

**Interconnection Study
For
The Village of Solvay's
New Substation**

Phase II of this interconnection plan is shown in figure Five. This phase consists of extending the "western end" of #8 line into Geres Lock substation and providing an associated new breaker position. A second 115 kV circuit will be provided from the South end of the Geres Lock bus again via a new breaker position.

The new #26 line will be realized with either new 115 kV line construction (approximately 1-1.5 miles in length) or with the use of an existing 34.5 kV circuit re-commissioned to 115 kV. Using this line would require the replacement of the 34.5 kV circuit with new construction (again 1- 1.5 miles in length). The most economical of these two options at the time will be implemented. Associated cost of phase II (in 1998 dollars) is estimated to be \$1,800,000.

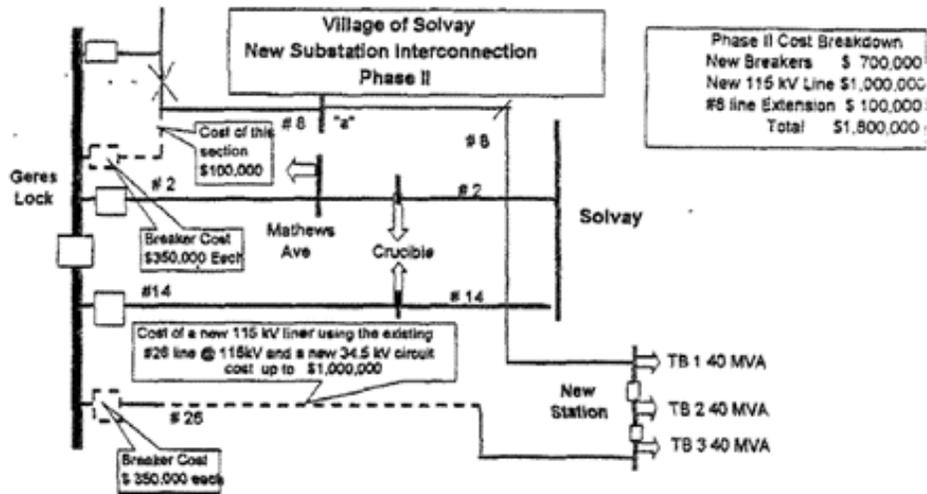


Figure Five

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IV) Study Recommendations

a. Interconnection Plan

The recommended plan is shown in **Figure six**. The plan will progress in two phases as explained above with Phase II automatically being triggered by either of the following:

- A) actual peak demand at the new station in any (30 minute) interval exceeding 40 MVA in a summer rating period or 50 MVA in a winter rating period.
- B) forecasted demands above 45 MVA (summer) or 55 MVA (winter).
Project plans will commence 18 months prior to the dates indicated for these levels

b. Schedule

The proposed interconnection plan will meet the station in service date requirement of June 1, 1999 by first providing a tap to the #14 line. The extension of the #8 line will follow shortly thereafter.

c. Operating Requirements

It is required that the ten year demand forecast provided annually by the Village be changed to indicate separately the future demand requirements of each station.

It is required that the minimum power factor at the Delivery Points to the new station be not less than 95 % (lagging).

After the completion of phase II of the project, shunt compensation will be added to the Geres Lock 115 kV bus if power factors of less than 95 % exist. The Village of Solvay will bear the expense for the installation of this compensation which will be sized to maintain the net power factor of the new station to a minimum of 95 % as measured from the Interconnection points at Geres Lock.

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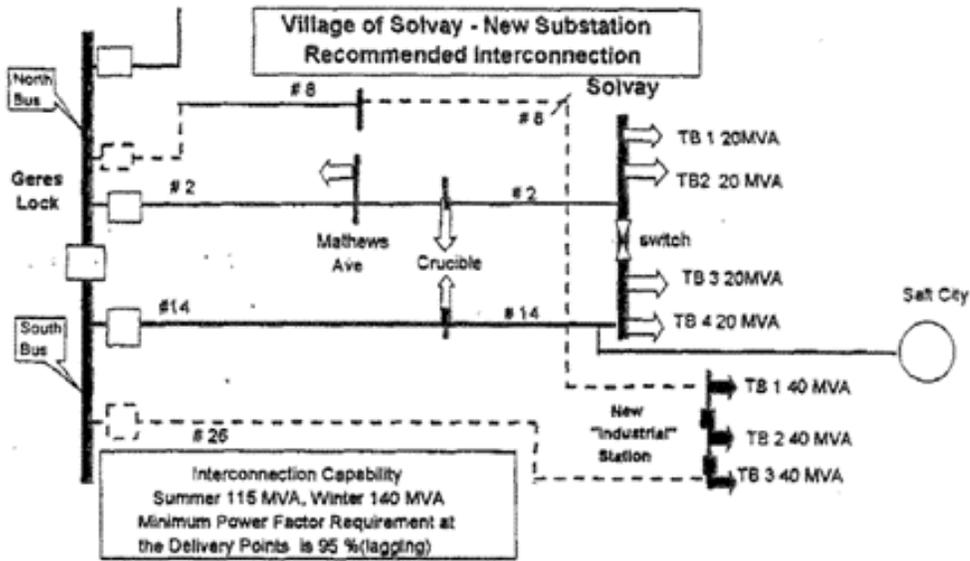
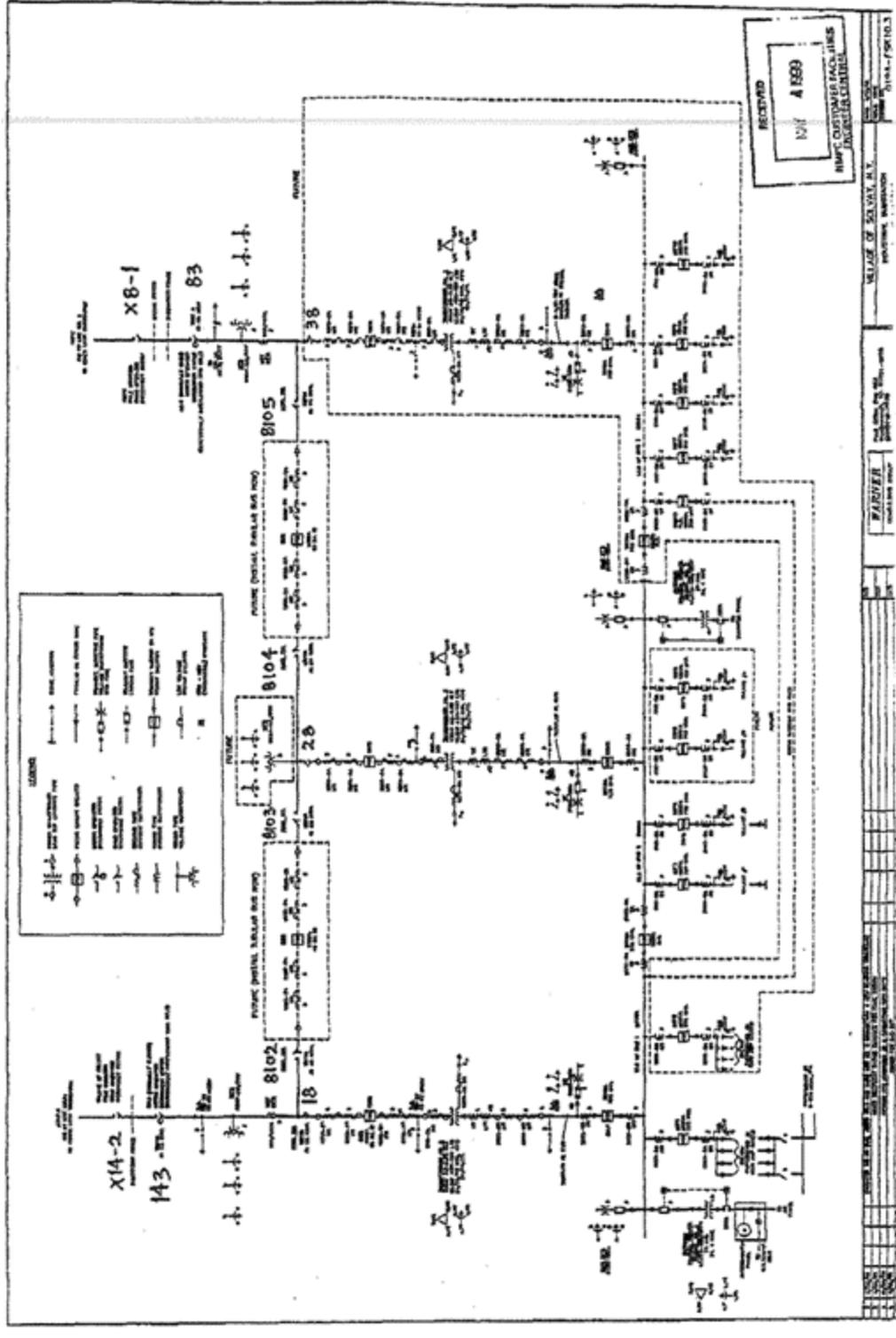


Figure Six

APPENDIX A

Proposed Substation Single Line



APPENDIX B

Village of Solvay

Demand Forecasts

**VILLAGE OF SOLVAY
 ELECTRIC DEPARTMENT**

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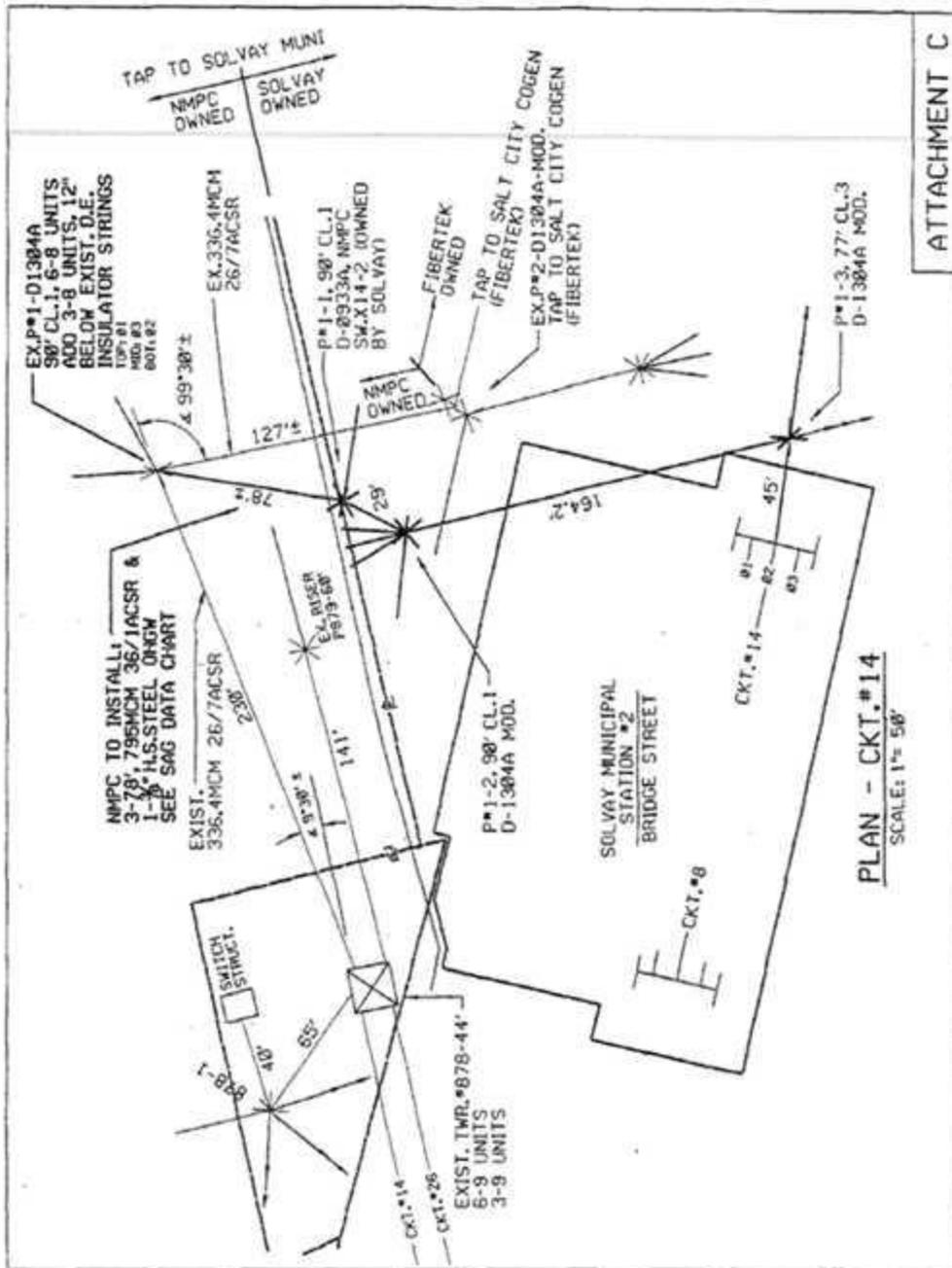
**DEMAND FORECAST
 Mathews Ave. & Industrial Substation**

The Solvay Mathews Avenue Substation is winter peaking with a peak demand of 46,382 KW at 0.94 Lagging power factor in the 1996-1997 winter period. The corresponding summer period was 40,105 KW at 0.90 Lagging power factor.

YEAR	MATHEWS AVE. SUBSTATION	INDUSTRIAL SUBSTATION	TOTALS
Actual 1996-1997	46,382 K.W.		
Forecast 1997-1998	48,000 K.W.		
1998-1999	48,960 K.W.		48,960 K.W.
1999-2000	39,939 K.W. <i>Δ 10</i>	22,000 K.W. <i>→</i>	61,939 K.W.
2000-2001	40,938 K.W.	22,000 K.W.	62,938 K.W.
2001-2002	38,957 K.W.	25,000 K.W.	63,957 K.W.
2002-2003	39,996 K.W.	25,000 K.W.	64,996 K.W.
2003-2004	39,056 K.W.	27,000 K.W.	66,056 K.W.
2004-2005	37,137 K.W.	30,000 K.W. <i>⇒</i>	67,137 K.W.
2005-2006	38,240 K.W.	30,000 K.W.	68,240 K.W.
2006-2007	39,364 K.W.	30,000 K.W.	69,364 K.W.



ATTACHMENT D



ATTACHMENT C

PLAN - CKT.#14
SCALE: 1"= 50'

ATTACHMENT E

Village of Solvay, New York
 Electric Department
 Peak Demand Load Forecast - 1997 - 2007

Period	Winter Peak Demand (kW)			Comments
	Growth	Spot Load	Total	
1996-1997	46382		46382	Actual
1997-1998	48000		48000	Actual
1998-1999	48960		48960	
1999-2000	49939	12000	61939	12MW Solvay Paperboard
2000-2001	50938	12000	62938	
2001-2002	51957	12000	63957	
2002-2003	52996	12000	64996	
2003-2004	54056	12000	66056	
2004-2005	55137	12000	67137	
2005-2006	56240	12000	68240	
2006-2007	57364	12000	69364	

Period	Summer Peak Demand (kW)			Comments
	Growth	Spot Load	Total	
1997	40105		40105	Actual
1998	40907		40907	
1999	41725	12000	53725	12MW Solvay Paperboard
2000	42560	12000	54560	
2001	43411	12000	55411	
2002	44279	12000	56279	
2003	45165	12000	57165	
2004	46068	12000	58068	
2005	46989	12000	58989	
2006	47929	12000	59929	
2007	48888	12000	60888	

Note: Forecast assumes 2% annual growth off of 1997-1998 winter and 1997 summer period peak loads. Solvay Paperboard additional load is not included in growth rate calculation.