The United Illuminating Company
157 Church Street
P.O. Box 1564
New Haven, CT 06506-0901
203.499.2000

March 11, 2005

Mr. S. Derek Phelps
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: The United Illuminating Company's Load Forecast and Transmission Plan

Dear Mr. Phelps:

The United Illuminating Company (UI) hereby submits an original and twenty (20) copies of an Update of its Load Forecast and Transmission Planning in order to assist the Connecticut Siting Council in its Hearings pursuant to Section 16-50r of the General Statutes of Connecticut.

Respectfully submitted,

THE UNITED ILLUMINATING COMPANY

by Michael A. Coretto (dc)
Michael A. Coretto.
Director – Regulatory Strategy &
Retail Access

MAC

Report to the

Connecticut Siting Council

March 11, 2005

The United Illuminating Company

157 Church Street

New Haven, CT 06506

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Table of Contents

Section I. Load Forecast Update

This year, as in previous years, The United Illuminating Company ("UI" or "Company") includes its load forecast and one sensitivity forecast which, when taken together, represent a range of possible futures. The ultimate sales and peak load experienced by UI are heavily impacted by weather. The hotter-than-normal summers of 2001 and 2002, and to a lesser extent 2003, have demonstrated that the potential for extremely high peak loads exists within the Company's service territory. While the summer of 2003 was not as consistently hot as the summer of 2002, there were short, severe weather periods which made the summer of 2003 warmer than average. In contrast, 2004 was an average weather year, as evidenced by the cumulative weather adjustment to sales being essentially zero. In order to capture the range of potential peak loads and provide sufficient input into the infrastructure planning process, the Company has developed a load forecast that assumes average/normal weather and a load forecast that assumes extreme weather.

The forecast shown on Exhibit 1 is based on "average" or "normal" weather. The base for this forecast is historical weather-corrected sales. The predominant factors driving this forecast are background (base) economic growth projections along with the currently estimated impacts of the Company's conservation and load management (CLM) activities, known consumption changes in the future for our large actively-managed commercial and industrial customers and incremental sales efforts. The peak load in this forecast is calculated based on the Company's system requirements (i.e. sales plus

Company use plus losses, in GWh) and the average system load factor experienced over the past ten years.

As the past four summers have shown, however, the potential for a peak load far above a "normal" or "average" weather forecast is a realistic possibility. In an effort to bound this potential future, the Company has developed a sensitivity load forecast. This forecast uses actual 2002 results (both system sales and load factor) as a base for the impact that extreme weather may have. The background economic assumptions, as well as CLM impacts, large account changes and incremental sales activities, are assumed to be the same as in the "average" or "normal" weather forecast. The load forecast assuming extreme weather is shown on Exhibit 2.

No one is able to predict when extreme weather will occur. Three of the last four summers have been warmer than average, with the summer of 2002 being one of the hottest on record. On the other extreme, the summer of 2000 was one of the coolest. Prudent infrastructure planning requires that the possibility of abnormally hot weather within the forecast time period be recognized and plans be formulated to meet this possible demand. The bounds of the Company's forecasts are intended to provide a plausible range of futures. No single forecast will be applicable throughout the forecast period. Rather, extreme weather will occur one year, maybe not the next and then perhaps occur the third or fourth year. In fact, on a sales basis, the years 2001 through 2003 were above "average", i.e. actual sales were above the weather corrected sales, while 2004 was near "average", with the actual sales being almost identical to the weather corrected sales level. When extreme weather occurs, regardless of the timing, the system infrastructure must be in place to safely and reliably serve the high load. Graphs of the system forecast and the sensitivity to extreme weather are shown in Exhibit 3 (system sales in GWh) and Exhibit 4 (peak load).

Conservation & Load Management

UI has delivered cost effective CLM programs to its customers for more than a decade. With the onset of electric industry restructuring, the Company has worked with the members of the Energy Conservation Management Board (ECMB) to utilize the conservation charge on customers' bills, which was required by Public Act 98-28, to develop and implement programs to reduce customers' electricity usage. As a result of the efforts of UI, the ECMB and the DPUC, customers in the UI service territory will have saved a cumulative a total of over 300 million kWhs since the implementation of the Restructuring Act in 2000.

The CLM programs at UI continue to deliver value to our customers. However, the actions of the General Assembly to balance the State's budget deficit have had a negative impact on the operation of the CLM programs. Although the legislature allowed for continued operation of the CLM programs through a bonding mechanism, the net impact has been a nearly one-third reduction in available funding for CLM programs. Despite the best efforts of all of those involved, the reduction of program funds has resulted in a corresponding loss of energy savings.

The overall impact of the CLM programs is dependent on the available program funds. The CLM program savings estimates included in the Company's forecast assume that the current level of funding remains in place through the forecast period. The savings assumptions become invalid in the event of additional losses of funding. The program savings can be resumed in the future with resumed funding, but the cumulative benefits that accrue over time are lost.

Section II. Transmission Planning

The combination of increased energy consumption and the development of the competitive wholesale generation marketplace has impacted transmission system utilization. The UI projects included in this filing are a result of load growth and infrastructure limitations. These projects will enable the Company to fulfill its obligation to provide reliable service to its customers and to meet the design standards mandated by independent national and regional authorities responsible for the reliability of the transmission system, namely, the North American Electric Reliability Council (NERC), the Northeast Power Coordinating Council (NPCC), the Independent System Operator – New England (ISO-NE), and the New England Power Pool (NEPOOL).

The on-going restructuring efforts in the electric industry at the state and federal levels have brought about numerous significant changes. Notable among these is the move towards open access to competing generation resources. This has resulted in changes in generating patterns due to competitive pricing and the siting and operation of new merchant generating facilities. This has now become an additional impetus for transmission infrastructure upgrades. Prior to this, changes to the transmission system had been undertaken to (1) accommodate area load growth, and (2) maintain system reliability and voltage, and/or upgrade aging facilities. Generation-related transmission upgrades had been limited to the addition or retirement of planned, specific generating units. Now, transmission upgrades assist in the development of the competitive wholesale generation marketplace and also help reduce the economic penalties paid by Connecticut's customers as a result of limitations on the ability to import lower cost generation.

UI's planned transmission system modifications are listed in Exhibit 5. Descriptions of the planned projects are outlined below

The Southwest Connecticut (SWCT) Electric Reliability Project involves (1) expanding the 345 kV transmission system into SWCT and (2) upgrading the existing 115 kV system. The proposed 345 kV expansion is being addressed by two related projects.

Northeast Utilities (NU) has designed an expansion of the 345 kV transmission system from Bethel to Norwalk. The application for this project has received final approval from the Siting Council. The extension of the 345 kV system into Norwalk by this project will cause an increase in the available fault current at UI's Pequonnock 115 kV Substation (Bridgeport) in excess of equipment rating. Presently, the available fault current at the Pequonnock 115 kV substation is at 99.9% of the 115 kV circuit breaker interrupter capability. Upon completion of NU's Bethel to Norwalk 345 kV project, the available fault current at Pequonnock would increase to 101.1% of the 115 kV circuit breaker capability. In order to rectify this fault duty level limitation problem, the Pequonnock 115 kV Circuit Breaker Uprating Project was developed. This project, which involves ABB and UI replacing the interrupters and mechanisms of the fifteen 115 kV Pequonnock gas circuit breakers, is expected to be completed during the summer of 2005. The increase in fault current interrupting capability of the Pequonnock 115 kV breakers from 63 kA to 65 kA would reduce the available fault current to interrupting capability ratio at Pequonnock to 98%.

UI and The Connecticut Light and Power Company (CL&P) have developed a plan to address the concerns expressed at the state, regional and federal levels, regarding the need to upgrade Southwest Connecticut's electric infrastructure. On October 9, 2003, UI and CL&P submitted a joint application with the Connecticut Siting Council (CSC) with respect to the Middletown to Norwalk Project, which will complete the 345 kV transmission loop in Southwest Connecticut. As outlined in the UI/CL&P 2003 Middletown to Norwalk filing, some of the factors contributing to the need for the system improvements include:

- Limited transmission capability to reliably serve increasing loads, which manifests itself in thermal, voltage, short circuit and/or stability problems on the transmission network.

- Transmission constraints impeding implementation of a competitive generation marketplace, resulting in exposure to congestion costs and the inability to interconnect additional generation in Southwest Connecticut.
- Uncertainty surrounding the long-term viability of generation currently operating in southwest Connecticut.

The Middletown to Norwalk Project involves expanding the 345 kV transmission system from Middletown to Norwalk and rebuilding and modifying portions of the 115 kV system. This expands the 345 kV backbone from Beseck Junction (Wallingford) to East Devon (Milford); East Devon to Singer (a new substation to be built in Bridgeport); and Singer to Norwalk. The proposal also includes a new 345 kV switching station at Beseck Junction and new 345/115 kV substations at East Devon and Singer, as well as modifications to the Scovill Rock Switching Station and the Norwalk, Pequonnock and Elmwest substations. The proposed new Singer Substation will be located in the vicinity of UI's existing Pequonnock 115 kV Substation (Bridgeport). It is expected that a sixteen-breaker gas insulated substation (GIS) will be constructed in a breaker-and-one-half configuration. This transmission arrangement will allow for 345 kV line terminations from the East Devon and Norwalk 345 kV substations. Additionally, two 600 MVA 345/115 kV autotransformer banks will be installed at Singer Substation. These autotransformers are intended to interconnect the Pequonnock 115 kV Substation and the Bridgeport Energy facility to the 345 kV system. The design will ensure that a single malfunctioning 345 kV circuit breaker will not interrupt both transmission paths from East Devon and Norwalk, or both 345 kV autotransformers simultaneously. Once completed, these projects will establish a 345 kV transmission loop into SWCT, thereby improving customer reliability and reducing transmission congestion costs. It will also provide an infrastructure capable of allowing greater access to more of New England's competitively priced generation. When compared to the scenario where the transmission system is not expanded, these expansion projects should result in lower energy costs to all of Connecticut's consumers as well as the continued reliable operation of the electric system.

UI has other transmission infrastructure upgrades under internal review.

The Shelton, Trumbull, Easton, and Fairfield areas are experiencing significant load growth. The Trumbull Junction Project, a new 115/13.8 kV substation, is scheduled for operation in 2007. UI anticipates making a filing with the Siting Council for this project during the fall of 2005.

In an effort to maintain local area voltage regulation at the Milvon and Ansonia substations, UI intends to replace the existing fixed tap transformers at these locations with load-tap-changing (LTC) transformers in 2005 and 2006, respectively. The increased size of the replacement transformers at Milvon requires their relocation within the substation perimeter. As a result of this, UI anticipates making a filing with the Siting Council for this project during the second quarter of 2005.

Load growth has also warranted the further study of a new 115/13.8 kV substation in western Fairfield. Anticipated completion would be 2010 or later.

A new supply substation is planned for construction at Union Avenue in New Haven for the MTA Metro-North Railroad. UI will own and operate the 115 kV transmission portion of this substation, while Metro-North will own and operate the 27.6 kV distribution portion. The expected in-service date is 2006. UI anticipates that a filing for its portion of the project will be submitted to the Siting Council in 2005.

Regarding the August 14, 2003 blackout, no UI system upgrades have been identified at this time. However, the investigations are continuing and there may be requirements for additional system modifications in order to comply with final recommendations made by national and regional investigating bodies.

UI is unaware of any instances where a UI transmission line exceeded its long-term or short-term rating during abnormal system conditions. UI and NU in conjunction with CONVEX (the Connecticut Valley Electric Exchange), ISO-NE (the Independent System Operator for New England), and NEPOOL (New England Power Pool), periodically review the performance of the transmission system as part of a coordinated effort to provide adequate and reliable transmission capacity at a reasonable cost.

Please note that Exhibit 5 to this Report includes only those planned transmission projects that UI is responsible to undertake. It does not include any third-party plans to undertake transmission system modifications in UI's service territory. UI believes that it is the responsibility of such third parties to provide the Siting Council with a report of their plans as appropriate. Any such proposed modifications would also require notification and coordination with UI so that UI can assess the impacts on the entire UI transmission system and ensure the system's continued reliability.

EXHIBIT 1

The United Illuminating Company

System Energy Requirements, Annual Sales, and Peak Load

Normal Weather , Peak forecast based on 10-yr historical average load factor

	Year Actual	Total Sys. Req'ts (GWH)	Annual Change (Pct.)		System Peak (MW)	Annual Change		Actual Sales (GWH)	Annual Change (Pct.)		Weather Adjusted Sales (GWH)	Annual Change (Pct.)		Load Factor (Pct.)
History	1994	5,652	3.2%		1,131	8.4%		5,363	4.0%		5,315	1.8%		57%
	1995	5,648	-0.1%		1,157	2.3%		5,339	-0.4%		5,290	-0.5%		56%
	1996	5,641	-0.1%		1,045	-9.7%		5,340	0.0%		5,359	1.3%		61%
	1997	5,631	-0.2%		1,173	12.3%		5,376	0.7%		5,421	1.2%		55%
	1998	5,728	1.7%		1,143	-2.6%		5,452	1.4%		5,485	1.2%		57%
	1999	5,943	3.8%		1,273	11.4%		5,652	3.7%		5,625	2.6%		53%
	2000	5,977	0.6%		1,153	-9.4%		5,654	0.0%		5,708	1.5%		59%
	2001	6,010	0.6%		1,318	14.3%		5,724	1.2%		5,689	-0.3%		52%
	2002	6,051	0.7%		1,300	-1.4%		5,781	1.0%		5,684	-0.1%		53%
	2003	6,071	0.3%		1,274	-2.0%		5,772	-0.2%		5,734	0.9%		54%
	2004	6,205	2.2%		1,201	-5.8%		5,952	3.1%		5,952	3.8%		59%
		1994 - 2004 growth		9.8%			6.2%			11.0%			12.0%	
Forecast	2005	6,297	1.5%		1,284	6.9%					5,991	0.7%		55.99%
	2006	6,361	1.0%		1,297	1.0%					6,052	1.0%		56%
	2007	6,400	0.6%		1,305	0.6%					6,089	0.6%		56%
	2008	6,455	0.9%		1,313	0.6%					6,142	0.9%		56%
	2009	6,477	0.3%		1,321	0.6%					6,163	0.3%		56%
	2010	6,517	0.6%		1,329	0.6%					6,201	0.6%		56%
	2011	6,557	0.6%		1,337	0.6%					6,239	0.6%		56%
	2012	6,614	0.9%		1,345	0.6%					6,293	0.9%		56%
	2013	6,638	0.4%		1,353	0.6%					6,316	0.4%		56%
	2014	6,679	0.6%		1,362	0.6%					6,355	0.6%		56%
		2004 - 2014 growth		7.6%			13.4%						6.8%	
	2015	6,719	0.6%		1,370	0.6%					6,393	0.6%		56%
	2016	6,777	0.9%		1,379	0.6%					6,448	0.9%		56%
	2017	6,802	0.4%		1,387	0.6%					6,472	0.4%		56%
	2018	6,843	0.6%		1,395	0.6%					6,511	0.6%		56%
	2019	6,885	0.6%		1,404	0.6%					6,551	0.6%		56%
	2020	6,944	0.9%		1,412	0.6%					6,607	0.9%		56%
	2021	6,969	0.4%		1,421	0.6%					6,631	0.4%		56%
	2022	7,012	0.6%		1,430	0.6%					6,671	0.6%		56%
	2023	7,054	0.6%		1,438	0.6%					6,712	0.6%		56%
	2024	7,114	0.8%		1,447	0.6%					6,769	0.8%		56%
		2014 - 2024 growth		6.5%			6.3%						6.5%	

EXHIBIT 2

The United Illuminating Company

System Energy Requirements, Annual Sales, and Peak Load

"Extreme Weather", Peak forecast based on 2002 as proxy for extreme weather

	Year Actual	Total System Requirement GWHs	Annual Change (Pct.)	System Peak MWs	Annual Change	Actual Sales GWHs	Annual Change (Pct.)	Weather Adjusted Sales GWHs	Annual Change (Pct.)	Load Factor (pct.)
History	1994	5,652	3.2%	1,131	8.4%	5,363	4.0%	5,315	1.8%	57%
	1995	5,648	-0.1%	1,157	2.3%	5,339	-0.4%	5,290	-0.5%	56%
	1996	5,641	-0.1%	1,045	-9.7%	5,340	0.0%	5,359	1.3%	62%
	1997	5,631	-0.2%	1,173	12.3%	5,376	0.7%	5,421	1.2%	55%
	1998	5,728	1.7%	1,143	-2.6%	5,452	1.4%	5,485	1.2%	57%
	1999	5,943	3.8%	1,273	11.4%	5,652	3.7%	5,625	2.6%	53%
	2000	5,977	0.6%	1,153	-9.4%	5,654	0.0%	5,708	1.5%	59%
	2001	6,010	0.6%	1,318	14.3%	5,724	1.2%	5,689	-0.3%	52%
	2002	6,051	0.7%	1,300	-1.4%	5,781	1.0%	5,684	-0.1%	53%
	2003	6,071	0.3%	1,274	-2.0%	5,772	-0.2%	5,734	0.9%	54%
	2004	6,205	2.2%	1,201	-5.8%	5,952	3.1%	5,952	3.8%	59%
		1994 - 2004 growth	9.8%		6.2%		11.0%		12.0%	
Forecast	2005	6,471	4.3%	1,391	15.8%	6,157	3.4%			53%
	2006	6,534	1.0%	1,408	1.2%	6,217	1.0%			53%
	2007	6,572	0.6%	1,416	0.6%	6,253	0.6%			53%
	2008	6,628	0.8%	1,428	0.8%	6,306	0.8%			53%
	2009	6,650	0.3%	1,429	0.1%	6,327	0.3%			53%
	2010	6,689	0.6%	1,441	0.8%	6,364	0.6%			53%
	2011	6,728	0.6%	1,449	0.6%	6,401	0.6%			53%
	2012	6,784	0.8%	1,462	0.8%	6,455	0.8%			53%
	2013	6,809	0.4%	1,463	0.1%	6,478	0.4%			53%
	2014	6,848	0.6%	1,475	0.8%	6,516	0.6%			53%
		2004 - 2014 growth	10.4%		22.8%		9.5%			
	2015	6,888	0.6%	1,484	0.6%	6,554	0.6%			53%
	2016	6,944	0.8%	1,496	0.8%	6,608	0.8%			53%
	2017	6,968	0.3%	1,498	0.1%	6,630	0.3%			53%
	2018	7,008	0.6%	1,510	0.8%	6,668	0.6%			53%
	2019	7,049	0.6%	1,519	0.6%	6,707	0.6%			53%
	2020	7,106	0.8%	1,531	0.8%	6,762	0.8%			53%
	2021	7,131	0.3%	1,533	0.1%	6,785	0.3%			53%
	2022	7,172	0.6%	1,545	0.8%	6,824	0.6%			53%
	2023	7,213	0.6%	1,554	0.6%	6,863	0.6%			53%
	2024	7,272	0.8%	1,567	0.8%	6,919	0.8%			53%
		2014 - 2024 growth	6.2%		6.2%		6.2%			

EXHIBIT 3

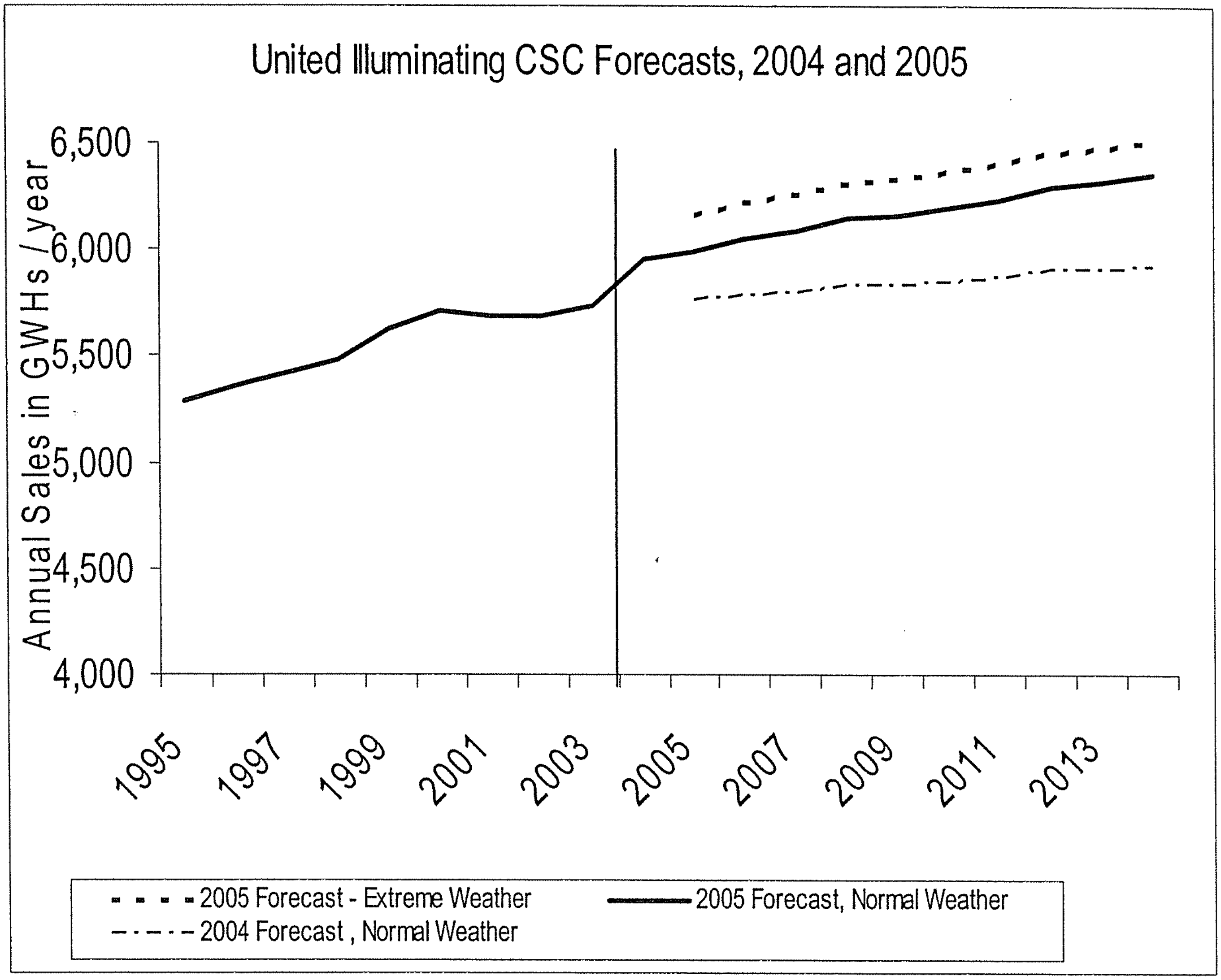
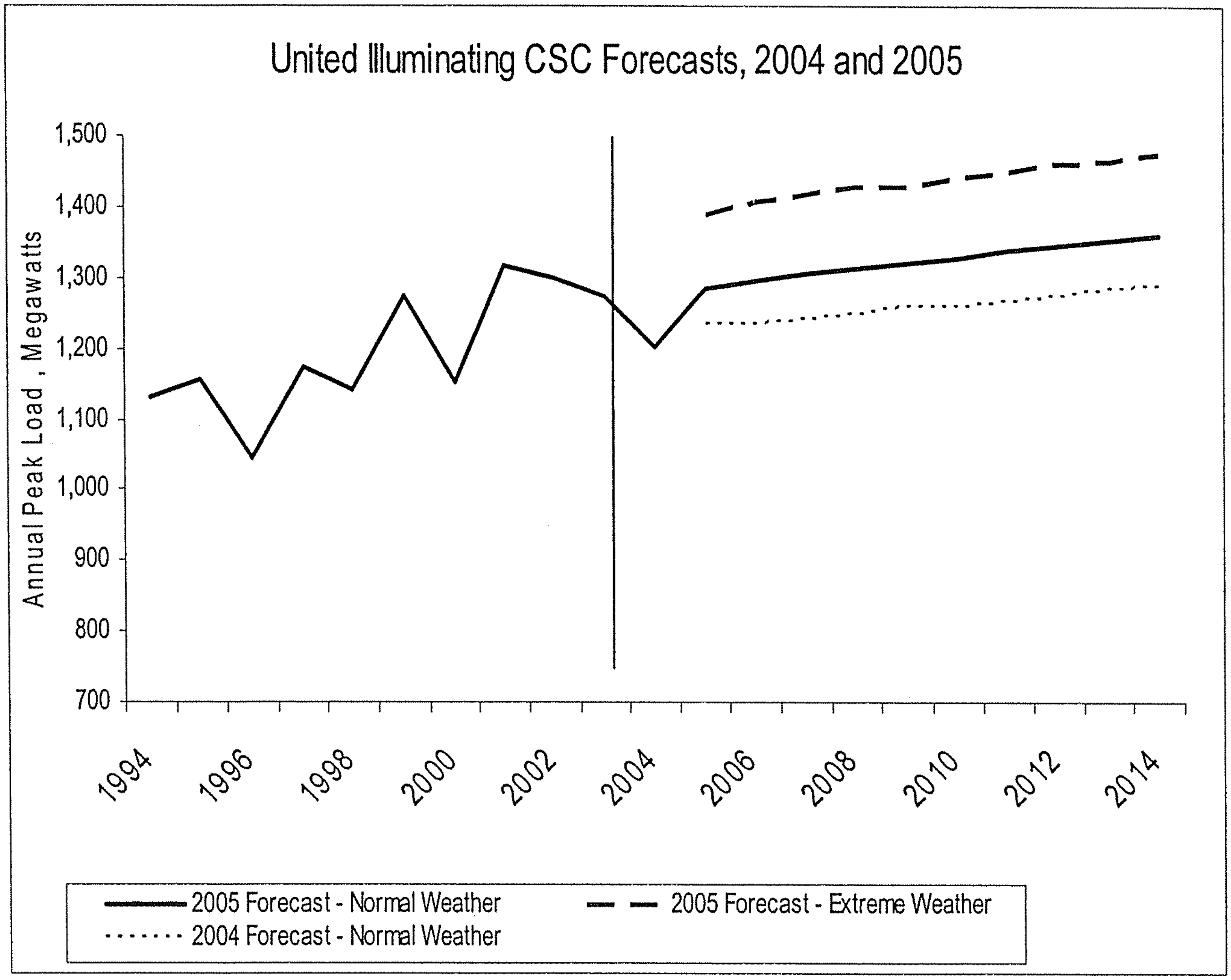

United Illuminating CSC Forecasts, 2004 and 2005
Annual Sales in GWHs / year
6,500
6,000
5,500
5,000
4,500
4,000
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2005 Forecast - Extreme Weather
2005 Forecast, Normal Weather
2004 Forecast , Normal Weather

EXHIBIT 4



United Illuminating CSC Forecasts, 2004 and 2005
Annual Peak Load , Megawatts
1,500
1,400
1,300
1,200
1,100
1,000
900
800
700
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2005 Forecast - Normal Weather
2005 Forecast - Extreme Weather
2004 Forecast - Normal Weather

Exhibit 5

Report to the Connecticut Siting Council,

March 11, 2005

LIST OF PLANNED TRANSMISSION FACILITIES ON WHICH PROPOSED ROUTE REVIEWS ARE BEING UNDERTAKEN OR FOR WHICH CERTIFICATE APPLICATIONS HAVE ALREADY BEEN FILED

I. <u>Route Reviews Being Undertaken.</u>

	Project	kV	Date of Completion
1.	See Middletown / Norwalk Project, page 3 of 3		

II. <u>Certification Applications Contemplated.</u>

	Substation Projects	kV	Date of Completion
1.	Installation of new Trumbull Junction Substation, Trumbull. (*See note 1*)	115	2007
2.	Installation of new substation in western Fairfield. (*See note 1)*	115	2010 or later
3.	See Middletown / Norwalk Project, page 3 of 3		
4.	Milvon Substation – replacement of fixed tap units with LTC transformers.	115	2005
5.	Ansonia Substation – replacement of fixed tap units with LTC transformers.	115	2006
6.	Metro North Union Avenue Substation – 115 kV transmission portion	115	2006

Transmission Line Project	Length (Miles)	kV	Date of Completion
1. See Middletown / Norwalk Project, page 3 of 3			

III. <u>**Facilities which are or may be subjects of Requests for Declaratory Ruling by Council.**</u>

Transmission Line Project	Length (Miles)	kV	Date of Completion

IV. **Facilities which are associated with the Middletown / Norwalk Project.**

	Route Reviews Being Undertaken	Length (Miles)	kV	Date of Completion
	Route reviews of underground and overhead alternative transmission line routings in support of the Middletown / Norwalk Project (*See Note 2)*	Various	345	2009
	Substation Projects			
1.	Installation of new Singer 345 kV Substation, Bridgeport *(See Note 2)*		345	2009
2.	Pequonnock Substation, Bridgeport – Circuit Breaker and Bus Addition		115	2009
3.	Elmwest Substation, West Haven – Circuit Breaker Addition		115	2007
	Transmission Line Projects			
1.	East Devon 345kV Substation, Milford to Singer 345 kV Substation, Bridgeport; build new 345 kV circuit. *(See Note 2)*		345	2009
2.	Singer 345 kV Substation, Bridgeport to Norwalk 345 kV Substation, Norwalk; build new 345 kV circuit. *(See Note 2)*		345	2009
3.	Singer 345kV Substation, Bridgeport to Pequonnock 115kV Substation Bridgeport, build new 115kV circuit		115	2009

Notes:

1. The timing for this project, which is dependent upon load growth and/or generation dispatch conditions, is currently under review.
2 This project is a part of the Middletown / Norwalk Project, which also includes other 345 kV additions as well as upgrades to existing 115 kV facilities. The actual routing and ownership of this portion of the project is still undecided at this time.