding to the Claimants' cost of equity, 10.55%, almost equivalent to Guaracachi's WACC of 10.63%.[516] The *ConocoPhillips* tribunal thus confirmed the economic logic underlying the legal authorities cited in the Statement of Claim: the interest rate should be "a reasonable proxy for the return the Claimants could otherwise have earned on the amounts invested and lost".[517]

217. Since 1 May 2010, the Claimants have been deprived of cash flows as a result of Bolivia's breaches of the Treaties. Had Bolivia provided timely compensation for its wrongful conduct, the Claimants would have had the opportunity to reinvest these amounts at rates equivalent to the WACC (10.63%). The risk-free rate suggested by Econ One, LIBOR plus 2%,[518] would be incapable of capturing the full scope of this loss. The use of this low interest rate would result in serious

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515 Thierry J. Sénéchal and John Y. Gotanda, "Interest as Damages", (2009) 47 *Columbia Journal of Transnational Law* 491, **Exhibit CL-58**, pp. 526-527.

516 *Phillips Petroleum Company Venezuela Limited (Bermuda) and ConocoPhillips Petrozuata B.V. v. Petroleos de Venezuela, S.A.*, (ICC Case No. 16848/JRF/CA), Award, 17 September 2012, **Exhibit CL-154**, ¶¶ 294-296.

517 *Compañía de Aguas del Aconquija S.A. and Vivendi Universal (formerly Compagnie Générale des Eaux) v. Argentine Republic* (ICSID Case No. ARB/97/3), Award, 20 August 2007, **Exhibit CL 45**, ¶ 9.2.8. *See* also *Alpha Projektholding GmbH v. Ukraine* (ICSID Case No ARB/07/16), Award, 8 November 2010, **Exhibit CL-68**, ¶¶ 514 and 518; *France Telecom v. Lebanon* (UNCITRAL), Award, 31 January 2005, **Exhibit CL-34**, ¶ 209. *See* Statement of Claim, ¶¶ 240-243.

518 Econ One Report, ¶ 136.

under-compensation to the Claimants, an effect compounded by Bolivia's use of an elevated cost of capital to discount expected future cash flows.[519] Moreover, the use of a risk-free rate cannot be considered to be a "commercial" rate in the present context, even if the compensation provisions of the Treaties somehow govern the interest rate applicable. A "commercial" rate implies a consideration of the risk corresponding to the business in question.

218. In the alternative, the Tribunal should apply an interest rate no lower than the Bolivian statutory rate, currently 6% per annum.[520] Such a rate will under-compensate the Claimants, but is at the very least "commercial" from the perspective of a Bolivian business. In the circumstance where no specific interest rate has been agreed between the parties, the Bolivian legislator has determined that a judgment rendered in relation to a commercial dispute should be subject to interest at this rate.[521] Courts routinely award interest for breach of contract on this basis.

2. Compounding of interest

219. The Tribunal's award of interest should accrue on a compounded basis, in order to reflect fully the time value of the Claimants' losses. International tribunals have repeatedly affirmed that compound interest best gives effect to the customary international law rule of full reparation.[522] Although Bolivia has referred to

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519 Statement of Defense, ¶ 204 *et seq*. See Manuel A. Abdala, Pablo D. López Zadicoff and Pablo T. Spiller, "Invalid Round Trips in Setting Pre-Judgment Interest in International Arbitration," (2011) *5 World Arbitration & Mediation Review 1*, **Exhibit CL-174**, pp. 14-15.

520 Bolivian Civil Code, **Exhibit CL-181**, Article 414.

521 *See CME Czech Republic B.V. v. Czech Republic* (UNCITRAL), Final Award, 14 March 2003, **Exhibit CL-21**, ¶¶ 636-641; *Eastern Sugar B.V. v. Czech Republic* (SCC Case No. 088/2004), Partial Award, 27 March 2007, **Exhibit CL-163**, ¶¶ 373-375. The Claimants recognize that these decisions are distinguishable from the present situation, as the law of the host state was applicable under the relevant bilateral investment treaties in both of those cases.

522 *See* Statement of Claim, footnote 300. *See* also *Unglaube and Unglaube v. Republic of Costa Rica* (ICSID Case Nos. ARB/08/1 and ARB/09/20), Award, 16 May 2012, **Exhibit CL-176**, ¶ 325; *Renta 4 S.V.S.A, Ahorro Corporación Emergentes F.I., Ahorro Corporación Eurofondo F.I., Rovime Inversiones SICAV S.A., Quasar de Valors SICAV S.A., Orgor de Valores SICAV S.A.,*

contrary authority from the 1980s (which was cited in turn in the 2001 Commentary to the ILC Articles[523]), compound interest has now become the norm:

> the current practice of international tribunals … is to award compound and not simple interest … there is now a form of 'jurisprudence *constante*' where the presumption has shifted from the position a decade or so ago with the result it would now be more appropriate to order compound interest, unless shown to be inappropriate.[524]

220. The Claimants thus maintain their claim for pre- and post-award interest, compounded annually and calculated at the rate of Guaracachi's WACC. Dr. Abdala has calculated pre-award interest for the two expropriation claims in the amount of US$15.8 million.[525]

G. TAX

221. The calculations made by Dr. Abdala have been prepared net of Bolivian tax. This means that any taxation by Bolivia of the eventual award in this arbitration would result in the Claimants being effectively taxed twice for the same income. This would be impermissible. As recently confirmed by the *ConocoPhillips v. PDVSA* Tribunal in making the declaration hereby sought by the Claimants, "any additional taxes applying to the amount granted under this award would undermine the principle of full compensation of the damage incurred."[526]

GBI 9000 SICAV S.A. v. The Russian Federation (SCC No. 24/2007), Award, 20 July 2012, **Exhibit CL-178**, ¶ 226.

523 *See* Statement of Defense, ¶ 289.

524 *Gemplus SA v. United Mexican States* (ICSID Case No. ARB(AF)/04/3 & ARB(AF)/04/4), Award, 16 June 2010, **Exhibit CL-67**, ¶¶ 16-26.

525 Compass Lexecon First Report, ¶¶ 138-139; Compass Lexecon Rebuttal Report, ¶ 175.

526 *Phillips Petroleum Company Venezuela Limited (Bermuda) and ConocoPhillips Petrozuata B.V. v. Petroleos de Venezuela, S.A.*, (ICC Case No. 16848/JRF/CA), Award of 17 September 2012, **Exhibit CL-177**, ¶ 313.

222. In order to ensure the finality of the Tribunal's award in this arbitration and to secure full compensation for the Claimants, the Claimants request that the Tribunal declare that:

(a) its award is made net of all applicable Bolivian taxes; and

(b) Bolivia may not tax or attempt to tax the award.

223. Further, the Claimants seek an indemnity from Bolivia in respect of any adverse consequences that may result from the imposition of tax liability by authorities in the United Kingdom or the United States if the above declaration in the Tribunal's award is not accepted as the equivalent of evidence of payment.

H. SUMMARY OF DAMAGES CLAIMED

224. The Claimants have demonstrated their entitlement to full compensation for the breaches of the Treaties caused by (i) the Nationalization Measure, (ii) the Spot Price Measure and (iii) the Capacity Price Measure. The Claimants seek pre-award interest from 1 May 2010, compounded and calculated at 10.63%, applied to all compensation awarded in relation to the Nationalization Measure. The revised claim for compensation in relation to the Measures is illustrated in the following table:[527]

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[527] Compass Lexecon Rebuttal Report, Table X. *See* also Compass Lexecon Rebuttal Report, fns 198-199.

Total Damages to Claimants		
In US$ Million		
Nationalization Claim		
Claimants' Equity Value @ May 1, 2010	[a]	*77.5*
Pre-Judgement Interest	[b]	*15.8*
Nationalization Claim @ Feb. 29, 2012	[c] = a + b	**93.3**
Discrete Damages		
Spot Price Claim @ Feb. 29, 2012	[d]	*5.1*
Capacity Price Claim @ Feb. 29, 2012	[e]	*38.0*
Total Damages to Claimants @ Feb. 29, 2012	[f] = c + d + e	**136.4**

225. Rurelec also maintains its claim for US$661,535 relating to Bolivia's expropriation of the Worthington motors, inclusive of pre-award interest until 29 February 2012 (as a temporary proxy for the date of the Tribunal's award, which will later be revised).

226. The Claimants also reiterate their request for post-award interest on all amounts awarded by the Tribunal, which should also be compounded and calculated at the rate of Guaracachi's WACC from the date of the award until the date that full payment is made by Bolivia.

VII. THE CLAIMANTS' REQUEST FOR RELIEF

227. On the basis of the foregoing, without limitation and fully reserving its right to supplement this request, the Claimants respectfully request the following relief:

(a) DECLARE that Bolivia has breached the Treaties and international law, and in particular, that it has:

(i) expropriated the Claimants' investments without prompt, just, adequate and effective compensation, in violation of Article III of the US Treaty and Article 5 of the UK Treaty and international law;

(ii) failed to accord the Claimants' investments fair and equitable treatment and full protection and security, and impaired them through unreasonable and discriminatory measures, in violation of Article II.3 of the US Treaty and Article 2(2) of the UK Treaty; and

(iii) failed to provide the Claimants with effective means of asserting claims and enforcing rights with respect to covered investments, in violation of Article II.4 of the US Treaty and Article 3 of the UK Treaty.

(b) ORDER Bolivia to compensate the Claimants for Bolivia's breaches of the Treaties and international law in the amount of US$136.4 million, plus interest until full payment of the award is made;

(c) ORDER Bolivia to compensate Rurelec for Bolivia's breaches of the Treaties and international law in relation to the Worthington engines in the amount of US$661,535, plus interest until full payment of the award is made;

(d) AWARD such other relief as the Tribunal considers appropriate; and

(e) ORDER Bolivia to pay the costs of these arbitration proceedings, including the fees and expenses of the Tribunal, the fees and expenses of the institution which is selected to provide appointing and administrative services and assistance to this arbitration, the fees and expenses relating to the Claimants' legal representation, and the fees and expenses of any expert appointed by the Claimants or the Tribunal, plus interest.

Respectfully submitted on 21 January 2013

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