

# District Energy System

DES Revenue Bonds, 2002A \$66,700,000

15c2-12 Continuing Disclosure Update

Please refer to [www.Nashville.gov](http://www.Nashville.gov) for further information regarding the District Energy System (DES) and an online copy of the Official Statement at:  
[www.nashville.gov/finance/investor\\_relations.htm](http://www.nashville.gov/finance/investor_relations.htm)

## THE SYSTEM AND ITS OPERATIONS

### Overview

The existing District Energy System, a district heating and cooling system that provides steam and chilled water to the downtown metropolitan Nashville area for the purpose of general heating and air conditioning, is located on approximately ten acres in downtown Nashville. The Metropolitan Government is the owner of the System and the site on which the Existing Facility is located and the owner of the site where the New Energy Generating Facility will be located. A portion of the Energy Distribution System is currently owned by the State and will be transferred to the Metropolitan Government prior to completion of the New Energy Generating Facility.

Upon completion of the Project, primary components of the System will include (i) the steam production subsystem consisting of four 65,000 PPH forced draft, pressurized, dual-fuel boilers and a duplex soft water system; (ii) the chilled water subsystem comprised of nine 2,600-ton electrical drive chillers, 18 single-cell, induced draft cooling towers and 6 chilled water and 5 condenser water pump/motor sets; (iii) a 69/13/8 KV supply substation and two 69/13.8 KV transformers; and (iv) 14,000 linear feet of underground energy distribution piping.

### Production and Sale of Energy

#### *Sale of Energy Generated by the System*

Historical Capacity and Sales. Under existing contracts with NTTC which have been assigned to the Metropolitan Government, the Existing Facility provides steam and chilled water services to a total of 38 buildings in downtown Nashville, consisting of 16 privately owned buildings, 14 State owned buildings and 8 Metro-owned buildings. Historically, the private customers, the State and the Metropolitan Government have accounted for approximately 28%, 54% and 18%, respectively, of the total steam sales and 33%, 44% and 23%, respectively, of the total chilled water sales. Below is a five-year historical summary of total steam and chilled water sales for the Existing Facility:

#### **Historical Sales - Fiscal Years Ended June 30**

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Steam Sales (1,000 lbs)	319,880	301,700	301,329	340,072	324,835
Chilled Water Sales (1,000 ton hours)	50,785	55,018	57,236	55,155	52,829

For a more complete discussion of historical sales at the Existing Facility, see *Appendix C - "Project Feasibility Report."*

New System Capacity and Sales: The New Energy Generating Facility has been designed to produce a total installed capacity of 260,000 PPH of 150 PSIG saturated steam and 23,400 tons per hour of 42 degree Fahrenheit chilled water. Assuming one boiler and one chiller off-line and a 70.0% diversity for steam and chilled water services, the Metropolitan Government has estimated total available sales capacity at 250,714 PPH for steam and 29,714 tons for chilled water. For a discussion of the diversity factor, see Section 2.9.5 of the Project Feasibility Report attached hereto as *Appendix C*.

The following table sets forth the total capacities of steam and chilled water contracted for by the Customers pursuant to the Customer Contracts:

<u>Customer Commitments</u>	<u>Committed Capacity</u>		<u>Percentage of Total Available Capacity</u>	
	<u>Steam (PPH)</u>	<u>Chilled Water (tons)</u>	<u>Steam (PPH)</u>	<u>Chilled Water (tons)</u>
<b>Commercial Customers</b>				
Parkway Towers	4,500	550	1.79%	1.85%
Union Planters	1,995	300	.80	1.01
Sheraton Hotel	12,660	950	5.05	3.20
South Trust Bank	2,000	233	.80	.78
Hermitage Hotel	7,000	400	2.79	1.35
501 Building	2,500	175	1.00	.59
Sun Trust Financial Center	0	1,043	.00	3.51
Renaissance Hotel	17,287	1,000	6.90	3.37
Renaissance Offices	0	300	.00	1.01
Nashville City Center	0	1,000	.00	3.37
Saint Mary's Church	317	26	.13	.09
Ryman Auditorium	954	180	.38	.61
Wildhorse Saloon	1,600	193	.64	.65
<b>Total Commercial</b>	<b>50,813</b>	<b>6,350</b>	<b>20.27%</b>	<b>21.37%</b>
<b>State of Tennessee</b>				
Andrew Jackson	65,808	1,425	26.25%	4.80%
James K. Polk	14,560	1,309	5.81	4.41
John Sevier <sup>(1)</sup>	(1)	404	-	1.36
Cordell Hull <sup>(1)</sup>	(1)	498	-	1.68
Library and Archives <sup>(1)</sup>	(1)	156	-	.53
State Capitol <sup>(1)</sup>	(1)	222	-	.75
Supreme Court <sup>(1)</sup>	(1)	78	-	.26
War Memorial <sup>(1)</sup>	(1)	704	-	2.37
Tennessee State University <sup>(1)</sup>	(1)	0	-	.00
Legislative Plaza <sup>(2)</sup>	(1)	(2)	-	-
Central Services <sup>(1)</sup>	(1)	(3)	-	-
Rachel Jackson	7,350	788	-	-
Citizen's Plaza	12,165	1,760	2.93	2.65
Tennessee Tower	12,165	1,760	4.85	5.92
<b>Total State</b>	<b>99,883</b>	<b>7,344</b>	<b>39.84%</b>	<b>24.72%</b>
<b>Metropolitan Government</b>				
Metropolitan Courthouse	7,000	350	2.79%	1.18%
Criminal Justice Center	13,800	800	5.50	2.69
Ben West	13,800	1,050	5.50	3.53
Municipal Auditorium	4,096	500	1.63	1.68
Convention Center	18,750	1,400	7.48	4.71
Gaylord Entertainment Center	15,269	2,500	6.09	8.41
Coliseum	0	2,000	.00	6.73
<b>Total Metro</b>	<b>72,715</b>	<b>8,600</b>	<b>29.00%</b>	<b>28.94%</b>
<b>Additional Customer Contracts</b>				
Hume Fogg Academic School (Metro-owned)	3,000	300	1.20%	1.01%
<b>Total Additional</b>	<b>3,000</b>	<b>300</b>	<b>1.20%</b>	<b>1.01%</b>
<b>TOTAL COMMITMENTS</b>	<b>226,411</b>	<b>22,594</b>	<b>90.31%</b>	<b>76.04%</b>
<b>Capacity Available For Sale</b>	<b>24,303</b>	<b>7,120</b>	<b>9.69%</b>	<b>23.96%</b>
<b>Holdover Customer Contracts</b>				
Sun Trust Bank	8,011	765	3.20	2.57
<b>Total Holdover</b>	<b>8,011</b>	<b>765</b>	<b>3.20%</b>	<b>2.57%</b>

(1) Included as part of Andrew Jackson building capacity.

(2) Included as part of War Memorial building capacity.

(3) Included as part of John Sevier building capacity.

The Customer Contracts. As of the date hereof, the Initial Customer Contracts and the existing Additional Customer Contracts will account for 90.31% of the total available capacity of steam of the New Energy Generating Facility and 76.04% of the total available capacity of chilled water of the New Facility. The Holdover Contract will account for 3.20% and 2.57%, respectively, of steam and chilled water but these percentages will decline over time as the terms of the Holdover Contracts expire. The remaining balances of total available capacity of steam (9.69%) and total available capacity of chilled water (23.96%), including the capacities becoming available under the Holdover Contracts are actively being marketed by the Metropolitan Government to potential Additional Customers. Projected Revenues from the sales of steam and chilled water are set forth below under the caption **“Projected Operating Results; Projected Revenues and Expenses”**.

Under the terms of the Customer Contracts each Customer is required to purchase all of its steam and chilled water requirements from the System up to its respective contract capacity for services at the premises subject to the contract. No Customer is permitted to operate any boilers, chillers or ancillary equipment on its premises in lieu of the services provided under its contract, except for periodic testing, maintenance, emergencies and during a service interruption by the Metropolitan Government. If the Customer determines that its requirements for services exceeds its contract capacity, the Customer may acquire the additional requirements of steam or chilled water service from any other source. The Customer is not obligated to purchase, and the Metropolitan Government is not obligated to provide, services for any expansion of the Customer’s premises. A list of the historical energy demands of the Initial Customers and the Holdover Customers under the NTTC contracts is set forth in the **“Project Feasibility Report”** attached hereto as *Appendix C*. A list of all Customers, their contract capacities for steam and chilled water and the buildings served pursuant to their Customer Contracts is set forth above under the caption **“New System Capacity and Sales”**.

Under the provisions of all Customer Contracts (except Holdover Customer Contracts), the Metropolitan Government is required to use all reasonable efforts to make steam and chilled water services available to the Customers without interruption, but the Metropolitan Government does not guarantee a constant supply of services. If, however, the Metropolitan Government fails to provide such services for three consecutive days or substitute service reasonable to the Customer, the Metropolitan Government will be liable to the Customer for the Customer’s direct costs resulting from such failure and the Metropolitan Government will credit the Customer for the charge for steam or chilled water. Service Interruptions, however, will not constitute a default by the Metropolitan Government if the Metropolitan Government complies with applicable cure provisions.

Energy Fees, Reduced Capacity and Termination. As consideration for the services provided by the Metropolitan Government under the Customer Contracts, each Customer currently does or will pay an Energy Fee computed in accordance with the formula established in the respective Customer Contracts. Charges are calculated based on the Metropolitan Government’s costs of providing services, including (i) the cost of servicing Bonds issued under the General Resolution, (ii) fixed management fees payable by the Metropolitan Government under the Management Contract, (iii) fuel purchase costs, and (iv) the Metropolitan Government’s Incremental Costs. A more detailed discussion of the calculation of the Energy Fees paid by Customers under the different categories of contracts is set forth in *Appendix B-III* to this Official Statement.

Under the terms of the Initial Customer Contracts and the existing Additional Customer Contracts, Customers are permitted to reduce their contract capacity under certain conditions

3 DeltaView comparison of iManageDeskSite://10.1.2.3/HDWCT1/303290/8 and iManageDeskSite://10.1.2.3/HDWCT1/303290/9. Performed on 09/20/02.

defined in the contracts. The Metropolitan Government has agreed that if the State's capacity requirements (which accounts for 39.84% of the total available capacity of steam and 24.72% of the total available capacity of chilled water) at the serviced premises are reduced, the State may either (i) allocate such capacity to other premises owned by the State, or (ii) request the Metropolitan Government to market the excess capacity to other customers, provided the Metropolitan Government may market its own excess capacity first. In either event, the State is obligated to continue paying its Energy Fee, and any revenues generated from the resale of such excess capacity by the Metropolitan Government will be credited toward the State's payment requirement. With respect to the Commercial Customer Contracts and the existing Additional Customer Contracts, however, Customers are permitted to reduce their contract capacity with a corresponding reduction in the Energy Fee payable to the Metropolitan Government if: (i) the Customer materially reduces its actual capacity requirement due to an investment in energy efficiency, (ii) the Customer determines that the contract capacity it has nominated exceeds its needs, and (iii) the Customer ceases operations at the premises for any reason (unless existing premises are demolished and new premises are constructed within two years of such cessation, in which case the new premises would be covered by the contract).

Additionally, all Initial Customers have the right, at their sole option, to terminate their respective Customer Contracts at any time after the fifteenth contract year. With respect to the Initial Customers, however, such termination can only be effected by paying to the Metropolitan Government an amount sufficient to discharge the Customer's pro rata portion of the capital costs of the facilities plus an amount equal to the Customer's pro rata portion of the operating costs of the New Facility for the remainder of the term of the Initial Customer Contract. If the Metropolitan Government re-sells the capacity, the Metropolitan Government is required to reimburse the Initial Customer for amounts paid by such Customer from proceeds of such energy sales. See *Appendix B-III – "Summary of Certain Provisions of the Customer Contracts"*.

To offset potential losses of revenue from reductions in Customer capacity or from termination of Customer Contracts, in addition to reselling the excess capacity, the Metropolitan Government has agreed in the Metropolitan Customer Contract, subject to annual appropriation, to pay the Metro Funding Amount to insure adequate revenues to pay operating expenses and outstanding debt service on Parity Obligations, including the 2002 Series A Bonds. The Metropolitan Government has also covenanted in the General Resolution to pay the Metro Funding Amount, subject to annual appropriation, for as long as any Parity Obligations remain outstanding thereunder or pursuant thereto and to pay any deficiencies in the Debt Service Fund and the Operating Reserve Fund. See "**SECURITY AND SOURCES OF PAYMENT FOR THE 2002 SERIES A BONDS – Metropolitan Government Obligation to Purchase Energy and Pay Deficiencies in Revenues**" herein and *Appendix B-I – "Summary of the General Resolution"*.

#### *New System Capacity and Operating Performance*

The New Energy Generating Facility has been designed to produce 260,000 PPH of 150 PSIG saturated steam and 23,400 tons of 42 degree Fahrenheit chilled water, with expected maximum sales of 250,714 PPH and 29,714 tons of chilled water. Pursuant to the Management Contract, CES has guaranteed continuous performance of the New Facility at the following standards:

Steam Mass Flow Rate and Quality:	At the Facility:	221,000 lb/hr at the main header of the boiler, 150.0 PSIG-saturated, nominal condition.
	At the Delivery Points:	136,000 lb/hr system peak demand, 150.0 PSIG-saturated, nominal condition
Chilled Water:	At the Facility:	43.3 degree F. nominal, in a capacity of 17,680 Tons, measured in accordance with ARI standards at a plant temperature differential of 14.0 degree F.
	At the Delivery Points:	43.3 degree F., in a capacity of 17,503.2 Tons, measured in accordance with ARI standards at a plant temperature differential of 10.0 degree F.

**Guaranteed Maximum Quantities (“Q<sub>g</sub>”):**

	<b>For Steam Service</b>	<b>For Chilled Water Service</b>
Electricity	6.0 kwh/k-lb sold	1.055 kwh/ton-hr
Natural Gas	Note 1 decatherm/ k-lb sold	N/A decatherm/ton-hr
Propane	Note 2 decatherm/k-lb sold	N/A gal/ton-hr
Water	Note 3 gal/k-lb sold	5.25 gal/ton-hr (Note 4)

Notes:

1. 70% efficiency (HHV Basis), steam out at 150 PSIG, saturated, to fuel in with 60% condensate return at 180 deg-F minimum.
2. 70% efficiency (HHV Basis), steam out at 150 PSIG, saturated, to fuel in with 60% condensate return at 180 deg-F minimum.
3. (100% EGF steam output in lbs. less the percentage condensate return in lbs. to the EGF) x 1.15.
4. Condenser water only; chilled water excluded.

Environmental: The New Energy Generating Facility will comply with all environmental standards and applicable law.

**Projected Operating Results; Projected Revenues and Expenses**

Gershman, Brickner & Bratton, Inc. (“GBB”) has prepared the Project Feasibility Report with respect to certain aspects of the System which is attached hereto as *Appendix C*. The Project Feasibility Report contains projections of operating results of the System based on data from sources considered by GBB to be reliable and on assumptions made by GBB concerning future events and circumstances which GBB believes are significant to the projections. The achievement of any actual results may be affected by fluctuating economic conditions and depends upon the occurrence of other future events that cannot be assured. Therefore, the actual results achieved may vary from the forecasts, and such variations could be material.

The following table sets forth certain base case financial projections developed by GBB in connection with the issuance of the 2002 Series A Bonds for the first 5 years of operation of the New Facility. The base case projections assume sales based on Customer Contracts existing as of the date hereof and not on sales of any remaining available capacity. For a discussion of

5 DeltaView comparison of iManageDeskSite://10.1.2.3/HDWCT1/303290/8 and iManageDeskSite://10.1.2.3/HDWCT1/303290/9. Performed on 09/20/02.

forecasted revenue, assumptions, expenses and cash flow and a more detailed exposition of projected operating results, see *Appendix C – “Project Feasibility Report.”*

**Forecast of Revenues and Expenses**  
**Fiscal Years Ended June 30**

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Total Operating Revenues <sup>(1)</sup>	\$13,838,395	\$15,268,872	\$15,634,893	\$16,028,585	\$16,413,098
Total Operating Expenses	\$10,653,701	\$10,989,678	\$11,342,058	\$11,736,850	\$12,121,050
Net Revenues	\$ 3,184,694	\$ 4,279,194	\$ 4,292,835	\$ 4,291,735	\$ 4,292,048
Total Debt Service <sup>(2)</sup>	\$ 3,184,694	\$ 4,279,194	\$ 4,292,835	\$ 4,291,735	\$ 4,292,048
Net Revenue Available	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

Notes:

1. Total Operating Revenues include the Metro Funding Amount which, assuming sales based on contracts executed as of the date hereof and not any sales of remaining available capacity, is projected to be \$1,031,985, \$1,673,166, \$1,708,223, \$1,735,841, and \$1,765,096, respectively, for fiscal years ended 2005 through 2009.
2. Debt service amounts have been pro-rated on a 12-month Fiscal Year basis and are net of any interest earnings and capitalized interest payments.

Based on the experience of GBB and the information made available to it and subject to the reliances and assumptions in the Project Feasibility Report (which GBB believes to be reliable), GBB is of the opinion that the revenues to be derived from operation of the System are projected to be adequate to pay all operating expenses and provide a minimum debt service coverage on the 2002 Series A Bonds of at least 1.00 over the term of the debt. See *Appendix C – “Project Feasibility Report.”*

No representation is made by the Metropolitan Government or the Underwriters as to the accuracy, completeness or adequacy of the information set forth above or in the Project Feasibility Report.