

**Santo Domingo, 25 de noviembre del 2003**

**Sr. Secretario de Finanzas de  
la República Dominicana  
Lic. Rafael Calderón**

**De nuestra mayor consideración:**

**Adjunto a la presente, entregamos a Ud. el Informe del Panel sobre “Los efectos de la compra por parte del Gobierno de las empresas Edenorte y Edesur sobre las finanzas públicas, el sector eléctrico y la gobernabilidad de la República Dominicana”.**

**En la medida que lo encontramos adecuado, hemos tomado en cuenta e incorporado al Informe los comentarios recibidos de las autoridades dominicanas, incluyendo los formulados por escrito por parte de la Comisión encargada de revisar la versión preliminar de nuestro Informe. Al mismo tiempo, queremos agradecer a Ud. y a su Gobierno por el amplio apoyo y la total apertura de información que hemos recibido para el cumplimiento de nuestra tarea.**

**Sin otro particular, saludamos a Ud. muy atte.**

**Roberto Junguito  
Presidente**

**Alberto Bensión**

**Vivianne Blanlot**

## RESUMEN EJECUTIVO

*A continuación se presentan los principales resultados y recomendaciones del Informe del Panel en tres áreas principales, a saber: Finanzas Públicas, Temas del Sector Eléctrico y Gobernabilidad.*

### **FINANZAS PUBLICAS**

- *La compra por parte del Gobierno de las empresas distribuidoras de electricidad, Edenorte y Edesur, tiene un impacto adicional sobre el monto de la deuda pública bruta de la República Dominicana de US\$ 488.45 millones de dólares.*
- *Como resultado de la compra, la deuda pública bruta, tanto externa como doméstica, sobrepasa ahora el 50% del Producto Interno Bruto de la República Dominicana.*
- *Durante el periodo Octubre 2003 a Diciembre del 2004, el análisis del flujo de caja de las empresas de distribución muestra un resultado negativo en un rango entre USD\$ 342 y 373 millones de dólares, incluyendo las transferencias del Fondo de Compensación a Edeste.*
- *Un aumento inicial de la tarifa hasta 12 centavos/kwh antes de febrero de 2004, sumado a un incremento de 3% mensual real en dólares hasta alcanzar US\$ 0.14/Kwh permitiría reducir el déficit anterior en alrededor de USD\$ 104 millones de dólares*

### **TEMAS DEL SECTOR ELÉCTRICO**

**Sostenibilidad Financiera.** *La sostenibilidad financiera no será posible hasta tanto no se estudie, convenga e implemente con mano firme una política de tarifas eléctricas y de subsidios,*

**Política de Tarifas.** *Esta debe incluir al menos los siguientes elementos:*

- *Un programa de incremento en la tarifa promedio en el muy corto plazo. El Panel considera que la tarifa promedio debe ascender a no menos de US\$ 0.12 por kwh para Febrero 2004. La tarifa debe tener un crecimiento mensual del 3% mensual real en dólares a partir de entonces hasta llegar a US\$ 0.14/Kwh.*

**Política de Subsidios.** *El Panel propone:*

- *Una reducción en el subsidio al consumo básico a un máximo de 200 kwh por mes.*
- *La eliminación del subsidio básico para clientes cuyo consumo total mensual supere los 200 kwh a ser aplicado por etapas, así; sobre los 500 kwh comenzando en Enero del 2004, sobre los 300 kwh desde Marzo del 2004 y por encima de 200 kwh a partir de Junio del 2004.*
- *Desarrollar un programa bien publicitado de reducción de tarifas vinculado explícitamente con la reducción obtenida en las perdidas y el mejoramiento logrado en los cobros o recaudos.*

**Comunicaciones.** *El Panel propone desarrollar una estrategia de comunicaciones.*

- *Esta debe ser desarrollada al poner en marcha la política de tarifas y de subsidios y debe mantenerse durante un periodo de seis meses. A juicio del Panel la población dominicana necesita cambiar su percepción sobre el servicio de electricidad, y la crítica situación del sector aparece como oportunidad óptima para modificar las políticas y las actitudes en la dirección correcta.*

**La crisis operacional.** *El Panel recomienda adelantar los siguientes pasos iniciales para hacer frente a la crisis operacional del sistema eléctrico que enfrenta actualmente la Republica Dominicana:*

- *El logro de un acuerdo formal en torno al servicio de la deuda entre Edenorte y Edesur con las empresas de generación de electricidad*
- *Dentro de dicho acuerdo, parte de la deuda vigente debe cancelarse de inmediato y se debe convenir un programa de pagos para cancelar el resto de la obligación.*
- *Un mecanismo transitorio por un lapso no mas allá de seis meses debe convenirse entre el Gobierno y las empresas de generación para atender el pago mensual del costo variable de generación eléctrica.*
- *Durante dicho periodo, el déficit en los flujos mensuales que registren las empresas de distribución que correspondan a los costos de generación debe ser cancelado directamente por el Gobierno a las empresas de generación con recursos que deben tener de antemano dicha destinación específica.*

**Organización Sectorial.** *El Decreto Presidencial de Octubre 28 confirmo explícitamente la intención de modificar la Ley General de Electricidad. A la luz de dicho propósito, el Panel recomienda:*

- *Concentrar esfuerzos iniciales en la identificación y corrección de las principales carencias en la legislación vigente, antes de poner en marcha una reforma estructural.*

- *Estudiar medidas para perfeccionar el marco de regulación, con una apropiada asistencia técnica, asegurando una activa participación de todos los estamentos del sector y una discusión muy abierta y transparente sobre la problemática del sector*
- *Tomar una aproximación muy cuidadosa en el proceso de reestructuración del marco institucional y de los sistemas de regulación pues ello habrá de requerir un gran esfuerzo de adaptación por parte de las instituciones del Estado con responsabilidades en el sector, y de las empresas eléctricas.*

**Privatización de empresas eléctricas.** *El Gobierno se ha comprometido públicamente a poner en venta y privatizar de nuevo las empresas Edenorte y Edesur. Para ello el Panel recomienda:*

- *Que la venta se realice bajo muy estrictos lineamientos de competencia para así establecer el precio de mercado de ambas empresas.*
- *Seguir rigurosos procedimientos de venta para asegurar la transparencia y competencia en el proceso de privatización.*
- *Con anterioridad a la venta se debe adelantar una auditoria independiente que determine el valor de los activos netos de las dos empresas.*
- *La política de tarifas requiere estar aprobada e instrumentada antes de proceder a la venta de las empresas.*
- *Hasta que la venta de las distribuidoras sea instrumentada, una administración independiente respecto de CDEEE es recomendable, a través de un contrato de administración con un operador privado.*
- *Con el objeto de mantener una gran transparencia, y divulgar hacia el público la realidad del sector, la publicación mensual de los indicadores mas relevantes de las distribuidoras, y de los resultados financieros trimestrales.*

**Manejo del Mercado.** *El Panel recomienda que:*

- *Hasta tanto las empresas de distribución sean vendidas, la CDEE y Edeste deberán acordar el nombramiento como representante del sector de distribución en el Organismo de Coordinación a un experto independiente que pueda garantizar la representación de los intereses comunes de las empresas de distribución, y no los intereses exclusivos de los inversionistas privados o del Gobierno.*
- *La selección del equipo de administración del Organismo de Coordinación debe ser transparente, objetiva y basada exclusivamente en la experiencia técnica y en su independencia de criterios. En tanto que dicha selección sea realizada, el equipo actual debe ser mantenido bajo un contrato de consultoría transitorio para evitar una discontinuidad en el manejo de la operación coordinada.*

## **GOVERNABILIDAD**

- *El Panel identificó que el principal motivo que tuvo el Gobierno para efectuar la compra de las empresas fue el deterioro de su situación financiera, aunque también se tuvieron en consideración motivos políticos y sociales antes que razones de tipo ideológico.*
- *Las opiniones de los altos funcionarios del Gobierno a favor de la futura privatización de las empresas eléctricas, así como el reciente Decreto Presidencial deben ser interpretados, según el Panel, como una acción concertada del Gobierno para expresar públicamente que la compra no fue adelantada por razones ideológicas y para destacar también la intención del Gobierno de tomar los primeros pasos para privatizar las empresas eléctricas en el futuro.*
- *El Gobierno sostiene que tomó todas las decisiones requeridas por la ley en el proceso de la compra de las dos empresas. El argumento ofrecido por el Gobierno es que la transacción fue diseñada en forma tal que no involucra una garantía del gobierno sobre el préstamo de Unión Fenosa y, por lo tanto, no se requiere aprobación del Congreso. Agregan al respecto que tanto la deuda como las garantías otorgadas (cesión de créditos de clientes) son propiedad de las empresas adquiridas,*
- *A pesar del hecho que la compra tenía un significativo y evidente impacto tanto en la estrategia del sector energético como en el comportamiento macroeconómico de la Nación, dado su incidencia sobre las finanzas públicas y el endeudamiento público de la República Dominicana, temas estos que se venían discutiendo en los programas con los organismos multilaterales, el Panel encontró que la decisión de la compra no fue directa y oportunamente informada a estos organismos.*
- *Dado que también se evidenció que la discusión de las implicaciones de la compra sobre la economía no tuvo una discusión amplia dentro del seno del equipo económico, el Panel recomienda al Gobierno fortalecer su estructura institucional de controles y contrapesos con el fin de garantizar que en el futuro se dé necesariamente una discusión mas amplia de la repercusión de las decisiones económicas dentro del gobierno, especialmente aquellas de gran envergadura con repercusiones macroeconómicas y sectoriales como fue el caso de la compra de Edenorte y Edesur.*
- *El Panel encontró que el precio de compra de las empresas se convino teniendo en cuenta exclusivamente el valor en libros de los activos de las empresas, sin considerar el valor presente neto de los flujos de caja futuros de las empresas. No obstante hay que reconocer que en las condiciones de incertidumbre sobre la*

*evolución de la economía y de los efectos de la política de regulación en el sector este método habría arrojado rangos amplios para la valoración de la empresa.*

- *En reciente comunicación, el Gobierno argumenta que el valor de una compañía bajo cierto grado de dificultades financieras se debe calcular como el valor ponderado de la empresa como entidad comercial en marcha y su valor como entidad con dificultades financieras. El Panel considera que una aplicación estricta de dicha metodología habría sido un procedimiento satisfactorio..*
- *El Panel recomienda al Gobierno ordenar de inmediato una auditoria por parte de una reconocida empresa internacional dirigida a identificar el valor de los activos y el patrimonio neto de las empresas Edenorte y Edesur. El resultado de dicha auditoria debe hacerse público.*
- *El Panel considera que aunque una rápido acuerdo de los programas con los organismos multilaterales es esencial tanto para proveer los recursos del crédito como para consolidar la confianza sobre el manejo de la economía, las autoridades dominicanas como la opinión pública en general deben entender claramente que el apoyo de los organismos multilaterales depende de la adopción, por parte del Gobierno, de un programa económico creíble y las políticas necesarias en el sector eléctrico que aseguren que el sector queda con unas bases financieras sostenibles.*
- *Con relación a la estructura institucional del sector eléctrico, el Panel quiere enfatizar la importancia de fortalecer la independencia entre las entidades de regulación y la CDE.*
- *El Panel también quisiera recalcar a las autoridades los riesgos que enfrenta actualmente la República Dominicana en sus esfuerzos por poner al sector eléctrico en una situación financiera mas sólida. Desde el punto de vista microeconómico, quisiera destacar que el mayor riesgo que se enfrenta es que las políticas acordadas sobre las tarifas eléctricas no sean adecuadamente instrumentadas. También existe incertidumbre con relación a si los esfuerzos en facturación y cobro de las tarifas mantendrán los niveles necesarios y deseados en presencia del periodo preelectoral que se avecina. Un riesgo adicional es que no se proceda a racionalizar los subsidios eléctricos y que estos y, en especial, los del programa PRA se vean incrementados.*
- *Desde el ámbito macroeconómico, los mayores riesgos están vinculados con la incertidumbre con relación al comportamiento de la tasa nominal de cambio pero también en torno a la situación fiscal. En términos de la situación fiscal el principal riesgo es que el Gobierno no este en capacidad de tomar las medidas de ajuste fiscal y de restricción en el gasto público en vista de la campaña política y si, como resultado de ello el Gobierno estará en capacidad de adelantar las asignaciones presupuestales que aparecen necesarias para satisfacer las necesidades del Fondo de Compensación Eléctrico.*

- *La ultima pero principal recomendación del Panel es la de apoyar la iniciativa del Gobierno a convocar un Pacto Político hasta el final de la presente Administración que permita un acuerdo lo mas amplio posible en materia de tarifas eléctricas, subsidios, e impuestos y deseablemente también sobre gastos públicos. Este Pacto ha sido sugerido independientemente por parte del Gobierno. el sector privado a través de CONEP y por parte de los partidos de oposición.*

**REPORT OF INDEPENDENT PANEL OF EXPERTS ON DOMINICAN  
REPUBLIC: THE ELECTRICITY SECTOR AND IMPACT ON PUBLIC  
FINANCES**

**EXECUTIVE SUMMARY**

The following are the major findings and recommendations of the Panel Report on three main areas: Public Finances, Electricity Sector Issues and Governance Procedures.

**Public Finances**

- The purchase by the Government of the electricity companies has an impact on the gross public debt of the Dominican Republic in the amount of US \$ 488.45 million..
- As a result of the purchase, the gross public debt, external and domestic, of the Dominican Republic surpasses 50% of GDP.
- For the period October 2003-December 2004, the cash flow analysis shows a negative result in the range between US\$ 374 millions and US\$ 403 millions, including the transfers of the Compensation Fund to Edeste.
- An immediate increase in the tariffs to reach US\$0.12/Kwh before February 2004, and additional increases of 3 percent monthly in dollar terms until an average tariff of US\$ 0.15 is reached, could reduce this negative result by US\$104 millions.

**Power sector**

1. **Financial sustainability.** The sector's sustainability will not be possible unless a sound tariff and subsidy policy is studied, agreed upon, and firmly implemented, and the operational efficiency is improved substantially with respect to losses and collections..

2. **Tariff policy.** It should include at least the following elements:

- A program of rapid rise in the average tariff in the very short run, in order to reach an average tariff of no less than US\$ 0,12/kwh by February 2004.
- A monthly increase of 3% in dollar terms, after February 2004, until an average tariff of US\$0.15 /kWh is reached .

3. **Subsidy policy.** The main chapters should be the following:

- A reduction of the subsidized consumption to a maximum of 200 kwh per month
- An elimination of the subsidy for clients with a total consumption higher than 200 kWh, applied in stages: over 500 kwh, starting January 2004; over 300 starting March 2004, and over 200 starting June 2004.

**4. Communication policy.** A well-designed communication plan should be implemented with the tariff policy for at least the six initial months. The Dominican society need to change the current view on the electricity service, and the current critical situation appears as an optimum opportunity to change the policies and the attitudes in the right direction.

**5. Operational crisis.** The Panel recommends two main initial steps to overcome the present situation:

- A formal agreement on the debt service to be reached immediately between Edesur and Edenorte with the Government.
- Part of the outstanding debt should be paid up front, and a schedule of future payment should be decided upon.
- A transitory (no more than six months) mechanism for the monthly payment of the variable cost of generation should be agreed upon between the Government and the generation companies. During such period, the portion of the cash deficit of the public distribution companies that corresponds to the oil cost of generation should be paid directly to the producers by the government, from funds earmarked for this purpose.

**6. Sector organization.** The October 28 Presidential Decree has explicitly confirmed the intention to change the General Electricity Law. Because of that, the Panel recommends:

- To concentrate the initial efforts on the identification and correction of the present legislation main shortcomings, before putting into effect a whole new reform.
- To study measures to improve the regulatory framework, by taking appropriate technical assistance, assuring an active participation of the all stakeholders, and a very open discussion of the sectors issues.
- To take a very careful approach towards the restructuring of ownership, institutional setting and regulatory systems because it will require a great adjustment effort from the Government institutions on the sector and the private companies.

**7. Privatization of the distribution companies.** The Government has publicly committed to resale the distribution companies EDENORTE y EDESUR. Therefore, the Panel recommends:

- It is important to follow rigorous sale procedures to assure transparency and competition in the privatization process.
- Before the sale, an independent audit should determine the net asset value of both Edesur and Edenorte.
- The tariff policy needs to be approved and under implementation before the sale.

Until the companies are sold, an independent management should be put in charge of EDENORTE and EDESUR, in order to clearly separate the administration from the generation and transmission activities of CDEEE. It is desirable that a Management Contract be signed with a private operator at soon as possible. The Panel also

recommends the monthly publication of the key performance indicators of both companies, and the quarterly publication of the financial statements of EDENORTE and EDESUR.

**8. Market operation.** The Panel recommends the following:

- Until the distribution companies are sold, CDEEE and EDE ESTE should agree to nominate as the distribution representative on the System Operator an independent expert able to represent common interest of the distribution segment, and not the interest of private investors or the State.
- The selection of administration team of the System Operator has to be objective and solely based on technical expertise and independence. Until such selection is made, the current team should be maintained under a transitory consultancy contract to avoid discontinuity of management.

### Governance

- The Panel found that the major motivation for the purchase of the companies was its financial situation although political and social factors, rather than ideological were also taken into account.
- The opinions of the high officials in favor of privatization and the recent Presidential Decree are interpreted by the Panel to be a concerted political action to express publicly that the purchase was not made on ideological grounds and the government willingness to take steps to privatize electricity companies in the future.
- The Government argues that all legal required steps were taken in the process of the purchase of the two companies. The argument given by the authorities is that the purchase transaction was designed in a way that does not require a Government guarantee on the Union Fenosa loan, and, therefore, the purchase did not require Congress approval. The Government adds that both the loan and the guarantees approved (transfer of clients' obligations) were both rights of the companies.
- Despite the fact that the purchase has significant impact both on the energy sector strategy and on macroeconomic performance, aspects which were being discussed with the multilateral organizations, the Panel found that the Government did not inform directly and on a timely basis the IMF, WB or IDB on the transaction. The Government has made a firm decision to establish, in the future, multiple channels of information regarding its decisions on the electricity sector, in order to maintain the three multilateral agencies well informed on a timely and simultaneous basis.
- Given the shortcomings in the internal consultation process within the government, the Panel recommends strengthening the checks and balances to guarantee in the future a more adequate discussion of major economic decisions within the government, especially on transactions with significant macroeconomic and sector impact such as the purchase by the Government of Edenorte and Edesur.

- The Panel found that the purchase price of the companies was decided upon exclusively looking the book value of the assets, rather than the net present value of the future cash flow of the companies. Notwithstanding, the Panel would like to recognize that the cash flow method of analysis would probably have provided a wide range for the value of the companies, given the conditions of high uncertainty on the economy and on the effects of regulatory policy on the sector performance.
- On a recent communication, the Government argues that a value of a company with a given degree of financial distress should be estimated as the weighted average of the value of the company as an ongoing concern and its value under financial distress. The Panel considers that a transparent and explicit application of such methodology would have been an appropriate one to follow.
- The Panel recommends the Government to order an immediate audit by a well-known international auditing firm on the value of the assets and the net-worth of Edenorte and Edesur. The results of the audit should be made public.
- The Panel considers that while a rapid agreement on programs with the IMF, WB and IDB is essential to provide resources and confidence on the economy, the authorities and public opinion in Dominican Republic should understand that multilateral support depends on the adoption by the government of a credible economic program and on policies on electricity that puts the sector on sustainable and sound financial footing
- Regarding the institutional structure of the electricity sector, the Panel would like to emphasize the need to strengthen the institutional independence of the regulatory body and to support a balanced structure of the spot market Coordination Body.
- The Panel would like to highlight to the authorities on the downside risks that are faced by the Dominican Republic in its efforts to put the electricity sector on a sound financial path:
- On the microeconomic side, it notes that the major risk faced is that the policies agreed upon on the course of electricity tariffs are not followed. There is also the uncertainty as to whether the efforts in invoicing and collections will remain strong during the coming electoral period. A further risk is the magnitude of the subsidies and, particularly, those of the PRA program.
- On the macroeconomic side, the risks are linked to uncertainty in regard to the nominal exchange rate but also in regard to the fiscal situation. In terms of the fiscal outlook, the down side risk depends on whether the government is in the capacity to undertake the required fiscal adjustment and the restrain in public expenditures in face of the political campaign and whether, as a result, the government is able to cover the fiscal outlays to feed the Compensation Fund.

- The Panel's final and most important recommendation is to strongly support the government initiative to call on a Political Pact until the end of the present Administration that allows a wide agreement on tariffs, subsidies, and taxes and desirably also on public expenditures. The Political Pact has been proposed by Government, opposition political parties, and the private sector through CONEP.

# REPORT OF INDEPENDENT PANEL OF EXPERTS ON DOMINICAN REPUBLIC: THE ELECTRICITY SECTOR AND IMPACT ON PUBLIC FINANCES

## INTRODUCTION

This Report focuses on the implications of the purchase by the Government of the electricity companies Edenorte and Edesur from Union Fenosa on three main areas: Public Finances, Electricity Sector Reform and Governance.

### A. The Mandate: Work of the Panel

1. The Government of the Dominican Republic recently finalized a purchase giving it full ownership of the electricity distribution companies Edenorte and Edesur. A panel of independent international experts was asked to look into the implications of the purchase for the economic program that is supported by the Fund and the international community. The panel comprises Mr. Roberto Junguito (head), Mr. Alberto Bension, and Ms. Vivianne Blanlot.

2. The panel focused on three main areas:

- *Public finances.* The panel analyzed the implications of the purchase for the stock of public debt and for the future cash flow of the non-financial public sector.
- *Implications for electricity sector reform.* The panel also analyzed the implications of the purchase for the reform strategy, and makes short-term and medium-term recommendations on putting the sector on a sustainable footing. The panel looked, in particular, to the implications for: (i) the CDE's (Corporación de Electricidad) short term and long term business plans, with special attention to Edenorte and Edesur; (ii) the subsidies to be paid by the Government to power sector companies; (iii) the current debt of CDE and the Government to power sector companies, and (iv) the overall financial sustainability of the power sector.
- *Governance framework.* The panel also analyzed the purchase from a governance perspective, with a view to drawing lessons and recommendations for the future.

3. The panel drew information from a commission of Dominican officials, recently established by President Mejía, to study the Edenorte-Edesur deal. The Panel members also had the opportunity to interview President Mejía, the Secretary of Finance Mr. Rafael Calderón, the Secretario Técnico de la Presidencia, Carlos Despradel, the Governor of the Central Bank José Luis Malkún, the National Commission on Energy, the Energy Superintendency, the private generating companies, private economic think tanks, the Consejo de la Empresa Privada, and representatives of the political parties.

## II. PUBLIC FINANCES

### A. Impact of Purchase on Gross Public Debt

The purchase by the Government of the 50% Union Fenosa share by means of a medium term loan must be included as gross public debt. In addition, any other debt obligations inherited by the purchased companies must also be added to public debt, taking in to consideration that, according to ordinary IMF public accounting procedures, they had not been included as public debt, given the private management by Union Fenosa of the Edenorte and Edesur. Annex I on the impact of the Government purchase of Edenorte and Edesur on the non-financial public sector debt explains two alternative approaches that could be used to measure the impact of the transaction on public debt.

As indicated in Annex, Approach 1, considers that the addition of gross public debt as a result of the purchase depends on the debt to purchase the company plus the liabilities assumed as a result of the purchase. The purchase price of Edenorte and Edesur was US\$348.7 million dollars. The Government made a payment of US\$15 millions on October 15 and undertook a loan in the amount of US\$ 333.73 millions.

Other debt liabilities assumed by the Government through the CDE as a result of the purchase amount to US\$ 154,7 million dollars. Such liabilities correspond mainly to pending obligations with generation companies in the amount of US\$ 103.4 millions. The remaining liabilities were of commercial nature. As a result, the impact of the purchase on gross public debt had a total of US\$ 488.45 millions.

The estimate of the impact of the purchase on gross public debt has been cross-checked through alternative sources of information. In the first place, from the summary presentation handed out titled “EdeNorte-EdeSur: Antecedentes y Resultados de la Negociación” from October 16/03, it is concluded that the total liabilities of the two companies amounted to US\$ 732.4 millions and in the negotiation process Union Fenosa absorbed outstanding liabilities in amount of 577.7 millions. Most of the assumed liabilities had UFI guarantees. Debt obligations taken up by UF included an IDB loan (\$139.3), CITYBANK (35.0), local banks (11.5), UFI (266.0), Generating Companies Palamara-La Vega (106.1) and others (19.8). The difference between the total liabilities of US\$ 732.4 million and those assumed by Union Fenosa in the amount of US\$ 577.7 million yield the US\$ 154.7 million, which amount to the other debt liabilities assumed by the government through the CDE, as pointed out above.

## B. Total Gross Public Debt

Table 1 shows the structure of total gross public debt projected to end-2003, excluding the impact of the purchase in an amount of US\$333.73millions, but including the already existing CDE debt of US\$189.1 millions.

**Table 1**  
**Public Debt Structure 2003**  
(Millions of US dollars)

<b>External</b>	<b>5.380</b>
Official	3.572
Private	1.817
<b>Domestic</b>	<b>2165</b>
Central Government	404
Central Bank Certificates	1.572
CDE Liabilities	189
Obligations with Generating Companies	151.9
Other CDE Liabilities	37.1
<b>Total</b>	<b>7141</b>
<b>Total Public Debt/GDP</b>	<b>49.2%</b>

Note: The exchange rate used to convert domestic debt to US\$ dollars was \$35 RD/US

This Total Gross Public Debt figures must, then, be adjusted upwards to take into account the impact of the purchase on public debt.. According to the analysis made above, the impact of the purchase amounted to US\$ 488.45 millions, less the cash down-payment of US\$ 15.0 million or US\$ 333,73 million. The total gross public debt then amounts to US\$ 7434.74 million, which implies that the adjusted debt/GDP ratio increases to 52.6%.

## C. Alternative Measurement of Additional Public Debt

The analysis of the impact of the purchase on gross public debt, including the CDE liabilities, as shown above, is important from a macroeconomic viewpoint. Notwithstanding, the Dominican authorities have rightly insisted on the importance of analyzing separately the impact of the transaction on gross public debt, considering that the Dominican Government was already the shareholder of 50% of the two companies and that, in such condition, it was responsible for half of the liabilities of the two companies.

When such analysis is considered, as Annex I, Approach 2 indicates, the additional public indebtedness, as a result of the purchase, should subtract from the US\$ 488.45 millions estimated above, the amount corresponding to 50% of the total liabilities of Edenorte and Edesur before the transaction. Such liabilities amounted to US\$ 732.43 millions. As a result, under the parameters established of Approach 2, the addition to gross public debt as a result of the purchase would amount to US\$122.2 million dollars.

#### **D. Cash flow results**

The results obtained, which are explained in detail in the next Chapter, show clearly that at present operational efficiency, and considering a gradual increase in tariffs, at the rate of 3% per month in nominal local currency from August 2003 until December 2004, the sector generates a constant deficit, which amount to US\$ 409 million of accumulated deficit by December 2004. Even if operational efficiency is improved gradually during 2004, reaching the average level of 2002, the accumulated deficit will reach US\$ 374 million. The deficit projection from the cash-flow analysis reflects the fiscal burden on the government that stems from its ownership and management of electricity companies, as well as from the subsidy that it extends to EDE ESTE through the Compensation Fund. In this regard, it should be highlighted that the cash-flow analysis does not attempt to measure the net fiscal impact that comes about as a result of the Union Fenosa deal and the administration of the companies under their new public sector management.

### **III. POWER SECTOR ANALYSIS**

#### **A. General overview of the sector's reform**

The Dominican Republic power sector started the efforts towards reform in the early 90's, with different studies of possible legal reforms of market structure and property. In 1997 CDE was restructured according to the new General Law of Public Enterprise's Reform; CDE was transformed into three distribution companies, two thermal generation companies, one transmission and a hydroelectric generation company. In 1999, distribution and thermal generation companies were capitalized by private investors. They took management control of the companies by holding 50% participation in equity. The sector's institutional and legal framework had been established by a Presidential decree in 1998, and was finally approved by law in 2001.

The institutional and legal framework was designed after studying the experiences of reform of other countries during the 80's and the 90's. A clear separation between the state policy responsibility and the regulatory role was established, through the creation of the Superintendence in charge of sector's regulation, and the National Energy Commission in charge of energy policy. The power market structure provided for the separation between electricity generating, which was to develop in a competitive setting, and transmission and distribution as regulated activities. The wholesale power market included a contract market, based on public bidding, and a spot market based on economic dispatch. Economic dispatch would be the responsibility of an Independent System Operator. The vertical integration of the industry was restricted by law.

The implementation of the reform included an initial transition period of five years, during which tariffs at the distribution level were to be adjusted according to the nominal devaluation of the currency, oil prices and internal and external inflation. Initially, tariffs at the distribution level would allow higher energy losses, and lower collection rates than

the “efficiency” level. The companies had a period of five years to improve efficiency to reasonable levels. Competition in the contract market would be introduced gradually.

The experience of the first four years of the new system has shown mixed results. At the generation level, there has been an improvement of available capacity, as a result of the added capacity of the PPA, the recuperation of capacity from the existing plants, and new investment by the capitalized companies. The ISO has been able to manage the spot market, and spot prices experienced, for the first two years, a clear reduction. The state policy and regulation institutions were created and are operating, however, with the normal limitations that are to be expected when new institutions are introduced in developing countries.

However, the distribution companies found that the improvement of collections and the reduction of energy losses were more difficult tasks than expected. In particular, the distribution companies EDENORTE y EDESUR, managed by Union Fenosa, had some modest success between 2001 and 2002, but in 2003 the situation reverted to the 1999/2000 levels.

On the other hand, tariffs were not kept at the levels agreed for the transition period. The steady rise in oil prices from 1999 was not passed through to the final tariff. In 2000 the Government decided to freeze tariffs and implement a general subsidy. However, the Government was not able to finance and pay the subsidy fully to the companies.

Between 2000 and 2003 different measures have been taken to deal with the insufficiency of the revenues obtained from the final consumer, in a scenario of high and volatile oil prices. The efforts have included the transfer of the government subsidy to the generators and the renegotiation of the energy contracts in order to reduce costs in exchange of longer contract duration. By September 2002, despite the efforts, the financial situation of the sector had worsened, and the government decided to increase tariffs and reduce subsidies.

During this period, both the distribution companies and CDEEE have accumulated a substantial debt with the generators, including the current energy bills, and CDEEE arrears because of contract renegotiations.

In addition, the public was receiving a poor service, with a high rate of shortages, and non-served energy of about 10% of total demand. This happened not because of lack of generation capacity, but because of the distribution companies policy of disconnecting areas of higher losses at peak demand periods, and because of a growing need of the generation companies to reduce their operation costs, given the lack of payment of current expenses, mainly fuel. In the northern area of the country the shortages reached record levels because of transmission limitations, even though total installed generation capacity was higher than total demand.

Summing up, in 2003, with oil prices still on the high side, and the exchange rate depreciation, tariffs have failed to maintain a stable real level, and declined from about US\$ 0.15 / kwh to less than US\$ 0,09/kwh. At present conditions in terms of oil prices, losses and collections, the break-even point for distribution is higher than US\$ 0.16/kwh. Therefore, the sector is financially non viable under the present conditions. Even if all

debt to generators were to be paid by the Government, the sector still would not be able to raise enough revenues from the consumers to finance current costs.

### C. Cash Flow Analysis

In addition to the correction of the stock figure, as explained in section II above, the direct management of the purchased Edenorte and Edesur by the CDE will bring about additional fiscal deficit stemming from the future cash flows of the companies. This deficit will be related to the current operational situation of the distribution companies, which for the last four years have failed to improve substantially their level of efficiency, and have also confronted tariffs that fail to reflect the total cost of the service. The future deficit will depend on the success of the new management to reduce energy losses, improve collections and invoicing, and the Government policy on tariffs and subsidies. On the other hand, there are also macroeconomic conditions that may affect adversely the financial performance of the companies. Among these, the depreciation of the exchange rate, changes in the international oil price, the growth of the economy and its fiscal performance will have an effect on the cash flows of the electricity companies.

In order to have an estimate of short-term fiscal impact of the operation of the state owned electricity distribution companies, monthly cash flows were projected for the period November 2003-December 2005. Taking into account the high level of uncertainty over operational efficiency, and the real level of tariffs, two main scenarios were simulated, which represent a possible range for the total deficit of the distribution companies. To these cash-flow projections, the CDEEE projected cash flow was added, and also the subsidy to EDE ESTE through the Compensation Fund of the Government.

Finally, a sensitivity analysis was done to estimate the possible effects of the most relevant variables.

#### 1. Main scenarios

The main area of uncertainty is the performance of the distribution companies during the next 15 months, considering the recent change of ownership and management, and the adverse economic situation at a macroeconomic level. Therefore, special attention has been given to possible scenarios for EDENORTE and EDESUR operational performance.

The two main scenarios were built on the macroeconomic projections that were discussed with the Government and the I.F.I.'S. Therefore, the Panel considered a constant nominal exchange rate of \$RD 35.5 /US\$; a rate of GDP growth of 0.5%, for 2004, an oil price of US\$ 26/bl, which is somewhat higher than the current price, but similar to the 2002-2003 average. Initially, the impact of domestic inflation was ignored in this scenario.

**Electricity demand.** Electricity demand is difficult to measure and predict when technical and non-technical losses are high, and good data is not available to separate one from the other. Electricity consumption depends on price and income, among other variables, but it is not possible to correctly measure consumption when non-technical losses are unknown, and changing.

In most developing countries, the income elasticity of electricity consumption is positive and higher than one. While there several reasons for this, two apply in this case. First, electricity consumption depends heavily on the introduction of modern appliances in the households, which tends to growth at a faster rate than income; and second, in many cases of low general growth, this is higher than average in sectors that are more intensive in electricity consumption. Because of that, it is risky to assume no growth in power demand, even with no GDP growth. In the case of the Dominican power sector, because one of the issues is the low average tariff, and the low (or negative) distribution margin, a zero rate of growth of electricity demand would be an optimistic assumption from the point of view of cash flows. It appears to the Panel that a more realistic assumption is a positive, though low rate of growth, of 3 % per year as a safer bet.

**Operational Efficiency.** The assumptions made by the Government on operational efficiency, under the new administration, were considered somewhat optimistic by the Panel, especially those regarding the reduction of losses, and the improvement in collections. The Government considered that by the beginning of 2004 it would be feasible to reach the highest indicators achieved during 2002, which for several reasons could be overly optimistic.

On this matter, there are several elements to consider. First, the long history of low operational efficiency; this has been the norm both during State ownership before capitalization, and improvement could not be sustained there after. Nevertheless, the Panel agrees with the Government officials in the potential viability of achieving the indicators of 2002, since according to the available data, it was possible to do it with the same physical infrastructure that exists today, and mainly through better commercial management. However, the fluctuation observed from month to month in the same year was probably due to very specific conditions at the time, derived from the implementation of the new policy to reduce fraud, and the Panel considered that the average for 2002 could be a better estimate of a positive trend. Also the Panel took into account that during 2002 the economic and political situation was more favorable than at present. The reduction of fraud requires a great effort in commercial management and a good administration-client relationship. The company's effort has to be matched by a positive attitude from the client. With tight economic conditions, and with the possibility of political support against service legalization, it would be harder to achieve the results of 2002. Also, the need to recuperate real value of tariffs to pre devaluation levels will represent an additional barrier to a higher Income Recuperation Rate (IR).

On the other hand, the sector sustainability will not be possible as long as IR rates do not improve substantially. Therefore, a great effort has to be made, and the Government seems to be committed to the improvement of the sector's efficiency. The Panel assumed, for the optimistic scenario, a persistent Government policy, that assures that the IR will not worsen between November of 2003 and May of 2004, and will improve steadily between June 2004 and December 2004, reaching 53.5% in the case of EDENORTE, and 64.7 for EDESUR. On the more pessimistic scenario, the Panel considered that losses and collections would not improve from the current levels during the whole period.

The optimistic case also considered a 10% reduction in the payroll cost, which would result mainly from the elimination of the expatriate personnel. The cost of foreign personnel under the administration of UF was very high, due to salaries and other expenses (housing and vehicles) that exceeded the country's labor market standards. However, in the more pessimistic scenario the Panel considered that salaries would be adjusted upwards at least by 10% because of inflation, thus neutralizing the above savings in the cost of payroll of the higher levels of management.

The current administration has also started a process of renegotiation of the most relevant contracts of external services. Since in most of them the average cost of labor is significantly higher than ongoing salaries for similar training, it is reasonable to assume a reduction of 10% in such costs.

**Tariffs.** As it has been discussed above, the level of tariffs and subsidies is the key issue for the sector's financial sustainability. The average tariff is currently below the break-even point for the distribution. This is not only the result of the excessive losses and poor collection rate, but also of the fall in real terms due to the devaluation of the local currency.

The short-term issue is how to achieve the pre-devaluation level, and how to assure that such level is maintained. The Government had designed a plan to increase tariffs 3% per month, in nominal local currency, starting August 2003. The base cases have assumed that the tariff plan is fully implemented..

## Results

The chart below shows the monthly and cumulative surplus or deficit projected for the distribution companies, CDEEE, and the public sector. It includes the cash flow of CDEEE, the costs of the PRA program, the cash flow of EDENORTE y EDESUR, and the subsidy to be paid by the Government to EDE ESTE.

**Table 2**  
**MAIN SCENARIOS**

**CUMULATIVE DEFICIT OF THE POWER SECTOR**  
**(Th. of RD\$)**

	Optimistic Case	Pessimistic Case
Oct 2003	-1,465,103	-1,465,103
Nov 2003	-2,292,556	-2,292,556
Dec 2003	-2,964,954	-2,959,498
Jan 2004	-4,009,538	-3,998,790
Feb 2004	-4,967,559	-4,952,105
Mar 2004	-6,104,101	-6,083,486
Apr 2004	-6,952,517	-6,926,864
May 2004	-7,702,445	-7,671,428
Jun 2004	-8,968,340	-8,964,946
Jul 2004	-10,060,350	-10,121,082
Aug. 2004	-10,818,742	-10,982,299
Sept 2004	-11,593,639	-11,894,201
Oct 2004	-12,293,672	-12,793,315
Nov 2004	-12,830,187	-13,566,294
Dec 2004	-13,303,102	-14,335,705

Exchange rate: \$RD 35.5/US\$

These results show clearly that the operational and tariff effort assumed would be largely insufficient to improve viability of the sector. Still, these assumptions do not consider any additional depreciation of the \$RD, and no unforeseen increases in oil prices, which would increase the deficit. As a result, the main scenarios considered, under relatively realistic assumptions, imply a permanent transfer of resources from the Government that would add up between US\$ 374 million and US\$ 403 million by December 2004.

### Sensitivity analysis

A simple sensitivity analysis was done to evaluate the relative effect of possible policy measures, such as a more rapid increase in tariffs and in IR rates.

The results show that the effect of a more rapid adjustment of tariffs, reaching US\$ 0.12/kwh in February 2004, and increasing there after 3% per month in dollar terms until an average tariff of US\$ 0.15 is achieved would reduce the deficit by US\$ 104 million. If a more dramatic improvement of the IR rates, to start 2004 with the average level of 2002 in the case of EDESUR, an additional reduction of US\$93 million in the deficit is obtained, and a small surplus is reached by December 2004. If the same criterion is applied to EDENORTE, the additional savings are US\$ 27 million, and a positive result would be achieved starting November 2004.

On the other hand, in an scenario of oil prices 12% higher than the initially considered, the deficit goes up to US\$ 431 million; also, an scenario of higher exchange rate, of RD\$ 38/ US\$ during November and December 2003, and a gradual depreciation of local currency of 20% during 2004, induces a deficit of US\$ 410.5 million.

Table 3 presents the summary of the results obtained.

**Table 3**  
**Summary of Results**  
**(US\$ Millions)**

SCENARIOS	RESULTS ( accumulated by Dec. 2004)
Optimistic Possible	U\$ 374,73
Pessimistic Possible	U\$ 409,5
Higher Tariff	U\$ 268,43
Energy cost U\$ 84 / kwh	U\$ 431,54
Higher efficiency EDESUR	U\$234,46
Higher efficiency EDESUR & EDENORTE	U\$ 204,03
Exchange Rate	U\$ 410,49*
	* Average exchange rate 41,8 2004

### C. Power sector main issues

The Panel had the opportunity to meet with most of the sector's main stake-holders. The Panel findings come from the meetings held, and from the access to several studies recently done by different parties, on the situation of the sector and the evolution of reform.

Consumer financing responsibility of the electricity service.

The Dominican consumer has a long tradition of non-payment of the electricity bill. At the same time, different administrations have embraced the idea that electricity is a basic service, that the average household and small business are too poor to pay the total cost of their consumption, and that, therefore, the bill has to be subsidized by the state. Even though a basic objective of the reform appears to have been to change this practice, on

the assumption that the private participation would imply a stronger pressure to maintain tariffs aligned with costs, in the four years of reform implementation, the Government apparently has had a not very definite attitude about this subject. It is fully understandable that the high cost of service in the Dominican Republic makes very difficult to eliminate subsidies. However, more than the maintenance of some level of subsidy, what it is more damaging is the permanent change in policy.

When reform and capitalization started, tariffs had only barely aligned with costs, and the possibility of external shocks had not been considered. In a country with such high dependency on imported oil, contingency measures should have been designed to deal with the volatility of the cost of generation, and the difficulty that it could mean to maintain the established tariff policy. The model's political viability in a country with the limited energy resources of the Dominican Republic appears not to have been studied completely at the time of designing the reform.

Nevertheless, the culture of having subsidized electricity permeate the whole spectrum of consumers, and even if a subsidy for low income, low consumption households is fully justified, the amount of subsidies appear excessive. There is not a clear social or economic justification for a subsidy for the clients that consume over 200 kwh per month.

The sector's sustainability will not be possible unless a more adequate tariff and subsidy policy is studied, agreed upon by the different sectors, and implemented with a steady hand over a long period of time. It is particularly important to establish a "society position" on the subject, to send a clear message to the public and the consumers.

This is not an easy task, but it is *absolutely essential for the sector's development*, independently of any model of market organization that the country decides to have.

The tariff policy could include the following elements:

- A program of rapid rise in the average tariff in the very short run, to reach at least US\$ 0,12/kwh by February 2004. Further increases at a rate of 3% per month in dollar terms after that., until an average tariff of US\$0.15/kwh<sup>1</sup> is achieved.
- A reduction of the subsidized consumption to 200 kwh per month
- An elimination of the subsidy for clients with a total consumption higher than 200 kwh, applied in stages: over 500 kwh, starting January 2004; over 300 starting March 2004, and over 200 starting June 2004. The elimination of subsidies has to be announced, and explained publicly (television, radio) in simple terms, and appealing to the public's sense of justice and civil responsibility. A very formal and well-designed campaign has to be implemented.
- A publicized plan of tariff reduction related explicitly to the reduction in losses, and the improvement of collections must be designed.

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<sup>1</sup> At a 3% rate, and under the assumption of an exchange rate of RD\$35.5/US\$, the tariff of US\$ 0,15 would be achieved in October.

- In the medium term, it is advisable to design and implement some type of financial or regulatory mechanism that permits to stabilize or reduce volatility of tariffs related to fluctuations in oil prices. The study of such a mechanism should be included in the study of the regulatory framework that has been announced by the authorities.
- A communications plan to be implemented with the tariff policy for at least the six initial months is also of critical importance. The public needs to change the current view on electricity service. A critical situation like the current one could be an optimum opportunity to undertake the communications strategy.

### **Short-term financial normalization**

The critical situation of the sector, characterized by a large debt of the government, the distribution companies, and CDEEE with the generation companies, added to the clear difficulty of the sector to fund the monthly oil bill has to be addressed urgently. Also, there is the related issue of confidence among the private companies that operate in the country.

In order to maintain service, and restore some confidence, at least part of the debt should be paid up front, and an agreement on future payment has to be reached formally between the companies and the Government.

A transitory (no more than six months) mechanism for the monthly coverage of the variable cost of generation must be agreed upon between the Government and the generation companies. For the duration of that period, the oil cost of generation would be paid directly to the producers.

### **Sector organization**

As a result of the recent purchase of two distribution companies by the State, there is the obvious question of what it implies for the sector's organization, the market structure, and the future of reform.

At present, the State controls the hydroelectric generation, transmission, and 70% of distribution. CDEEE can be considered a vertically integrated company, and a near monopsony in the wholesale market. At the same time, CDEEE has a large majority in the System Operator, with three representatives, while other generators would have one representative, and the SIE a fifth.

There are two main issues to address. First, is the Government future policy on the ownership of the distribution companies. The Government, through a Presidential Decree, has confirmed its intention to privatize the companies as soon as possible, and different options appear to be considered, including full privatization (which would need Congress approval) or capitalization as was done before. This would allow the sector to get back to a more favorable structure in terms of the competition and transparency of the market.

Under the market's present conditions, special attention should be given to the sale procedures, and the valuation of the companies. It is to be expected that current uncertainty on the sector's future would affect the price obtained by the State

At the same time, discussions are being held on a possible reform of the whole market structure, and vertical integration is an option that appears to have some appeal among Government officials. A study is starting on possible areas of reform, with AID's technical assistance. The President's Decree also nominated a new special Commission with the mandate to present a Law Proposal to the Government within 90 days.

On the subject, the following comments should be made. While it is true that in some aspects the "model" followed by the Dominican Republic has shown weaknesses, the transitory cost of changing the whole structure could be very high. In the process, that could imply the need to change legislation, and restructure ownership and institutional setting, a great deal of uncertainty would come over the sector, and over the investment already made.

This does not imply for the study should not to be undertaken. But it would be advisable to assure that a serious technical approach is followed, and that precipitated decisions are not made. Also, an active participation of all stakeholders must be considered, and a very open discussion of the sectors issues.

Different options should be carefully considered. The regulatory issues related to vertical integration should not be taken lightly. Vertical integration would mean the abandonment of the objective of competition at the generation level. The Dominican market has reached a size which has possibilities and limitations for competition, but the possibilities will improve with time, if the market is adequately structured. Vertical integration will certainly eliminate any real possibility of competition in generation, and would force a different regulatory model; a vertical integrated utility induces a "rate of return" regulation system, and in the past this model has proved to be more prone to regulatory capture because of asymmetries of information, and difficulties to apply "subrogated competition" schemes.

The appeal of vertical integration seems to be the possibility of transferring any "excessive returns" of generation to the distribution operation that it is not viable at present conditions. The view of many officials, and private investors, is that prices at the generation level are excessive, and the returns very high; that is, in their view, part of the reason why the distribution segment cannot achieve adequate returns.

The conditions of the contracts signed with the generators before capitalization imply comparatively high prices and some distortions in the indexation formulae. The renegotiation of the contracts improved the situation but did not solve completely the problem, particularly because the long duration of the agreements will have an effect on possible competition in the future.

These issues need to be dealt with in any study of the sector organization; but the failures of the contracting process should be dealt with measures to improve this process, instead of abandoning the segmented, competitive structure altogether.

## **Market operation**

Among the actors there are different concerns on the present operation of the wholesale and spot market. These are related to the System Operator Administration, and with the degree of competition in the market.

The rules for the organization of the System Operator do not appear to guarantee the necessary independence from all the parties. Even though most parties agree that the team that had the administration until recently has done a fairly good job in technical terms, there are different positions about their real independence. On one side, government officials believe that the management of the system has somehow favor the thermal plants over the hydroelectric plants. On the other side, private generators believe that CDEEE and the SIE together represent a presence of the State that will make impossible to achieve any real independence in the future.

Until the distribution companies are sold, CDEEE and EDE ESTE should agree to nominate as the distribution representative on the System Operator an independent expert who can guarantee the representation of the common interest of the distribution segment, and not the interest of private investors or the State. At present, CDEEE has reached an agreement with EDE ESTE by which the latter will represent the distribution segment in the Coordination Body; this appears to be a good transitory arrangement, for the short run.

The new team that is going to take over the administration of the ISO is presently being selected. The selection process must be very transparent and allow the full participation of all generators. While the new team is selected, it is advisable that the current management remains under a short-term consultancy contract.

At the same time, and as part of the sector organization study, the rules and regulation of ISO should be reviewed, in order to make its operation as transparent and independent as possible.

## **Performance of PRA**

In September of 2002, the PRA program experimented a rapid increase, of 146.3% because of the aggressive policy followed by the companies and the Government. After that, and during the period October 2002 and September 2003, the average rate of growth (in terms of KWH sold to the barrios) was 0.2% per month, equivalent to a 12 month rate of 2.4%. In other words, the PRA has sustained a reasonable rate of growth after an initial more aggressive start.

In terms of cost, currently the PRA represents an average expenditure of US\$ 5 million per month, about 7.1% of the monthly cost of energy, including the total consumption of the three distribution companies.

A great effort is needed to reduce losses and improve collection, while at the same time increasing tariffs and reducing subsidies; the PRA is necessary as a complementary policy that not only can change the behavior of the consumers of the barrios, but also

shows the awareness of the Government and the companies of the social problem associated with the normalization of the finances of the sector.

Continuous support of PRA will be needed during the next years; however, a firm commitment from all the actors is needed to ensure that PRA works as a transitory solution, and that the barrios will be timely “graduated” from the program, and included in the general subsidy policy for low consumption clients. The Government should set a limit in terms of the total expenditure it plans to assign to PRA, and maintain the size of the program within the set limits.

#### IV. GOVERNANCE ISSUES

**A. General Considerations** The guidelines ask the Panel to analyze the purchase from a governance perspective, with a view of drawing lessons and recommendations for the future.

Among the governance issues, the Panel was asked to take on board the question on whether the purchase was made following the legal steps required by laws and regulations, how the deal was fully and widely discussed within the Government, which were the financial and possible ideological motivations behind the deal, whether there are any indications of mismanagement behind the deal, whether the purchase price paid was in line with existing valuations of the companies and whether new valuations and auditing are required. The object of this Chapter of the Report is then to identify governance issues, inform on the transparency of the transaction and assess the political support behind it.

**B. Motivation.** The first important question to answer, from the governance perspective, is the reason that the Government had behind the purchase of Edenorte and Edesur. According to the interviews held with government officials, the motivations were mainly financial, although they also had social and political elements, rather than ideological. The companies, particularly Edenorte, were registering significant losses and, at least part of its adverse financial results were attributed to mismanagement and carelessness on the part of Union Fenosa. Some examples of mismanagement were provided to the Panel, including issues such as exaggerated personnel expenses of administrative officials and reduced efforts in collections.

Notwithstanding, the Panel would like to note that from UF perspective the motives for the sale were also mainly financial concerns but due to the non-culture payment in Dominican Republic, structural problems with electricity supply generation in the north hurting Edenorte and an adverse political environment towards UF.

The recent Presidential Decree issued on October 28 establishes a Special Committee to draft a law modifying the Public Enterprise and the Electricity laws to allow the privatization of public enterprises and the vertical integration of the electricity sector companies, excluding the generation of hydroelectricity.

According to the Panel, the opinions of these high officials in favor of privatization, including the Presidential Decree, represent a concerted political desire of the Government to express publicly that the purchase was not due to ideology and the willingness to undertake steps towards the privatization of the electricity companies.

While the Panel did not receive strong criticisms regarding possible ideological motivations behind the transaction, among the interviews there were adverse comments on the government inaction as shareholder and board member of the companies. It has

been argued that the Government had the capacity and the responsibility to prevent the mismanagement attributed exclusively to UF.

**C. Consultation** Another important point of debate regarding the purchase is whether there was wide consultation and analysis within the government on the costs and benefits of the transaction and, more widely, on whether all required legal steps were taken.

Although the purchase had a significant impact on the debt and fiscal goals, as well as on the electricity sector future, which were under discussion with the multilateral agencies, the Government did not inform on a timely basis the IMF, the World Bank and the IDB on the decision. The Government considers that it was well known that the serious financial situation of the companies required definite solutions such as the intervention or purchase of the companies. The cross-correspondence reviewed by the two multilateral banks, WB-IDB, and the Dominican authorities on electricity matters, CCDE and Electricity Superintendence, at the dates surrounding the purchase transaction highlights the fact that the main issue being discussed was, in fact, the likely intervention of the companies, as a result of the financial deterioration and the resulting constant interruption of electricity supply. The fact is that the World Bank was within three days of sending its loan documentation to the Board and was awaiting documentation from the government on the settlement of arrears in the power sector heeded for the formal negotiation of the loan when the purchase occurred. The Government has taken the firm decision to establish multiple and effective channels to inform, in the future, the decisions that it takes regarding the electricity sector, in order to maintain the three multilateral agencies well informed on a timely and simultaneous basis.

Some of the representatives of the private sector interviewed considered that the purchase was a surprise, and that the issue being discussed at the moment had been that of intervention. The official option of intervening one or the two companies could have led to possible instability in the electricity sector given potential judiciary demands on the decision.

The Panel did not have the expertise or the time to make a thorough review of the legal aspects. Neither in the interviews nor on the press reviews did the Panel find any arguments against the transaction on legal grounds. Only a difficult to pinpoint argument referring to circumventing legal procedures in the UF deal was made by one of the private sector personalities interviewed.

However, the question remains on whether, according to existing regulations, public external loans should have approval by Congress. The argument provided by the authorities is that the purchase transaction was designed in such a way that does not require a government guarantee on the Union Fenosa loan, and, therefore, the purchase did not require Congress approval. The Government adds that both the loan and the guarantees approved (compromising the transfer to the lender of major client obligations) were both rights of the state companies and not of the Government Treasury.

The lesson that comes about from the experience is that the Dominican Republic should improve the checks and balances required to guarantee an adequate discussion of major economic decisions. .

**D. Purchase Agreement** The purchase agreement was consigned in a clear legal set of documents. Through it, as noted above, the government purchased Edenorte and Edesur for an amount of US\$348.7 million making an initial cash payment of US\$15 million and assumed other liabilities, mainly with generating companies, of US\$154.7 millions, totaling US\$488.5 millions. The Government made a down payment of US\$ 15 million, so that the debt with Union Fenosa was US\$ 333.73 millions.

As described in Annex II, the loan on the purchase has a 12-year maturity with monthly payments of US\$ 4-5 millions. Under the conditions of the loan, CDE assigns full benefits of ownership (use and control) to DIDOEL under **usufructo** arrangement, but retains legal ownership. Monthly payment obligations of CDE is transferred to be a direct obligation of Edenorte and Edesur under a lease agreement which grants both companies a right to use the assets in exchange for accepting responsibility for the monthly payment obligation. Lease payments begin within six months of sale closing date of September 30. DIDOEL'S lease payments are serviced from an escrow arrangement which insures that an amount equal to 115% (150% if in arrears) of the monthly payments due is deposited into a segregated account directly from Edenorte and Edesur's most creditworthy costumers. UF has the right to withdraw the assets should the CDE fail to make the monthly lease payment.

**E. Purchase Price.** Another question also asked is whether the purchase price paid was in line with existing valuations and whether adequate auditing was on course. The information provided to the Panel indicated that the purchase price was decided exclusively taking into account the book value of the assets, where the government had a 50% share.

To establish the purchase price no detailed cash flow analysis were made. It should be highlighted that the value of a company is normally based on a ten to fifteen year discounted cash flow analysis, which is a way to reflect the potential market value, rather than relying exclusively on the book value of the assets. While at the time of the original transaction in 1999 (according to audit reports), whereby the Dominican Government invested US\$212 million in Edenorte and Edesur, a cash flow analysis was used to back up the amount of investment, no such procedure was used in the case of the present purchase.

The Government argues that the value of a company under a given degree of financial distress should be estimated as the weighted average of the value of the company as an ongoing concern and its value under financial distress. The weights to be given would depend on the probability that the company faces a financial collapse. The Government recognizes that the value of the company as an ongoing concern depends on a cash flow analysis, while its value under financial distress should be based on the market value of

its assets. The Panel considers that such methodology would have been an appropriate one to follow.

The Government adds that the high probability of a scenario of financial distress led them to rely exclusively on the book-value of the companies and to ignore the cash-flow analysis. The Panel believes that a cash flow analysis would have provided useful additional information, and that the more rigorous methodology suggested by the Government would have been a more transparent and better procedure to follow. Notwithstanding, the Panel would like to recognize that the cash flow method of analysis would probably have provided a wide range for the value of the companies, given the conditions of high uncertainty on the economy and on the effects of regulatory policy on the sector performance.

The only available cash flow analysis was done for a 15-month period, which projected a negative flow result for 2004. The revision of such cash flow analysis made by the Panel under more credible assumptions showed a significantly higher negative result. As shown in Annex III, a simple calculation was done in order to estimate the magnitude of the cash flow of the purchased electricity companies for a total of 12 years – the loan period – that would allow the government to match the companies' net present value equivalent to a total book value of US\$696 million. Considering that from November 2003 to December 2004 the cumulated deficit will be US\$ 314 million, it is found that the annual positive flow after 2005 should be around US\$275 million. It indicates that the annual cash flows starting 2005 would have to increase significantly to cover the purchase price and the interest payments on the loan.

As to auditing, the Government undertook contracts with Thornton to review all financial transactions of the two companies from the moment of their initial capitalization in 1999 and both auditing exercises showed that all accounting procedures were in line with the law. The expertise of the Panel does not allow it to assert anything beyond the cash flow analysis shown above. In this sense, the Panel considers that an independent audit from a well-known international auditing firm to value the assets and the net-worth of the companies would be a necessary, prudent and urgent step to take immediately.

**F. Multilaterals.** The Panel would like to highlight that the highest-ranking government officials welcomed the fact that the World Bank had, for a long time, been attempting to support the country with a power sector loan. They noted, however, that, on every occasion, unforeseen obstacles and conditions had made it impossible to agree on the program and disburse the resources.

In this regard, it is worth pointing out that the WB was making all the arrangements to send the loan documentation for approval to the Board of Directors had it not been because three days before the preset date, the UF transaction disrupted the agreements made regarding the strategy and policies discussed towards the power sector. The Government considers that now more than ever the WB loan is essential to enable the Government to repay obligations with electricity generators. As to the Inter American Development Bank, the Government also welcomed the decision to support the

Dominican Republic with external resources and judges that the disbursement made of the IDB Social Sector Loan was necessary and important to the country and that the envisaged emergency loan is also highly desirable.

As to the IMF, the authorities would welcome the rapid negotiation of the program and are willing to advance on the required fiscal adjustment. Both the private sector and the opposition political parties are supportive of a Fund program and consider that an immediate and structural significant fiscal adjustment is in order and would have political support. Their major concern is the coming elections and the expenditure political cycle that could come over.

All parties involved agree that the support of the multilateral institutions is essential not only for its financial backing but also to restore confidence in the economy. The Government authorities and the Dominican public opinion must understand that the expected multilateral support depends on the adoption of a credible economic program and on electricity policies that put the sector on a transparent and sound financial footing.

**G. Institutions.** Another extremely important governance issue in Dominican Republic is the institutional structure of the electricity sector. The country has a strong formal structure of institutions in the electricity sector: the Electricity Superintendence (SIE), the National Energy Commission (CNE), and the Independent System Operator (Coordination Body) are the permanent agencies in charge of regulation, energy policy, and economic dispatch of generation and administration of the spot market.

In addition to the permanent institutions, and to coordinate efforts during the growing electricity crisis, a Presidential Commission for the Financial Sustainability of the Electricity Sector was nominated and put in charge of overseeing sector issues, and has had a role in the aftermath of the Union Fenosa transaction.

Several issues regarding such institutional structure came up during the interviews and in the Panel's view the following are the most relevant. The first regards the technical capacity of the SIE and CNE, which need strengthening, particularly considering their short lives.

The second concerns the independence between the regulatory body, the Superintendence, and the other Government agencies in the sector. The creation of the transitory Commission for the Sustainability of the Sector has raised doubts about the future of the institutional framework. There is the concern that the permanent agencies authority has been weakened in the process, because the superposition of roles of the transitory bodies and the permanent agencies such as SIE and CNE.

While it is understandable that during particularly critical periods the State agencies participate in the Government coordinated efforts to solve the crisis, the operation of the sector can be greatly damaged if the state owned companies or the central government agencies appear to have influence over the regulatory institutions, or in sector policy

decisions. The current situation, with CDEEE in charge also of 70% of distribution, makes all the more important to assure that the SIE will have room to develop its role in an independent manner. Of particular importance is the independence and technical performance of the SIE in its participation in the Coordination Body.

On a related issue, the private generating companies consider that because with the purchase the government through the CDEEE has now a majority in the Coordination Body, there is an imbalance in the management of the spot market. The imbalance is seen as more troublesome since they are of the view that the Superintendence is not as independent as desired.

In sum, the Panel considers that as the sector takes steps towards normalization, the permanent institutions should be strengthened, not only through technical support but also with a commitment of the highest levels of Government to implement its sector policies through the action of the specialized agencies instead of with new institutional arrangements, and respecting the different roles of each institution. The institutional settings created with the reforms imply a change in the traditional decision-making process and in the forms of involvement of the Government. In the Dominican Republic, as in other countries of Latin America, the institutional changes appear not to have been fully assumed yet. This should not be a surprise, since the changes are profound from the point of view of the country's political administration.

With regard to the vertical integration of CDEEE, and the potential conflict of interest that could arise in the administration of the electricity distribution companies, the Panel recommends that an independent manager should be named. Also, to provide increased transparency under the new official CDE ownership of the companies, the Panel recommends, as noted above, an initial audit of the value of the net assets of the companies; the monthly publication of the key performance indicators of both companies, and the timely quarterly publication of the financial statements of Edenorte and Edesur.

**H. Downside risks.** Two types of potential downside risks should be taken into account.

On the microeconomic and electricity sector side, the major risk that is faced in regard to the financial viability of the companies under the new management is that the agreed upon electricity tariffs are not followed. The track record in Santo Domingo since 1999 in the implementation of tariff policy has been very poor, according to our research and interviews.

There is also uncertainty as to whether the efforts in invoicing and collections will remain strong during the coming electoral period. The cash-flow analysis takes some conservative steps in that regard.

To the Panel another important risk regards the magnitude of the subsidies and particularly those of the PRA program.

On the fiscal and macroeconomic side, some downside risks are also evident. The major one is the uncertainty in regard to the nominal exchange rate. Another source of uncertainty is the fiscal situation and, particularly, whether the government will be in the capacity to cover the fiscal outlays to feed the Compensation Fund.

The joint impact of the real increase in tariffs and the growth of the economy on electricity demand and thus on the financial performance of the companies appears as an additional down risk. Finally, there is the obvious uncertainty in future course of oil prices.

### **Final Recommendation.**

**The Panel's final and most important recommendation is to support strongly the Government initiative to call on a Political Pact until the end of the present Administration that allows for a wide agreement on electricity tariffs, subsidies, taxes and also desirably on public expenditures. The need and support of a Political Pact on these subjects has been highlighted by the Government, the opposition political parties and the private sector through CONEP.**

## ANNEX I

### **Dominican Republic: Impact of the Government Purchase of Edenorte and Edesur on the Non Financial Public Sector (NFPS) Debt**

This note describes three different approaches to examine the effect of the Government's purchase of the electricity distribution companies Edenorte and Edesur on the debt of the NFPS.

The three approaches are based on, respectively: the IMF Government Financial Statistics (GFS) Manual 2001, the debt guarantees existing before the acquisition by government, and the companies' initial ownership. These approaches affect the share of the Edenorte's and Edesur's initial liabilities assigned to the private and to the (non-financial) public sectors before their acquisition by the government-controlled Company de Electrician (CDE), thereby leading to different conclusions as to the net change in the stock of the NFPS debt resulting from the government acquisition.<sup>2</sup>

**Approach 1. GFS Manual 2001** – The GFS Manual 2001 (Section 2.27) suggests that the debt of corporations whose activities are not directly controlled by a government unit or for which no government unit is financially responsible, like in the case of Edenorte and Edesur before the acquisition by the government, should not enter the stock of public debt. According to this approach, the CDE debt in Edenorte and Edesur before their acquisition by the government ought to be zero. As a result of the acquisition, CDE acquired total liabilities for US\$ 503.5 million, including US\$ 154.7 million of the companies' previous liabilities and US\$ 348.7 millions as compensation for purchasing about 50 percent of the companies' positive assets, thus leading to a net increase in the NFPS debt by the same amount (see table 1).

**Approach 2. Companies Ownership** – According to this approach, the initial liabilities of Edenorte and Edesur ought to be assigned to the companies' shareholders according to their ownership rights. Given the roughly equal distribution of Edenorte and Edesur ownership between UF and CDE, the CDE's initial stock of debt was US\$ 366.1 million or 50 percent of the initial liabilities (US\$ 732 million). As a result of the acquisition, CDE acquired total liabilities for US\$ 503.5 million, thus leading to a net increase in the NFPS debt of US\$ 137.4 million (see table 1).

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<sup>2</sup> Data used in this exercise, and in the attached table 1, are provisional and need to be verified against the terms of the purchase agreement signed by the Government and Union Fenosa (UF).

**Table 1. Dominican Republic: Impact of the Government Purchase of Edenorte and Edesur on the Debt of the Non Financial Public Sector (NFPS)**

(in millions of US dollars)

CDE debt in Edenorte and Edesur before their acquisition		CDE debt in Edenorte and Edesur after their acquisition		Change in CDE debt
<b>Approach 1: GFS Manual 2001</b>				
<b>CDE debt</b>	<b>0.00</b>	<b>CDE debt</b>	<b>488.45</b>	<b>Change in CDE debt</b>
CDE debt in Edenorte and Edesur	0.00	CDE debt acquired through Edenorte and Edesur 1/	503.45	
		Liabilities assumed from Edenorte and Edesur	154.73	
		Debt to purchase Edenorte and Edesur	333.73	
<b>Approach 2 - Companies Ownership</b>				
<b>CDE debt</b>	<b>366.21</b>	<b>CDE debt</b>	<b>488.45</b>	<b>Change in CDE debt</b>
Total Liabilities of Edenorte and Edesur	732.43	CDE debt acquired through Edenorte and Edesur 1/	503.45	
o/w Union Fenosa	366.21	Liabilities assumed from Edenorte and Edesur	154.73	
CDE	366.21	Debt to purchase Edenorte and Edesur	333.73	

1/ This includes companies' previous liabilities amounting to US\$ 154.7 million, and US\$ 348.7 millions as compensation for purchasing about 50 percent of the companies' positive assets.

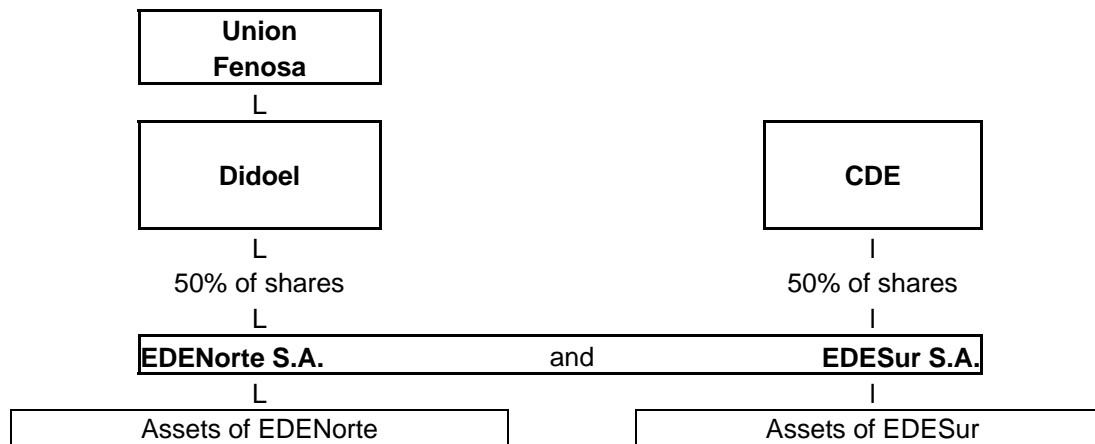
**ANNEX II****(SOURCE: GLOBELEQ)****SIGNIFICANT ISSUES RELATED TO UNION FENOSA SALE TRANSACTION**

<b>ITEM</b>	<b>ISSUE</b>
1. Industry Liquidity	Adds a fixed first charge of around US\$4 – 5 m per month to serve the UF debt.
2. Control of EDEs' physical assets.	Control is transferred to DIDOEL under an "usufructo" agreement until the end of the 12 year lease.
3. Control of EDEs' cash flow	UF will have priority access to funds equal to 115% (150% if in arrears) of their monthly payments. Structured as a channeling of a sufficient amount of the EDEs' most creditworthy customer's payments directly into an escrow account.
4. Government Involvement	With the purchase of the EDEs, the GoDR becomes the client of the generating sector, as well as the regulator and partial owner of the capitalized generating companies.
5. Regulation	Transaction puts GoDR in a difficult situation of the legal cross ownership restrictions that limit owners of the EDEs to ownership of no more than 30% of system wide generation.

**Attachment 2: CDE's STRUCTURED PURCHASE OF UNION FENOSA'S 50% INDIRECT INTEREST IN EDENORTE AND EDESUR S.A.**

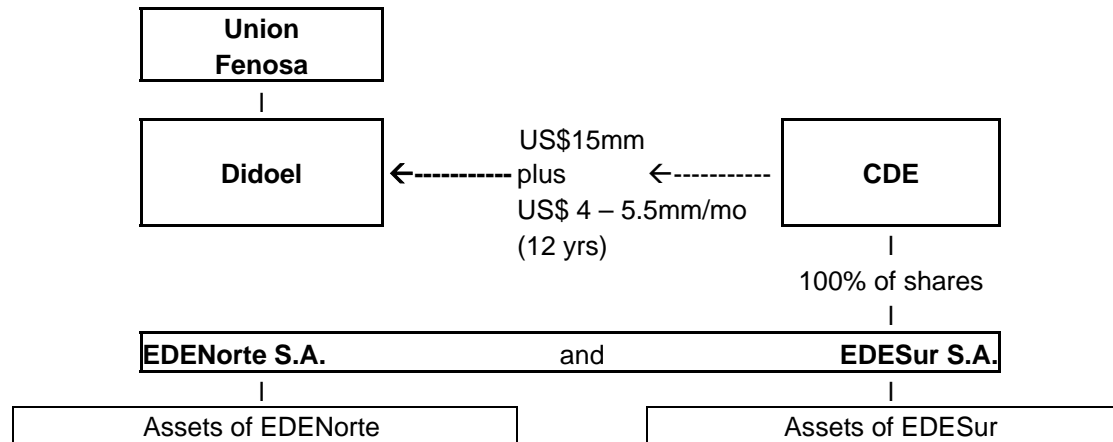
**SEPTEMBER 1, 2003 Ownership:**

**UF owns 50% of the shares of EDENorte and EDESUR through DIDOEL S.A.**



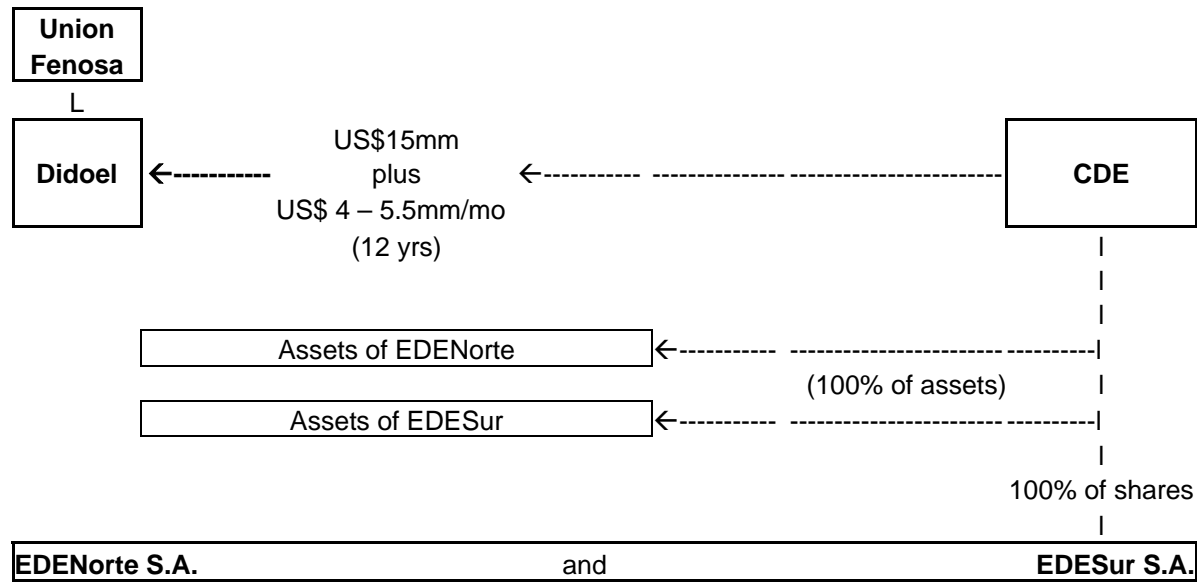
**CDE's STRUCTURED PURCHASE OF UNION FENOSA'S 50% INDIRECT INTEREST IN EDENORTE AND EDESUR S.A. page 2 of 5**

**STEP 1: UF sells its 50% interests in EDEN and EDES for US\$15mm plus \$4 - \$5.5mm/month for 12 years**



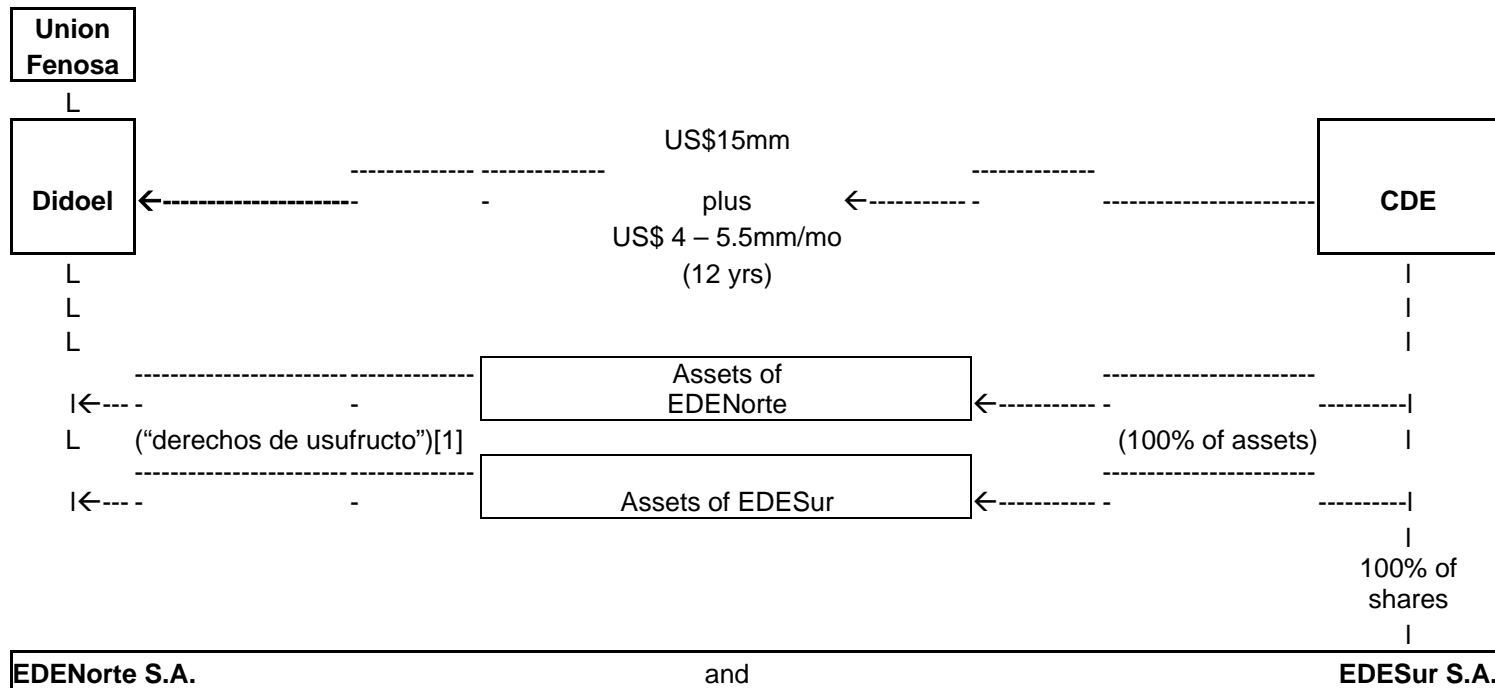
**CDE's STRUCTURED PURCHASE OF UNION FENOSA'S 50% INDIRECT INTEREST IN EDENORTE AND EDESUR S.A.**

**STEP 2: CDE, as 100% owner of EDEN and EDES, transfers 100% of their assets to itself**



**CDE's STRUCTURED PURCHASE OF UNION FENOSA'S 50% INDIRECT INTEREST IN EDENORTE AND EDESUR S.A.**

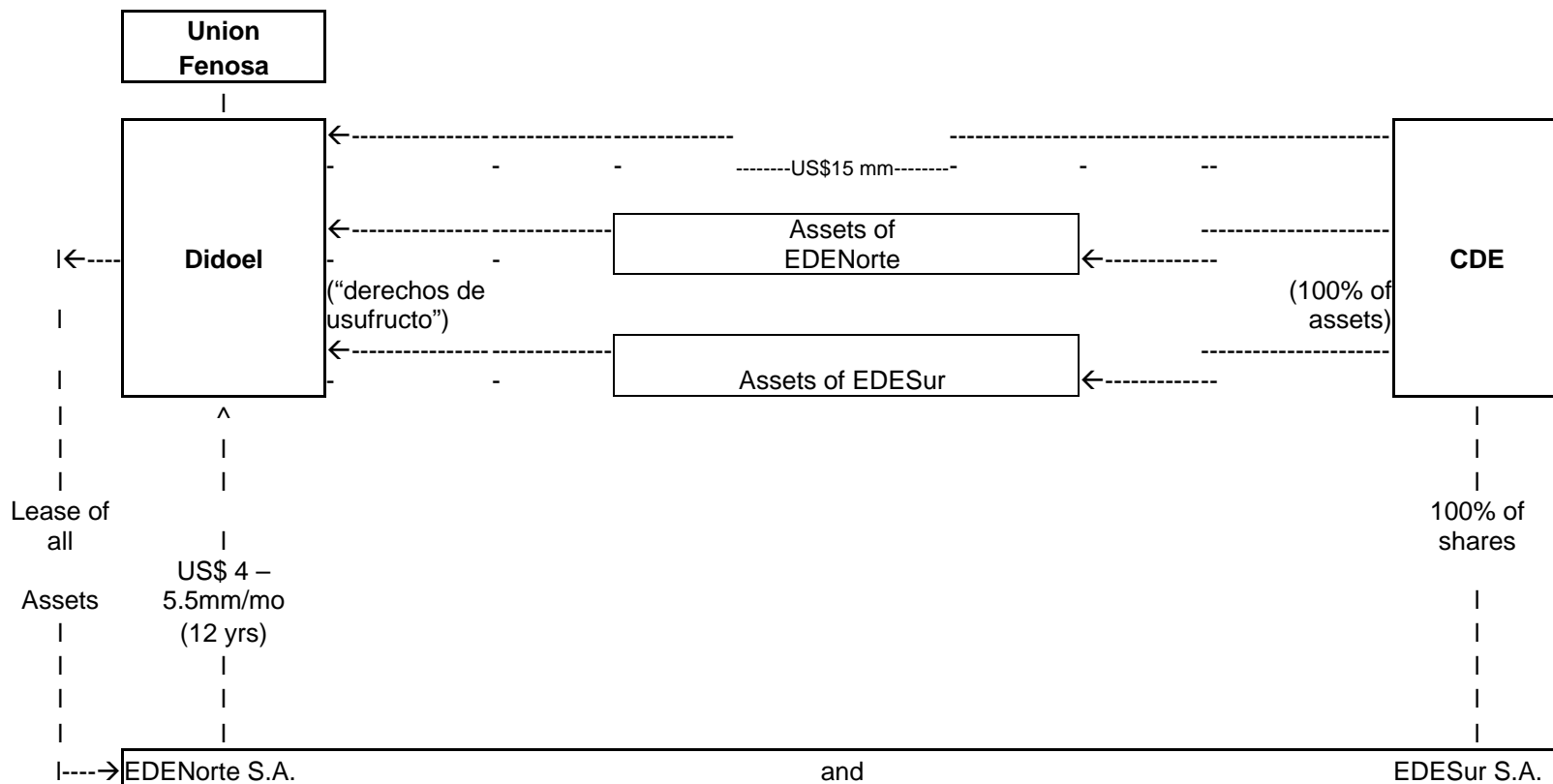
**STEP 3: CDE assigns full benefits of ownership (use and control) to DIDOEL under "usufructo" arrangement but retains legal ownership**



[1] Assignment of 100% of use of assets

**CDE's STRUCTURED PURCHASE OF UNION FENOSA'S 50% INDIRECT INTEREST IN EDENORTE AND EDESUR S.A.**

**STEP 4: Monthly payment obligation of CDE is transferred to be a direct obligation of EDEN and EDES under a lease agreement which grants EDEN and EDES the right to use the assets in exchange for accepting responsibility for the monthly payment obligation.**



**STEP 5: Lease payments begin within 6 months of sale closing date of September 30. Didoel's lease payments are serviced from an escrow arrangement which insures that an amount equal to 115% (150% if in arrears) of the monthly payment due is deposited into a segregated account directly from EDEN and EDES's most creditworthy customers.**

**Attachment 3: EdeNorte and EdeSur Monthly Cash Flow Deficit (proforma)  
Before and After UF Sale Transaction  
(US\$ millions)(1)**

	Before Sale Transaction	After Sale Transaction
Cash Receipts	31	31 <sup>(2)</sup>
Guaranteed UF Lease Payment		(4) <sup>(3)</sup>
Fixed Minimum Operating Costs	<u>(5)</u>	<u>(7)</u> <sup>(4)</sup>
	26	20 <sup>(5)</sup>
Cost of Electricity Purchased	<u>(49)</u>	<u>(49)</u>
Operating Deficit	<u><u>(22)</u></u>	<u><u>(28)</u></u> <sup>(6)</sup>

Notes

(1) Based on Exchange Rate of RD\$ 35 = US\$ 1

(2) Without Compensation Fund

(3) Guaranteed by the fixed assets of the EDEs

(4) Costs increase by US\$ 2m/mo. which CDE is diverting to cover its own salary and other non-EDE costs

(5) Represents 23% erosion from before to after case

(6) Does not reflect impact of changes in financing costs

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**ANNEX III**

**Dominican Republic. Annual Cash flow that matches the NPV paid to acquire  
the distribution companies Edenorte and Edesur  
(in US\$ million)**

Companies's NPV (purchasing price)	696
Future value of the companies (at 12 years)	2711.6
Projected negative cash flows (Oct 2003-Dec 2004)	
Assumption 1	-374
Assumption 2	-409
Required annual cash flow to match the companies' NPV	
Assumption 1	272.7
Assumption 2	279.4

**Memorandum items**

Discounting rate	12%
Evaluation period (years)	12
Cash flows (Oct 2003-Dec 2004) Assumption 1	-374
Cash flows (Oct 2003-Dec 2004) Assumption 2	-409
Period with positive cash flow (years)	11

## ANNEX IV

CASH FLOW ANALYSIS  
I. MAIN SCENARIOS

## A. Optimistic-possible

<b>Exchange rate</b>	RD\$ 35.5/US\$. <sup>3</sup>
<b>Tariffs</b>	3 % nominal rise August 2003-Dec 2004.
<b>Energy cost</b>	77 US\$/Mwh
<b>Demand Growth</b>	3% per year (at the generation level).
<b>Losses</b>	EDESUR: 26.8% Nov-May 2003; steady reduction to 23% Dec-2004. EDENORTE: 41.5% Nov-May 2003; steady reduction to 33.1% Dec 2004.
<b>Collections</b>	EDESUR: 78.3% Nov-May2003; steady rise to 85% Dec 2004. EDENORTE: 75.7% Nov-May 2003; steady rise to 80% Dec 2004
<b>Personnel cost</b>	10% reduction (with respect to UF management)

The tables below show the results obtained for EDENORTE and EDESUR; these represent their total deficit, including transfers that correspond to the Compensation Fund.

**Table A.1**  
**SURPLUS (DEFICIT) OF THE EDES**  
**(Th. of RD\$)**

	<b>MONTH</b>	<b>ACCUMMULATED</b>
Oct 2003	-916,282	-629,972
Nov 2003	-876,360	-1,506,332
Dec 2003	-649,357	-2,155,689
Jan 2004	-938,822	-3,094,511
Feb 2004	-916,737	-4,011,248
Mar 2004	-934,820	-4,946,067
Apr 2004	-898,210	-5,844,277
May 2004	-900,261	-6,744,538
Jun 2004	-892,769	-7,637,307
Jul 2004	-767,175	-8,404,482
Aug 2004	-700,928	-9,105,410
Sept 2004	-622,423	-9,727,833
Oct 2004	-565,342	-10,293,175
Nov 2004	-481,957	-10,775,132
Dec 2004	-397,952	-11,173,084

The accumulated deficit reaches US\$ 314.7 in December 2004, and monthly results remain negative during the whole period.

<sup>3</sup> All the scenarios assume zero inflation, except the Pessimistic-Possible scenario; in this case, a 10% increase of the cost of salaries and external contracts has been assumed, as the effect of internal inflation.

In addition to the results of the EDES, the total fiscal effect of the power sector must include CDEEE deficit and the transfers to EDE ESTE from the Compensation Fund. The next table reflect the total effect, under the scenario already described.

**Table A.2**  
**SURPLUS (DEFICIT) POWER SECTOR**  
**(Thousands \$RD)**

**Optimistic-possible**

	<b>EDES</b>	<b>CDEEE</b>	<b>C.F E.ESTE</b>	<b>TOTAL</b>
<b>Oct 2003</b>	-629,972	-291027	-544104	-1,465,103
<b>Nov 2003</b>	-1,506,332	-153125	-633099	-2,292,556
<b>Dec 2003</b>	-2,155,689	-17191	-792074	-2,964,954
<b>Jan 2004</b>	-3,094,511	25631	-940658	-4,009,538
<b>Feb 2004</b>	-4,011,248	122080	-1078391	-4,967,559
<b>Mar 2004</b>	-4,946,067	70395	-1228429	-6,104,101
<b>Apr 2004</b>	-5,844,277	258235	-1366475	-6,952,517
<b>May 2004</b>	-6,744,538	534110	-1492017	-7,702,445
<b>Jun 2004</b>	-7,637,307	273490	-1604523	-8,968,340
<b>Jul 2004</b>	-8,404,482	47575	-1703443	-10,060,350
<b>Aug 2004</b>	-9,105,410	74871	-1788203	-10,818,742
<b>Sep 2004</b>	-9,727,833	-7598	-1858208	-11,593,639
<b>Oct 2004</b>	-10,293,175	-87657	-1912840	-12,293,672
<b>Nov 2004</b>	-10,775,132	-103597	-1951458	-12,830,187
<b>Dec 2004</b>	-11,173,084	-156622	-1973396	-13,303,102

The total sector accumulated deficit reaches US\$ 374.7 by December 2004, and monthly results remain negative during the whole period.

**B. Pessimistic-Possible**

<b>Exchange rate</b>	RD\$ 35.5/US\$.
<b>Tariffs</b>	Nominal rise 3% per month.
<b>Energy cost</b>	77 US\$/Mwh
<b>Demand Growth</b>	3% per year (at the generation level).
<b>Losses</b>	EDESUR: 26.8% constant EDENORTE: 41.5% constant
<b>Collections</b>	EDESUR: 78.3% constant EDENORTE: 75.7% constant
<b>Personnel cost</b>	No change (with respect to UF management)

**Table B.1**  
**SURPLUS (DEFICIT) EDES**  
**(Thou. RD\$)**

	<b>MONTH</b>	<b>ACCUMMULATED</b>
Oct 2003	-916,282	-629,972
Nov 2003	-876,360	-1,506,332
Dec 2003	-643,901	-2,150,233
Jan 2004	-933,530	-3,083,763
Feb 2004	-912,031	-3,995,794
Mar 2004	-929,659	-4,925,452
Apr 2004	-893,172	-5,818,624
May 2004	-894,896	-6,713,521
Jun 2004	-920,392	-7,633,913
Jul 2004	-831,301	-8,465,214
Aug 2004	-803,753	-9,268,967
Sept 2004	-759,428	-10,028,395
Oct 2004	-764,423	-10,792,818
Nov 2004	-718,421	-11,511,239
Dec 2004	-694,448	-12,205,687

The accumulated deficit reaches US\$ 343.8 million by December 2004, and monthly results remain negative during the whole period.

**Table B.2**  
**SURPLUS (DEFICIT) POWER SECTOR**  
**(Thousands \$RD)**

**Pessimistic-possible**

	<b>EDES</b>	<b>CDEEE</b>	<b>C.F E.ESTE</b>	<b>TOTAL</b>
<b>Oct 2003</b>	-629,972	-291027	-544104	-1,465,103
<b>Nov 2003</b>	-1,506,332	-153125	-633099	-2,292,556
<b>Dec 2003</b>	-2,150,233	-17191	-792074	-2,959,498
<b>Jan 2004</b>	-3,083,763	25631	-940658	-3,998,790
<b>Feb 2004</b>	-3,995,794	122080	-1078391	-4,952,105
<b>Mar 2004</b>	-4,925,452	70395	-1228429	-6,083,486
<b>Apr 2004</b>	-5,818,624	258235	-1366475	-6,926,864
<b>May 2004</b>	-6,713,521	534110	-1492017	-7,671,428
<b>Jun 2004</b>	-7,633,913	273490	-1604523	-8,964,946
<b>Jul 2004</b>	-8,465,214	47575	-1703443	-10,121,082
<b>Aug 2004</b>	-9,268,967	74871	-1788203	-10,982,299
<b>Sep 2004</b>	-10,028,395	-7598	-1858208	-11,894,201
<b>Oct 2004</b>	-10,792,818	-87657	-1912840	-12,793,315
<b>Nov 2004</b>	-11,511,239	-103597	-1951458	-13,566,294
<b>Dec 2004</b>	-12,205,687	-156622	-1973396	-14,335,705

The total sector accumulated deficit reaches US\$ 409.5 by the end of 2004. These results show clearly that with current levels of losses and collections, and even if some improvement is assumed, with the tariff policy that is being implemented the EDES remain presenting a monthly deficit, and accumulate a substantial deficit by the end of 2004.

## II. SENSITIVITY ANALYSIS

### C. Tariff Sensitivity

<b>Exchange rate</b>	RD\$ 35.5/US\$. <sup>4</sup>
<b>Tariffs</b>	Rise to US\$ 0.12 between Nov 2003 and Feb 2004; 3% rise to US\$ 0.15 Nov 2004.
<b>Energy cost</b>	77 US\$/Mwh
<b>Demand Growth</b>	3% per year (at the generation level).
<b>Losses</b>	EDESUR: 26.8% Nov-May 2003; steady reduction to 23% Dec-2004. EDENORTE: 41.5% Nov-May 2003; steady reduction to 33.1% Dec 2004
<b>Collections</b>	EDESUR: 78.3% Nov-May 2003; steady rise to 85% Dec 2004. EDENORTE: 75.7% Nov-May 2003; steady rise to 80% to Dec 2004
<b>Personnel cost</b>	10% reduction (with respect to UF management)

The tables below show the results obtained for EDENORTE and EDESUR; these represent their total deficit, including transfers that correspond to the Compensation Fund.

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<sup>4</sup> All the scenarios, except the Pessimistic-Possible, assume a zero inflation; in the latter, 10% increase in salaries and the cost of external contracts is assumed as the effect of internal inflation.

**Table C.1**  
**SURPLUS (DEFICIT) OF THE EDES**  
**(Th. of RD\$)**

	<b>MONTH</b>	<b>ACCUMMULATED</b>
Oct 2003	-916,282	-629,972
Nov 2003	-828,974	-1,458,946
Dec 2003	-544,821	-2,003,767
Jan 2004	-781,677	-2,785,444
Feb 2004	-722,747	-3,508,192
Mar 2004	-715,218	-4,223,409
Apr 2004	-669,401	-4,892,810
May 2004	-642,084	-5,534,895
Jun 2004	-624,796	-6,159,691
Jul 2004	-466,917	-6,626,607
Aug 2004	-370,158	-6,996,766
Sept 2004	-279,122	-7,275,888
Oct 2004	-151,309	-7,427,197
Nov 2004	-53,498	-7,480,694
Dec 2004	81,317	-7,399,378

The accumulated deficit reaches US\$ 208.4 million by December 2004, and monthly results remain negative during the whole period.

**Table C.2**  
**SURPLUS (DEFICIT) POWER SECTOR**  
 (Thousands \$RD)

	<b>EDES</b>	<b>CDEEE</b>	<b>C.F E.ESTE</b>	<b>TOTAL</b>
<b>Oct 2003</b>	-629,972	-291,027	-544,104	-1,465,103
<b>Nov 2003</b>	-1,458,946	-153,125	-633,099	-2,245,170
<b>Dec 2003</b>	-2,003,767	-17,191	-792,074	-2,813,032
<b>Jan 2004</b>	-2,785,444	25,631	-940,658	-3,370,471
<b>Feb 2004</b>	-3,508,192	122,080	-1,078,391	-4,464,503
<b>Mar 2004</b>	-4,223,409	70,395	-1,228,429	-5,381,443
<b>Apr 2004</b>	-4,892,810	258,235	-1,366,475	-6,001,050
<b>May 2004</b>	-5,534,895	534,110	-1,492,017	-6,492,802
<b>Jun 2004</b>	-6,159,691	273,490	-1,604,523	-7,490,724
<b>Jul 2004</b>	-6,626,607	47,575	-1,703,443	-8,282,475
<b>Aug 2004</b>	-6,996,766	74,871	-1,788,203	-8,710,098
<b>Sep 2004</b>	-7,275,888	-7,598	-1,858,208	-9,141,694
<b>Oct 2004</b>	-7,427,197	-87,657	-1,912,840	-9,427,694
<b>Nov 2004</b>	-7,480,694	-103,597	-1,951,458	-9,535,749
<b>Dec 2004</b>	-7,399,378	-156,622	-1,973,396	-9,529,396

The total sector accumulated deficit reaches US\$ 268.4 by December 2004, and monthly results remain negative during the whole period.

**D. Price of Oil**

<b>Exchange rate</b>	RD\$ 35.5/US\$.
<b>Tariffs</b>	Nominal rise 3% per month.
<b>Energy cost</b>	84 US\$/Mwh
<b>Demand Growth</b>	3% per year (at the generation level).
<b>Losses</b>	EDESUR: 26.8% Nov-May 2003; steady reduction to 23% Dec-2004. EDENORTE: 41.5% Nov-May 2004; steady reduction to 33.1% Dec 2004
<b>Collections</b>	EDESUR: 78.3% Nov-May 2003; steady rise to 85% Dec 2004. EDENORTE: 75.7% Nov-May 2003; steady rise to 80% to Dec 2004
<b>Personnel cost</b>	10% reduction (with respect to UF management)

**Table D.1**  
**SURPLUS (DEFICIT) OF THE EDES**  
**(Th. of RD\$)**

	<b>MONTH</b>	<b>ACCUMMULATED</b>
Oct 2003	-941,400	-655,090
Nov 2003	-1,044,617	-1,699,607
Dec 2003	-825,385	-2,524,992
Jan 2004	-1,110,399	-3,635,391
Feb 2004	-1,070,140	-4,705,532
Mar 2004	-1,103,929	-5,809,461
Apr 2004	-1,064,199	-6,873,660
May 2004	-1,042,031	-7,951,634
Jun 2004	-1,077,975	-8,993,665
Jul 2004	-1,042,031	-9,914,280
Aug 2004	-920,615	-10,732,008
Sept 2004	-817,723	-11,448,752
Oct 2004	-871,166	-12,119,918
Nov 2004	-566,545	-12,886,464
Dec 2004	-503,183	-13,189,647

The accumulated deficit reaches US\$ 371.5 by December 2004, and monthly results remain negative during the whole period.

**Table D.2**  
**SURPLUS (DEFICIT) POWER SECTOR**  
**(Thousands \$RD)**

	<b>EDES</b>	<b>CDEEE</b>	<b>C.F E.ESTE</b>	<b>TOTAL</b>
<b>Oct 2003</b>	-655,090	-291,027	-544,104	-1,490,221
<b>Nov 2003</b>	-1,699,607	-153,125	-633,099	-2,485,831
<b>Dec 2003</b>	-2,524,992	-17,191	-792,074	-3,334,257
<b>Jan 2004</b>	-3,635,391	25,631	-940,658	-4,550,418
<b>Feb 2004</b>	-4,705,532	122,080	-1,078,391	-5,661,843
<b>Mar 2004</b>	-5,809,461	70,395	-1,228,429	-6,967,495
<b>Apr 2004</b>	-6,873,660	258,235	-1,366,475	-7,981,900
<b>May 2004</b>	-7,951,634	534,110	-1,492,017	-8,909,541
<b>Jun 2004</b>	-8,993,665	273,490	-1,604,523	-10,324,698
<b>Jul 2004</b>	-9,914,280	47,575	-1,703,443	-11,570,148
<b>Aug 2004</b>	-10,732,008	74,871	-1,788,203	-12,445,340
<b>Sep 2004</b>	-11,448,752	-7,598	-1,858,208	-13,314,558
<b>Oct 2004</b>	-12,119,918	-87,657	-1,912,840	-14,120,415
<b>Nov 2004</b>	-12,886,464	-103,597	-1,951,458	-14,941,519
<b>Dec 2004</b>	-13,189,647	-156,622	-1,973,396	-15,319,665

The accumulated deficit reaches US\$ 431.5 by December 2004, and monthly results remain negative during the whole period.

**E. Higher efficiency EDESUR**

<b>Exchange rate</b>	RD\$ 35.5/US\$.
<b>Tariffs</b>	3% rise per month
<b>Energy cost</b>	77 US\$/Mwh
<b>Demand Growth</b>	3% per year (at the generation level).
<b>Losses</b>	EDESUR: 26.8% Nov-Dec 2003; 23% Jan-Dec 2004. EDENORTE: 41.5% Nov-May 2003; steady reduction to 33.1% Dec 2004
<b>Collections</b>	EDESUR: 78.3% Nov-May 2003; steady rise to 85% Dec 2004. EDENORTE: 75.7% Nov-May 2003; steady rise to 80% to dec 2004
<b>Personnel cost</b>	10% reduction (with respect to UF management)

**Table E.1**  
**SURPLUS (DEFICIT) OF THE EDES**  
**(Th. of RD\$)**

	<b>MONTH</b>	<b>ACCUMMULATED</b>
Oct 2003	-916,282	-629,972
Nov 2003	-828,974	-1,458,946
Dec 2003	-544,821	-2,003,767
Jan 2004	-636,724	-2,640,491
Feb 2004	-584,977	-3,225,468
Mar 2004	-560,467	-3,785,335
Apr 2004	-513,759	-4,299,694
May 2004	-471,507	-4,771,201
Jun 2004	-481,109	-5,252,310
Jul 2004	-339,030	-5,591,339
Aug 2004	-262,892	-5,854,232
Sept 2004	-99,059	-6,053,291
Oct 2004	-91,105	-6,144,396
Nov 2004	-23,664	-6,168,059
Dec 2004	81,317	-6,086,743

The accumulated deficit reaches US\$ 171.4 by December 2004, and monthly results remain negative during the whole period.

**Table E.2**  
**SURPLUS (DEFICIT) POWER SECTOR**  
**(Thousands \$RD)**

	<b>EDES</b>	<b>CDEEE</b>	<b>C.F E.ESTE</b>	<b>TOTAL</b>
<b>Oct 2003</b>	-629,972	-291,027	-544,104	-1,465,103
<b>Nov 2003</b>	-1,458,946	-153,125	-633,099	-2,245,170
<b>Dec 2003</b>	-2,003,767	-17,191	-792,074	-2,813,032
<b>Jan 2004</b>	-2,640,491	25,631	-940,658	-3,555,518
<b>Feb 2004</b>	-3,225,468	122,080	-1,078,391	-4,181,779
<b>Mar 2004</b>	-3,785,335	70,395	-1,228,429	-4,943,369
<b>Apr 2004</b>	-4,299,694	258,235	-1,366,475	-5,407,934
<b>May 2004</b>	-4,771,201	534,110	-1,492,017	-5,729,108
<b>Jun 2004</b>	-5,252,310	273,490	-1,604,523	-6,583,343
<b>Jul 2004</b>	-5,591,339	47,575	-1,703,443	-7,247,207
<b>Aug 2004</b>	-5,854,232	74,871	-1,788,203	-7,567,564
<b>Sep 2004</b>	-6,053,291	-7,598	-1,858,208	-7,919,097
<b>Oct 2004</b>	-6,144,396	-87,657	-1,912,840	-8,144,893
<b>Nov 2004</b>	-6,168,059	-103,597	-1,951,458	-8,223,114
<b>Dec 2004</b>	-6,086,743	-156,622	-1,973,396	-8,216,761

The accumulated deficit reaches US\$ 231.4 by December 2004, and monthly results remain negative during the whole period.

**F. Higher efficiency Edesur & Edenorte**

<b>Exchange rate</b>	RD\$ 35.5/US\$.
<b>Tariffs</b>	3% rise per month
<b>Energy cost</b>	77 US\$/Mwh
<b>Demand Growth</b>	3% per year (at the generation level).
<b>Losses</b>	EDESUR: 26.8% Nov-Dec 2003; 23% Jan-Dec 2004. EDENORTE: 41.5% Nov-Dec 2003; 33.1% Jan-Dec 2004
<b>Collections</b>	EDESUR: 78.3% Nov-Dec 2003; 85% Jan-Dec 2004. EDENORTE: 75.7% Nov-Dec 2003; 80% Jan-Dec 2004
<b>Personnel cost</b>	10% reduction (with respect to UF management)

**Table F.1**  
**SURPLUS (DEFICIT) OF THE EDES**  
**(Th. of RD\$)**

	<b>MONTH</b>	<b>ACCUMMULATED</b>
Oct 2003	-916,282	-629,972
Nov 2003	-828,974	-1,458,946
Dec 2003	-544,821	-2,003,767
Jan 2004	-529,351	-2,533,118
Feb 2004	-482,924	-3,016,041
Mar 2004	-445,835	-3,461,877
Apr 2004	-398,467	-3,860,344
May 2004	-345,152	-4,205,496
Jun 2004	-374,552	-4,580,048
Jul 2004	-244,089	-4,824,138
Aug 2004	-183,184	-5,007,321
Sept 2004	-139,519	-5,146,840
Oct 2004	-46,207	-5,193,047
Nov 2004	-1,388	-5,194,435
Dec 2004	81,317	-5,113,118

The accumulated deficit reaches US\$ 144.0 million by December 2004, and monthly results remain negative until November 2004.

**Table F.2**  
**SURPLUS (DEFICIT) POWER SECTOR**  
**(Thousands \$RD)**

	<b>EDES</b>	<b>CDEEE</b>	<b>C.F E.ESTE</b>	<b>TOTAL</b>
<b>Oct 2003</b>	-629,972	-291,027	-544,104	-1,465,103
<b>Nov 2003</b>	-1,458,946	-153,125	-633,099	-2,245,170
<b>Dec 2003</b>	-2,003,767	-17,191	-792,074	-2,813,032
<b>Jan 2004</b>	-2,533,118	25,631	-940,658	-3,448,145
<b>Feb 2004</b>	-3,016,041	122,080	-1,078,391	-3,972,352
<b>Mar 2004</b>	-3,461,877	70,395	-1,228,429	-4,619,911
<b>Apr 2004</b>	-3,860,344	258,235	-1,366,475	-4,968,584
<b>May 2004</b>	-4,205,496	534,110	-1,492,017	-5,163,403
<b>Jun 2004</b>	-4,580,048	273,490	-1,604,523	-5,911,081
<b>Jul 2004</b>	-4,824,138	47,575	-1,703,443	-6,480,006
<b>Aug 2004</b>	-5,146,840	74,871	-1,788,203	-6,720,653
<b>Sep 2004</b>	-5,193,047	-7,598	-1,858,208	-7,012,646
<b>Oct 2004</b>	-5,194,435	-87,657	-1,912,840	-7,193,544
<b>Nov 2004</b>	-5,194,435	-103,597	-1,951,458	-7,249,490
<b>Dec 2004</b>	-5,113,118	-156,622	-1,973,396	-7,243,136

The accumulated deficit reaches US\$ 204.0 million by December 2004, and monthly results remain negative during the whole period.

**G. Exchange Rate Sensitivity**

<b>Exchange rate</b>	RD\$ 38.0/US\$ Nov-Dec 2003; 20% rise 2004 (1,53% per month)
<b>Tariffs</b>	3% rise per month
<b>Energy cost</b>	77 US\$/Mwh
<b>Demand Growth</b>	3% per year (at the generation level).
<b>Losses</b>	EDESUR: 26.8% Nov-May 2003; steady reduction to 23% Dec-2004. EDENORTE: 41.5% Nov-May 2003; steady reduction to 33.1% Dec 2004.
<b>Collections</b>	EDESUR: 78.3% Nov-May2003; steady rise to 85% Dec 2004. EDENORTE: 75.7% Nov-May 2003; steady rise to 80% to Dec
<b>Personnel cost</b>	10% reduction (with respect to UF management)

**Table G.1**  
**SURPLUS (DEFICIT) OF THE EDES**  
**(Th. of RD\$)**

	<b>MONTH</b>	<b>ACCUMMULATED</b>
Oct 2003	-916,282	-629,972
Nov 2003	-991,074	-1,621,047
Dec 2003	-768,852	-2,389,899
Jan 2004	-1,081,677	-3,471,576
Feb 2004	-1,068,157	-4,539,733
Mar 2004	-1,127,976	-5,667,710
Apr 2004	-1,113,654	-6,781,363
May 2004	-1,158,698	-7,940,061
Jun 2004	-1,165,840	-9,105,901
Jul 2004	-1,078,018	-10,183,919
Aug 2004	-1,044,989	-11,228,908
Sept 2004	-981,277	-12,210,185
Oct 2004	-996,097	-13,206,282
Nov 2004	-926,810	-14,133,092
Dec 2004	-895,195	-15,028,287

The accumulated deficit reaches US\$ 356.1million by December 2004, and monthly results remain negative during the whole period.

**Table G.2**  
**SURPLUS (DEFICIT) POWER SECTOR**  
**(Thousands \$RD)**

	<b>EDES</b>	<b>CDEEE</b>	<b>C.F E.ESTE</b>	<b>TOTAL</b>
<b>Oct 2003</b>	-629,972	-291,027	-544,104	-1,465,103
<b>Nov 2003</b>	-1,621,047	-153,125	-633,099	-2,407,271
<b>Dec 2003</b>	-2,389,899	-17,191	-792,074	-3,199,164
<b>Jan 2004</b>	-3,471,576	25,631	-940,658	-4,386,603
<b>Feb 2004</b>	-4,539,733	122,080	-1,078,391	-5,496,044
<b>Mar 2004</b>	-5,667,710	70,395	-1,228,429	-6,825,744
<b>Apr 2004</b>	-6,781,363	258,235	-1,366,475	-7,889,603
<b>May 2004</b>	-7,940,061	534,110	-1,492,017	-8,897,968
<b>Jun 2004</b>	-9,105,901	273,490	-1,604,523	-10,436,934
<b>Jul 2004</b>	-10,183,919	47,575	-1,703,443	-11,839,787
<b>Aug 2004</b>	-11,228,908	74,871	-1,788,203	-12,942,240
<b>Sep 2004</b>	-12,210,185	-7,598	-1,858,208	-14,075,991
<b>Oct 2004</b>	-13,206,282	-87,657	-1,912,840	-15,206,779
<b>Nov 2004</b>	-14,133,092	-103,597	-1,951,458	-16,188,147
<b>Dec 2004</b>	-15,028,287	-156,622	-1,973,396	-17,158,305

The accumulated deficit reaches US\$ 406.6 by December 2004, and monthly results remain negative during the whole period.