

**COPY**

**Business Case Executive Summary**

*Initiative Name:* **EMC CONNECTRIX**

*Submitted By:* **RON KATT**

*Executive Sponsor(s):* **BARBARA ZELLER**

*Initiative Brief Description:* **EMC CONNECTRIX ADDS HIGH SPEED CONNECTIVITY AND 200GB OF CAPACITY FOR EXISTING NT AND NOVELL SERVERS AND ENABLES CONNECTIVITY FOR FUTURE HOST SYSTEMS, 100GB OF PRODUCTION CAPACITY FOR THE NEW UNISYS NX MAINFRAME, AND EMC "TIMEFINDER" WITH 100GB THAT ENABLES HIGH SPEED REPLICATION OF PRODUCTION DATA FOR OTHER PLATFORMS.**

*Strategic Intent (select only one):*

- |                     |                                     |                                      |
|---------------------|-------------------------------------|--------------------------------------|
| Revenue Growth      | <input type="checkbox"/>            | (Generate more revenue)              |
| Cost Reduction      | <input type="checkbox"/>            | (Cost reduction as <u>main</u> goal) |
| Business Enablement |                                     |                                      |
| Compliance          | <input type="checkbox"/>            | (Mandated, regulatory)               |
| Support             | <input checked="" type="checkbox"/> | (Non-discretionary, keep it running) |
| Technology          | <input checked="" type="checkbox"/> | (Discretionary, new capability)      |
| Employee Excellence | <input type="checkbox"/>            | (Part of Employee Excellence)        |
| Customer Care       | <input type="checkbox"/>            | (Part of Customer Care)              |

*Strategic Alignment*

**CONTINUES OUR INVESTMENT IN TECHNOLOGY THAT CAN BE REUSED ON A NUMBER OF DIFFERENT SYSTEM PLATFORMS IF HOST PLATFORMS CHANGE.**

*Business Value*

**Financial:**

**INVESTMENT IN MULTI-PLATFORM CAPABLE TECHNOLOGY THAT IS NOT THROWN AWAY AS HOST PLATFORMS ARE REPLACED. THIS ALSO ALLOWS FOR MORE FLEXIBILITY AS THESE ASSETS CAN BE RE-DEPLOYED ON OTHER PLATFORMS AS NECESSARY.**

*Internal capabilities:*

**THE EMC CONNECTRIX ACQUISITION WILL GREATLY ENHANCE OUR ABILITY TO CONNECT ADDITIONAL HOST SYSTEMS INTO OUR HIGH PERFORMANCE HIGH AVAILABILITY DESK SUBSYSTEM. THE ADDITIONAL DISK CAPACITY WILL PROVIDE PRODUCTION DISK FOR OUR NEW UNISYS NX MAINFRAME AND FLEXIBLE HIGH PERFORMANCE DISK CAPACITY FOR OUR CHANGING NT AND NOVELL SERVER ENVIRONMENT. THE "TIMEFINDER" TOOL WILL GIVE US THE ABILITY TO CREATE COPIES OF PRODUCTION DATA QUICKLY AND SAFELY THAT CAN THEN BE USED IN A NUMBER OF DIFFERENT WAYS.**

**Business Drivers**

Flexibility to respond: **THIS SOLUTION IS NOT PLATFORM SPECIFIC & THEREFORE VERY FLEXIBLE.**

**Data sharing:** **THIS SOLUTION IS SUPPORTED ON ALL OUR PLATFORMS.**

**Business Case Executive Summary (continued)**

**Project Dependencies**

**THE UNISYS MAINFRAME REQUIRES PRODUCTION DISK CAPACITY.**

**Estimated Costs**

Total Initiative Costs  
Capital: **\$710,000**  
OE: \$

Annual Operating Costs  
**\$40,000**

**Architectural Compliance**

<u>Architecture</u>	<u>Rating</u>
Business	3
Technical	3

If Non-Compliant, State Reason

**Project Positioning/Sponsorship**

<u>Positioning Rating</u>	
	2

**Risk**

<u>Risk Rating</u>	<u>Risk Description</u>
2	

**THERE IS ALWAYS SOME RISK IN IMPLEMENTING NEW TECHNOLOGY. THE RISKS IN NOT ADDING THE CONNECTRIX IS THAT WE WOULD BE UNABLE TO ADD MANY MORE HOST SYSTEMS INTO EMC AND BE FORCED TO PURCHASE DISK CAPACITY THAT COULD NOT BE RE-DEPLOYED. WE MIGHT ALSO HAVE TO SUFFER SYSTEM DISRUPTIONS IF WE WANTED TO DO THIS AT A LATER TIME VS DOING THIS NOW WHEN IT IS EASIER BY COMPARISON.**

**Stakeholder Impact**

<u>Impact Rating</u>	<u>Stakeholder</u>
1	

**I.S. OPERATIONS**

**Nicor's Ability foImplement**

**NICOR WOULD NEED TO IMPLEMENT THE UNISYS NX MAINFRAME PORTION OF THIS AS THE MAINFRAME IS INSTALLED. THE OTHER HOST PLATFORMS CAN BE IMPLEMENTED IN A STAGED FASHION BASED ON IMPACT AND NEED.**

REQUESTED BY <b>Ron Katt</b>	COMPANY NO. <b>200</b>	ACCTG. UNIT NO. <b>171</b>	ACCOUNT NO.	ACTIVITY NO. <b>10171</b>	DATE <b>08/17/99</b>
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**Fund Request Information**

Dollar Amount			Item included in annual budget? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Year	Operating Expense	Capital	
1998 Actual			<input type="checkbox"/> Add <input checked="" type="checkbox"/> Replacement <input type="checkbox"/> N/A
1999	\$0.00	\$570,000.00	Year 2000 Compliant: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
2000			Rate of Return: _____ IRR or NPV _____ at _____ % discount

Description of Request (For request of \$250,000 or more, also complete other side)

**Backup Tape System**

StorageTek Tape Subsystem  
Taxes, Shipping and Installation

\$ 525,000  
\$ 45,000  

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\$ 570,000

(Required for tape backup of NX5822-62)

OFFICER / MANAGER APPROVAL <i>Barbara A. Jew</i>	DATE <b>08/17/99</b>
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**Accounting Department Approval - For Capitalized Software**

Requesting Guidelines			
APPROVED BY	DATE	APPROVED BY	DATE

**Information Services Review**

	APPROVED BY	DATE	COMMENTS ATTACHED <input checked="" type="checkbox"/>
Coordinator Data and Security Administration	N/A	08/17/99	
Coordinator Network Research and Planning	<i>Sandra Golden</i>	08/17/99	
Operations	<i>R. Katt</i>	08/17/99	

**Information Technologies Steering Committee Only**

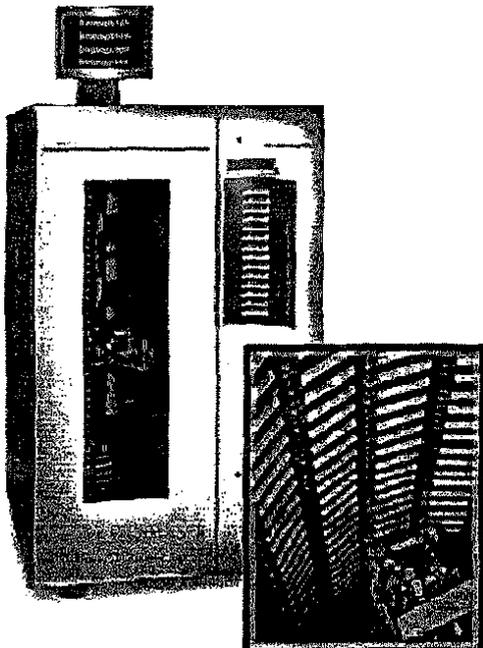
APPROVED <i>Omair Roule</i>	DATE <b>8/23/99</b>	DOLLAR AMOUNT <b>\$ 570,000</b>
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COMMENTS

# STORAGETEK TIMBERWOLF High Performance Automated Backup Tape Library

## WHY?

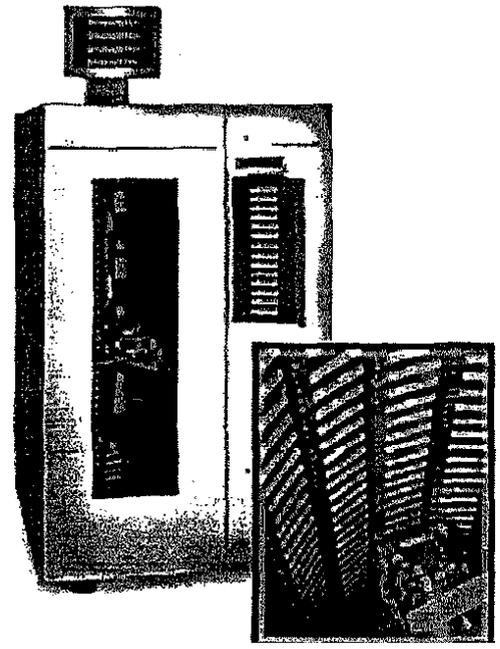
- Disk capacity continues to expand on all platforms requiring larger capacity backups
- The time window for performing critical data backups is actually shrinking as client data needs expand beyond 8am-5pm
- Continues the strategic acquisition of new technologies that can be reusable on all platforms including Unisys NX Mainframes, HP Unix, and PC Server environments



# STORAGETEK TIMBERWOLF FEATURES with 9840 Tape Technology

## So What?

- 20-80 GB per tape cartridge depending on the amount of compression obtained
- 10 MBPS data transfer rate (36 GB per hour) which is approximately twice the speed of our existing DLT technology and many times faster than our existing A16 tape cartridges
- Increased capacity per tape will result in a reduction of the number of tapes used and a reduction of tape handling effort required



With larger capacity per tape and automated tape mounting, reduces the need for manual intervention to provide additional tapes. The tape robot can mount 400 tapes per hour

# Storagetek Options Reviewed

## OPTION 1 - Continue use of old tape subsystem

- Purchase a partial tape subsystem using the same technology as today and re-deploy some or all of our A16 tape drives to the new NX mainframe.
- + less expensive than Storagetek
- - same limit on tape speed & capacity
- - \$70-100k spent on throw away technology
- - does not resolve any other platform needs

# Storagetek Options Reviewed

## OPTION 2 - Unisys only alternative tape subsystem

- Purchase a new 36 track tape subsystem for the new NX mainframe that can only be used on the Unisys.
- + less expensive than Storagetek
- + about 4 times our existing tape capacity
  - but 50 times less per tape than STK
- - \$422k spent on Unisys only technology and doesn't help any of our other platforms

# Storagetek Options Reviewed

## OPTION 3 - Storagetek Timberwolf recommendation

- Purchase the Storagetek Timberwolf multi-platform automated tape backups subsystem that can be used on all of our platforms
- + greatly increased speed & capacity
- + cross platform support for all host systems
- + technology can be re-deployed
- - more expensive than options 1 and 2



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## IS Capability Project

### Business Case Executive Summary

**Initiative Name:** *STORAGETEK TAPE LIBRARY*      **Submitted By:** RON KATT

**Executive Sponsor(s):** BARBARA ZELLER

**Initiative Brief Description:** **MULTIPLATFORM HIGH PERFORMANCE AUTOMATED TAPE LIBRARY FOR THE NEW UNISYS NX MAINFRAME, FOR HP UNIX SYSTEMS, AND FOR NT AND NOVELL SERVER BACKUPS. THIS PLATFORM ENABLES BACKUPS OF EVER INCREASING AMOUNTS OF DATA IN A CONSTANTLY DECREASING TIME WINDOW FOR BACKUPS. THIS WILL ALSO SIGNIFICANTLY REDUCE THE TAPES USED AND SPEED UP ALL OPERATIONS CURRENTLY LIMITED BY EXISTING TAPE PERFORMANCE LIMITATIONS.**

**Strategic Intent** (select only one):

- |                            |                          |   |
|----------------------------|--------------------------|---|
| Revenue Growth             | <input type="checkbox"/> | (Generate more revenue)                       |
| <b>Cost</b> Reduction      | <input type="checkbox"/> | (Cost reduction as <u>main</u> goal)          |
| <b>Business</b> Enablement |                          |   |
| Compliance                 | <input type="checkbox"/> | (Mandated, regulatory)                        |
| <b>Support</b>             | X                        | ( <b>Non-discretionary</b> , keep it running) |
| Technology                 | X                        | (Discretionary, new capability)               |
| Employee Excellence        | 131                      | ( <b>Part</b> of Employee Excellence)         |
| Customer Care              | <input type="checkbox"/> | (Part of Customer Care)                       |

**Strategic Alignment**

**CONTINUES OUR INVESTMENT IN TECHNOLOGY THAT CAN BE RE-USED ON A NUMBER OF DIFFERENT SYSTEM PLATFORMS IF HOST PLATFORMS CHANGE.**

**Business Value**

**Financial:**  
**INVESTMENT IN MULTI-PLATFORM CAPABLE TECHNOLOGY THAT IS NOT THROWN AWAY AS HOST PLATFORMS ARE REPLACED. THIS ALSO ALLOWS FOR MORE FLEXIBILITY AS THESE ASSETS CAN BE RE-DEPLOYED ON OTHER PLATFORMS AS NECESSARY.**

**Internal capabilities:**

**THE STORAGETEK TIMBERWOLF PLATFORM WILL GREATLY ENHANCE OUR ABILITY TO BACKUP LARGE AMOUNTS OF DATA MORE QUICKLY USING LESS TAPE THAN TODAY AND SHOULD PROVIDE SOME IMPROVEMENT IN OUR DAILY OPERATIONS.**

**Business Drivers**

**Flexibility to respond:** **THIS SOLUTION IS NOT PLATFORM SPECIFIC & THEREFORE VERY FLEXIBLE.**

**Data sharing:** **THIS SOLUTION IS SUPPORTED ON ALL OUR PLATFORMS.**

IS Capability Project

**COPY**

**Business Case Executive Summary (continued?)**

*Project Dependencies*

**THE UNISYS MAINFRAME REQUIRES A TAPE BACKUP PLATFORM**

*Estimated Costs*

Total Initiative Costs

Capital: \$570,000

OE: \$

Annual Operating Costs

\$45,000

*Architectural Compliance*

Architecture

Rating

If Non-Compliant, State Reason

Business

3

Technical

3

*Project Positioning/Sponsorship*

Positioning Rating

2

*Risk*

Risk Rating

Risk Description

2

**IMPLEMENTING NEW TECHNOLOGY ALWAYS HAS SOME RISKS BUT OUR RISK OF BEING ABLE TO BACKUP INCREASING AMOUNTS OF DATA USING OLDER TAPE TECHNOLOGY IN A LIMITED AMOUNT OF TIME IS ALSO A REAL AND SERIOUS RISK.**

*Stakeholder Impact*

Impact Rating

Stakeholder

1

**I.S. OPERATIONS**

*Nicor's Ability to Implement*

**NICOR WOULD NEED TO IMPLEMENT THE UNISYS NX MAINFRAME PORTION OF THIS AS THE MAINFRAME IS INSTALLED. THE OTHER HOST PLATFORMS CAN BE IMPLEMENTED IN A STAGED FASHION BASED ON IMPACT AND NEED.**

**IS Capability Project**

<b><u>Rating Category</u></b>	<b><u>Rating</u></b>	<b><u>Rating Description</u></b>
<b>Architecture Compliance</b>	1	Inconsistent with architectural direction
	2	Consistent with or no impact on Nicor architecture
	3	Will contribute to building Nicor architecture
<b>Risk</b>	1	High risk
	2	Medium risk
	3	Low risk
<b>Stakeholder Impact</b>	1	Significant impact on stakeholders and IS organization
	2	Some impact on stakeholders and IS organization
	3	Little or no impact on stakeholders and IS organization
<b>Positioning1 Sponsorship</b>	1	Project endorsed by business unit or IS middle management
	2	Project endorsed by business unit or IS senior management
	3	Project endorsed by executive level management

REQUESTED BY Ron Katt	COMPANY NO. 200	ACCTG. UNIT NO. 171	ACCOUNT NO.	ACTIVITY NO. 10171	DATE 08/17/99
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**Fund Request Information**

Dollar Amount		Item included in annual budget?
1998 Actual	Operating Expense	Capital
1999	\$0.00	<del>\$130,000.00</del> 120,000.00
2000		

Item included in annual budget?  Yes  No  
 Add  Replacement  N/A  
 Year 2000 Compliant:  Yes  No  N/A  
 Rate of Return: \_\_\_\_\_ IRR or NPV \_\_\_\_\_ at \_\_\_\_\_ % discount

Description of Request (For request of \$250,000 or more, also complete other side)

Data Center Upgrades	
Command Console Furniture	\$ 40,000
Electrical System (UPS)	\$ 15,000
Contact Labor and Materials	\$ 65,000
	\$ 120,000

APPROVED BY / MANAGER APPROVAL <i>Barbara A. Allen</i>	DATE 08/17/99
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**Information Technology Accounting Department Approval For Capitalized Software**

Information Technology Accounting Guidelines			
APPROVED BY	DATE	APPROVED BY	DATE

**Information Services Review**

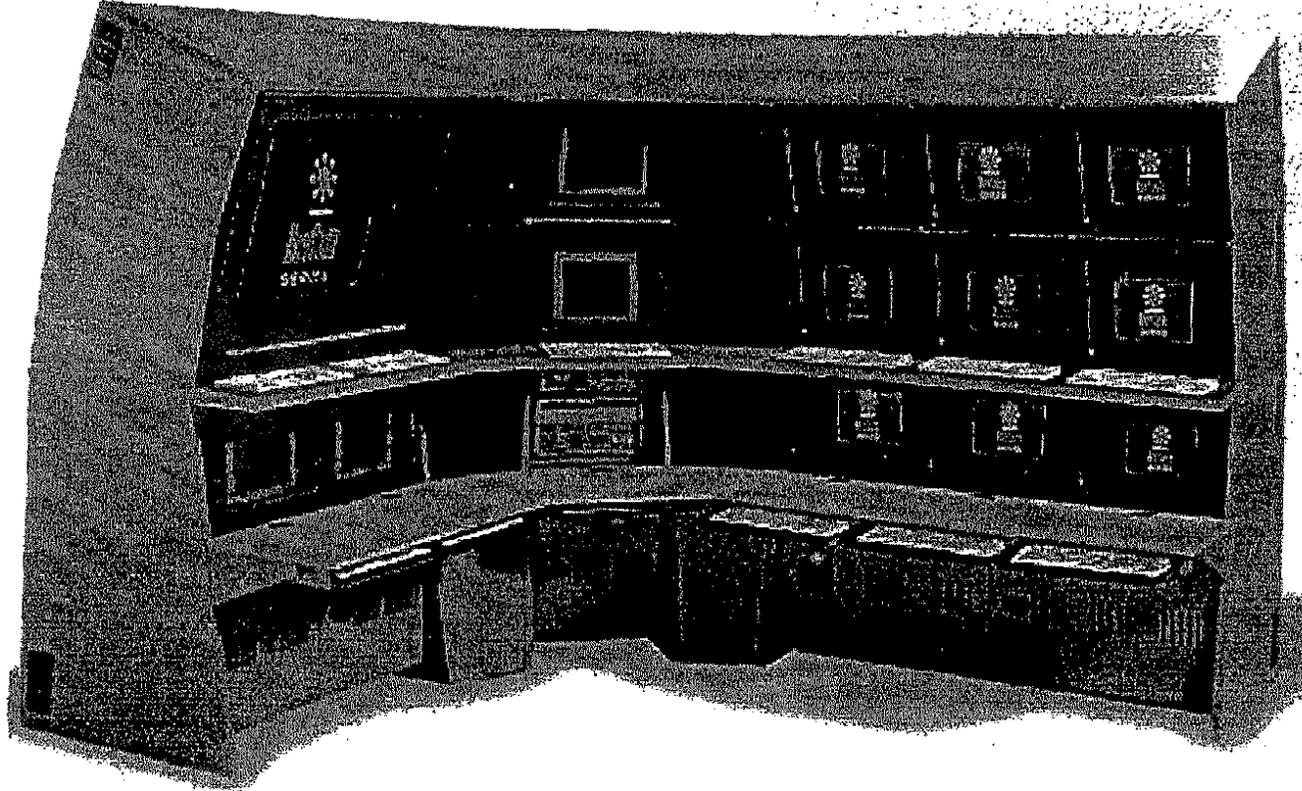
	APPROVED BY	DATE	COMMENTS ATTACHED ✓
Coordinator Data and Security Administration	N/A	08/17/99	
Coordinator Network Research and Planning	<i>Genda Allen</i>	08/17/99	
Operations	<i>R. Katt</i>	08/17/99	

**Information Technologies Steering Committee Only**

APPROVED BY <i>Orin Rumb</i>	DATE 8/23/99	DOLLAR AMOUNT \$ 120,000
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COMMENTS

# DATA CENTER IMPROVEMENTS



- Creating a Command Center for monitoring all critical systems & infrastructure components for performance, and alerts bringing the open systems and Unisys mainframe elements together for maximum awareness and support

WP (F-4) 11

**Gas Distribution Improvement – New Station –  
Phase 1**

**Barrington Lateral**

Note: Use additional pages if more space is needed.

BUDGET ITEM NO.	AU NO.	REGION	CAPITAL TYPE (see back) SYSTEM IMPROV. Other Capital	AFUDC (see back) <input type="checkbox"/> Yes <input type="checkbox"/> No	Estimated Expenditures			
					Year	This Request	Previous Authorization	Total Authorization
Activity # Investment				PARTIAL AUTHORIZATION <input type="checkbox"/> Yes <input type="checkbox"/> No	2005	\$ 3,368,000	\$	\$ 3,368,000
Activity # Retirement					2006	\$ 1,910,000	\$	\$ 1,910,000
Activity # Investment						\$	\$	\$
Activity # Retirement						\$	\$	\$
FILE NO. NW26221	NBA / MR / PI / SI NO. SI 102	ESTIMATED START DATE Year 2005	EST. COMPLETION Year 2006	Retired	\$	\$	\$	\$
		Quarter 1	Quarter 3	Total	\$ 5,278,000	\$	\$ 5,278,000	

**Project Location**  
1/2 mile east of Kelsy Rd on Rte 22, Barrington

**Project Description**  
Niwr Gas will construct, own and operate a transmission station along Niwr High Elgin-Volo line near River Rd which will regulate pressure down to the existing 230 psig system, install approximately 5.6 miles of 12" 230 psig header beginning at Sta 317 and terminating at the Rand Rd. Ene and install secondary stations necessary to regulate pressure to lower order systems.

**Alternatives Considered**  
1) NGPL supply point at Sta 317 with similar facilities as the above project, and 2) install a new interconnect on North Shore Gas' system, lateral and station to regulate pressure to Rand Rd line pressure.

**Reason for Request**  
The existing system is at capacity. Incremental customers added to the system will jeopardize the system pressure.

**Reason for Budget Revision**

<b>For Revisions Only</b> Revision: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<b>Reimbursable?</b> <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes ___ %	<b>Income Taxes on Reimbursable Projects</b> <input checked="" type="checkbox"/> No (Public Interest) <input type="checkbox"/> Yes (Private Party) see instructions	<b>Included in overall budget?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dollars and year(s): 2005 \$3,368,000 and 06 \$1,910,000
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**Operating Expense Impact (specify in detail)**  
Operating expenses are estimated to be \$51,000 annually for maintenance and operations of the following facilities: 5.6 miles of 12" pipe. 1 transmission station and secondary distribution stations

Economic Assessment Data		Approvals	
Item (see page 2)	Value	TAG APPROVAL	DATE
Cost of Capital (after tax)	10%	PRINT RECOMMENDED BY	DATE
Net Present Value at C/C (after tax)	(\$4,760k)	Kris Nichols	6/18/04
Internal rate of return (IRR), if applicable	— 6% —	RECOMMENDED BY SIGNATURE	DATE
Treasurer's Office Approval		APPROVED BY BOARD OF DIRECTORS/FPC	DATE
Robert Maden	Date 6/18/04	Rocco D'Alessandro	6/21/04
		APPROVED BY SIGNATURE - OFFICER	DATE
		APPROVED BY CMT	DATE
		CMT COMPLETION BY	DATE
		POST INVESTMENT REVIEW	
		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Undecided	
		If yes, Quarter Year	
		ACCOUNTING APPROVAL - CAPITALIZED SOFTWARE	BUDGET COMPLETION/ TOLERANCE CHECK BY DATE

06/17/04

CONFIDENTIAL  
DraftSubject to Senior  
Management Approval

## Barrington Lateral

### Executive Summary

The Barrington area is supplied by an 18" 155 psig distribution header along Rand Road, which serves several communities such as: the Barrington's, Lake Zurich, Long Grove, Buffalo Grove, Kildeer, Palatine, Arlington Heights, Prospect Heights, Hawthorne Woods, Mundelein, Wauconda, Deer Park and Wheeling. There are two Nicor Gas supply sources for this area, which are Volo and Des Plaines stations. Steady growth in this area has reduced the available pressure on the Rand Rd. line for lower order systems. Incremental customers cannot be added to this area without a system improvement. Several alternatives were developed, but only the top three alternatives were compared in detail.

The installation of the system improvement is required prior to the 2005-06 winter to reinstate the capacity of the existing system to design levels and to provide additional capacity to meet growth.

#### Alternative 1

5.6 miles of 12" lateral supplied by new tap on Elgin Volo line  
Nicor Capital \$5,278,000  
Annual costs to Rate Payers \$838,000 over 30 years  
NPV (\$4,760,000)

#### Alternative 2

5.6 miles of 12" installed by Nicor and meter revisions by NGPL  
Nicor Capital \$5,000,000  
NGPL Capital \$1,300,000  
Relocate FT delivery point  
Annual costs to Rate Payers \$877,000 over 30 years  
NPV (\$5,442,000)

#### Alternative 3

2.0 miles 12" installed by Nicor and a new tap, meter and lateral by North Shore Gas  
Nicor Capital \$3,600,000  
NSG Capital \$1,200,000  
10 year term FT contract  
Annual costs to Rate Payers \$880,000 over 30 years  
NPV (\$5,722,000)

#### Benefits of installing Alternative 1:

- Lowest annual costs for rate payers,
  - No risk to renew incremental transport contract (Alternative 3, NSG 10 year contract)
- Diversify supply and additional backfeed for the system to the west.
  - Additional customers will have access to Nicor Gas' storage
- No ICC approvals required (as compared to Alternative 3)

#### **Recommendation**

Install Alternative 1, which involves installing a new tap on the Elgin-Volo transmission line where it intersects the existing 12" 230 psig system in Barrington and approximately 5.6 miles of 12" 230 psig pipe from Sta. 317 in Barrington, east to connect to the Rand Rd. system. Secondary stations will be required near its midway point and termination point to reduce the pressure from 230 psig to 60 psig and 155 psig respectively. The project should be completed in two phases 1) 2005 - \$3,368,000 and 2) 2006 - \$1,910,000. Installation of phase 1 will restore capacity to the system to meet the system requirements for 2005-06 winter; however, the installation of phase 2 in 2006 is required for the following winter and future growth.

#### Concerns

The area to install the facilities discussed in each alternative will be difficult due to the location, environmental concerns and development of property. The largest unknown for this project will be real estate costs and its timely acquisition.

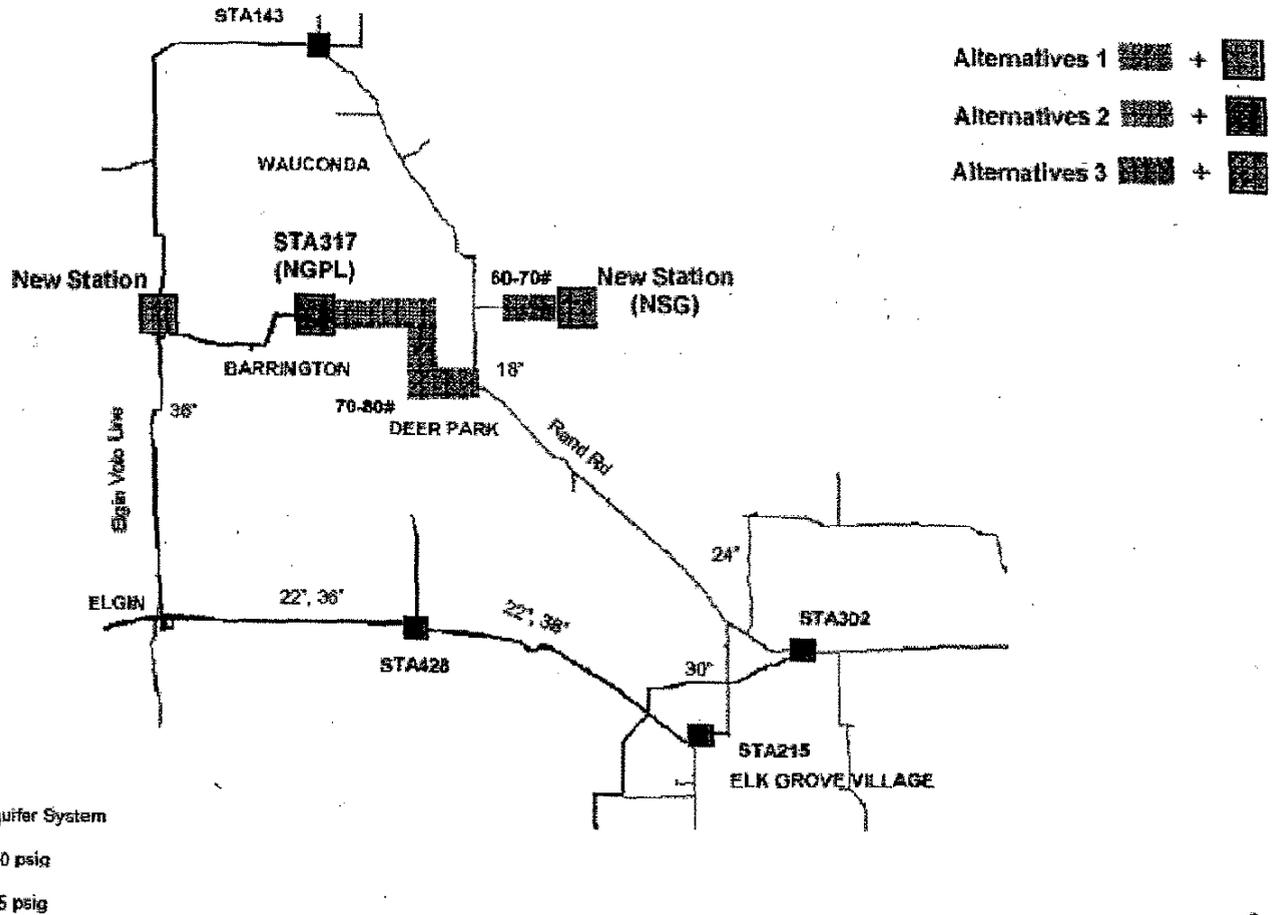
06/17/04

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Draft

Subject to Senior  
Management Approval

# Barrington System

Approx 144,000 customers



## Barrington Lateral

### Introduction

The Rand Road 18" 155 psig distribution header supplies gas to a large section of our system in the Barrington Area. It currently has two sources of supply from Nicor Gas' transmission stations, from the Northwest, Volo and from the Southeast, Des Plaines. This system provides supply to the following communities: the Barrington's, Lake Zurich, Long Grove, Buffalo Grove, Kildeer, Palatine, Arlington Heights, Prospect Heights, Hawthorne Woods, Mundelein, Wauconda, Deer Park and Wheeling.

### Issue

The Rand Rd. distribution header has experienced steady growth over the past several years, which has increased the pressure drop on it. Under the current demand, this line does not have enough capacity to meet the lower order systems demand. Incremental customers added to this system will jeopardize the available system pressure. Engineering System Planning and Forecasting along with assistance from Supply have evaluated several alternatives that can provide additional capacity to the Rand Rd system by delivering incremental supply for our existing and future customers. The projected incremental demand for this area is 2.2 MMCFH. The information shown below will provide information on the top three alternatives analyzed and conclude with a recommendation.

### Summary of Alternatives

#### Alternate 1

Install approximately 5.6 miles of 12" pipe along Rte 22 East from the existing NGPL Barrington metering station to the Rand Rd. system. Nicor Gas would create a new tap (designed to supply 3.2 MMCFH) on the Elgin-Volo line to backfeed the existing 230 psig system that is currently supplied by NGPL at Sta. 317. The new 12" pipe would be connected to the existing 12" pipe at Sta. 317. Along the route, additional regulating facilities and short laterals will be required to tie-into lower order systems, plus upgrade the existing 10" pipe along Long Grove Road from 155 psig to 230 psig. These systems could be supplied by either source, a new station installed on the Elgin-Volo line or NGPL Barrington during off-peak periods. However, during peak periods, both sources will be required.

Nicor's cost estimate:

• 5.6 miles of 12" installed pipe	\$3,528,000
• Install new station and tap	\$750,000
• Real Estate	<u>\$1,000,000</u>
Total	\$5,278,000

#### Alternate 2

Install approximately 5.6 miles of 12" pipe along Rte 22, East from the existing Natural Gas Pipeline of America (NGPL) Barrington metering station (Nicor Gas Station 317) to the Rand Rd. system. Nicor Gas will be required to make major revisions to Sta. 317 to handle the 2.2 MCFH of additional capacity. Along the route, additional regulating facilities and short laterals will be required to tie-into lower order systems, plus upgrade the 10' along Long Grove Road from 155 psig to 230 psig.

06/17/04

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DraftSubject to Senior  
Management Approval

## Nicor's cost estimate:

- 5.6 miles of 12" installed pipe and regulating facilities \$3,500,000
  - Revise Station 314 \$500,000
  - Real Estate \$1,000,000
- Total \$5,000,000

In addition to Nicor's installation, NGPL would be required to increase the capacity of their metering facilities to meet the additional demand. Nicor would also need to move a portion of Natural's firm transportation contract delivery point capacity from Volo to Barrington.

## Natural's cost estimate:

- Revise Barrington Station (grossed up for taxes) \$1,300,000
- Cost to move delivery point capacity (shorter path) \$0

Alternate 3

Install a new interconnect with North Shore Gas (NSG) designed for 2.2 MMCFH on Rte 22 near Nicor Gas/North Shore Gas service territory boundary. Nicor Gas would deliver volumes to NSG at Busse Rd for redelivery at the new interconnect. NSG would install their tap into their 30" 250 psig line, 3000 feet of 12" pipe and a meter. Nicor would install approximately 2 miles of 12" pipe to connect to Rand Rd. system and a station to regulate pressure down to the existing 155 psig system pressure. The existing vault along the route would be revised to accommodate incremental flow.

## Nicor's cost estimate:

- 2 miles of 12" installed pipe \$1,500,000
  - Station and vault installation \$1,500,000
  - Real Estate \$600,000
- Total \$3,600,000

NSG will recover their capital costs to install a tap, meter and 3000 feet of 12" lateral through a 10-year firm transportation contract and operating expenses through commodity costs. A renewal of the firm transportation contract was assumed with the reservation charges calculated at \$0.02/dth/day for the winter season, using a 2.5% inflation rate. NSG is not interested in a longer contract term.

NSG cost estimate:

Install 3000 feet of 12" main, tap and metering Facilities \$1,200,000

**Discussion**

The alternatives discussed above can provide adequate support for the Barrington Area for several years of growth. Each of the alternatives provides the same hydraulic benefit because incremental supply is delivered to the middle of the growth area. Growth will continue for several years in this area, but as the area fills-in, the rate of growth will slow down, especially east along Rte 22. The largest area for growth is west of Rand Rd and with some northeast of Rte 22/Rand Rd. The Barrington Area, as modeled by System Planning and Forecasting, will require improvements prior to the 2005-06 winter.

06/17/04

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DraftSubject to Senior  
Management ApprovalAlternate 1

Alternate 1's route is in a growing area that can benefit from a header being installed. Future laterals can be built from this line to support growing communities in the area when they are required.

Also, Alternate 1 provides benefits over the two other alternatives because it does not increase the dependence on a pipeline to supply service to the Rand Rd Line. The new station on the Elgin-Volo line would displace the incremental capacity required in Alternate 2 on the NGPL system. Therefore, no additional capacity is required from the NGPL Barrington metering facility or on the NGPL system. Supply to the Elgin-Volo line can be obtained from a number of upstream suppliers (NGPL, ANR and Horizon), including Nicor Gas storage during non-peak periods.

This new station can provide service to both systems: the existing 12" 230 psig system (west) and the Rand Rd system (east) for a majority of the year without requiring service from NGPL at Barrington. Near peak day conditions, it will require both stations to be in-service. This alternative will improve system security for the existing 230 psig system by adding a second supply source. It also does not increase our dependence on NGPL.

Alternate 2

Alternate 2, as compared to Alternate 3, reduces the number of pipelines involved in supplying gas to the Rand Rd line.

The proposed route for the 12" line (Rte 22 from the West) is also in a growing area that can benefit from a header being installed. Future laterals can be built from this line to support growing communities such as Barrington and Lake Zurich.

Station 317 in Barrington is an existing interconnect with NGPL. Nicor Gas already has some equipment in place, but a major revision will be required to handle the increased capacity.

The Nicor Gas' point capacity for this location is at NGPL's design capacity (57,010 Dth/day or approximately 2.4 MMCFH). This is close to the capacity required by the existing system. The incremental capacity needed to supply the Rand Rd. system will require NGPL to make major revisions to their Barrington metering facilities. The current location of the metering facilities does not lend itself to a major expansion. The station is adjacent to Good Shepherd Hospital, a residential subdivision and Doctor's Clinic.

Another issue with this alternative is that NGPL's Volo line is at capacity. To take incremental volumes at this station, Nicor will be required to shorten its path for a portion of NGPL's firm transportation capacity delivered to Volo. To replace the capacity reduction at Volo, additional capacity will be transported from Horizon to Nicor Gas' Elgin-Volo line and then to Volo station. No costs have been estimated for this delivery point change.

This alternate will also increase the dependence on NGPL for supplying service to our system.

Alternate 3

Alternate 3 provides supply from the east, NSG, which can benefit some lower order systems along the route that are also experiencing capacity problems. If another alternative is chosen, some improvements will be required to support the lower order systems east of Rand Rd.

The large unknown with this alternative is the ability to renew the contract after the initial 10-year term. NSG would have an advantage in negotiating any future contracts. At this time, NSG will not commit to a longer-term contract. During the financial analysis, a renewal of the contract was assumed at rate comparable to other transportation agreements of this nature.

An agreement with NSG will also require a contingency subject to ICC approval. This may cause delays in starting the construction of the facilities due to the time required to complete the approval process. Delays

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in construction will jeopardize the completion date of November 1, 2005. It will also require Nicor Gas to supply incremental capacity to the Busse Rd. station. This is near our low point in our transmission system.

## Financial Review

A financial analysis was completed from a rate payer's perspective for each of the above alternatives. To make a fair financial comparison, each project was assumed to have a 30-year life. From a hydraulic perspective, each of the alternatives provides about the same benefit to the system.

	Nicor Elgin-Volo (Alt 1)	NGPL 317 (Alt 2)	NSG (Alt 3)
2005 Nicor Capital Costs	\$3,368,000	\$3,191,000	\$3,600,000
2006 Nicor Capital Costs	\$1,910,000	\$1,809,000	
2W5 Pipeline Capital Costs	None	\$1,300,000	\$1,200,000
Incremental Pipeline Reservation Costs 1-10 years	None	Capital cost paid by Nicor as CIAC	\$3,202,000/yr
Reservation Costs 11-30 years	No Incremental	No Incremental	Estimated at \$151,000/yr increased at 2.5% inflation
30 Year levelized revenue required	\$838,000	\$877,000	\$595,000
Gas Cost-Reservation Rate	No Incremental	No Incremental	\$285,000
Total annual cost to Ratepayers	\$838,000	\$877,000	\$880,000
NPV	(\$4,760,000)	(\$5,442,000)	(\$5,722,000)

When evaluating the information above, the NSG alternative requires the lowest amount of revenue to reimburse Nicor Gas for its capital expenditure, but when the gas supply costs for the annual reservation charges are included, then the total costs paid by the rate payers dramatically increases. The Nicor Elgin-Volo project provides the lowest total costs for our rate payers (Also see financial analysis memo attached).

## Concerns

Construction of each alternative will be difficult due to development, environmental concerns and space available. Alternative 1 and 2 will be installed along some prime residential real estate (Barrington and Lake Zurich). Installation of these facilities may be difficult due to working space for construction and permitting for wetlands. However, the largest unknown will be the acquisition of real estate right-of-way, due to the proximity to prime residential real estate and limited number of potential routes for installation.

Alternative 3 does have a different route, but it has similar construction and right-of-way issues. In addition, a road-widening project is under construction in 2004 for a portion of the route. It may be difficult to obtain easements or permits to install facilities along this route after the widening project has been completed.

The acquisition of the right of way for this project is critical to completing the project within the time period required. If easements for the selected alternative cannot be obtained or within a reasonable price, then other alternatives need to be pursued promptly.

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## Recommendation

The Nicor Elgin-Volo (Alternate 1) should be selected to meet the needs of a growing area along the Rand Road line. There are several reasons for this selection. The first reason is a financial one, as stated in the table above; it provides the lowest total cost to our ratepayers. The NSG alternative is highest and it has additional risk of obtaining a renewal contract at the predicted rate.

The second reason is it provides Nicor an opportunity to diversify its supply portfolio. The other alternatives directly depend on another pipeline to deliver gas to the Rand Rd. header. For a majority of the winter season and for all of the summer season, this alternative will be available for service. The NSG is only a Winter Only service. Even though the demand is not needed in the summer or portions of the winter season, the Elgin-Volo alternative provides year-a-round service that also provides a backfeed.

The third reason is access to storage. This alternative allows for incremental customers to have access to Nicor Gas' storage. The customers that are now directly supplied by the demand Station 317, NGPL Barrington, will in the future be supplied by the Elgin-Volo transmission system in non-peak conditions. During a majority of the winter season, the Elgin-Volo system can provide adequate supplies.

The fourth reason to choose Alternate 1 is the risk of not completing the installation of Alternative 3 prior to November 1, 2005. If a contract is drafted with NSG, Nicor Gas must seek approval from the ICC for obtaining service from a neighboring Local Distribution Company. The ICC approval process would take at least 2 months, but could be extended indefinitely. The estimated construction timeline to build this project, for Real Estate, Engineering, permitting, and construction is predicted to exceed 14 months after internal approvals are obtained.

The last reason is Nicor's risk to renew the NSG 10 year contract. For the financial comparison, it was assumed that the contract was renewable at a given reservation rate. NSG has expressed their concerns for a longer-term contract (30 years). Nicor's demand for supply in this area will still be needed well after 10 years. If Nicor cannot renew this contract, it will be much more difficult to replace this supply in 10 years due to the increased density of the customers and cost of installing facilities.

The installation will be completed over a two-year period (2005 - \$3,368,000 and 2006 - \$1,910,000). Phase 1 (2005) portion of the project will restore the capacity to meet pressure requirements of lower order system for the 2005-06 winter. It is important for Phase 2 to be installed in 2006 to meet the incremental customers added to the system and to allow for future growth.

As mentioned earlier, the real estate acquisition is critical to the process of completing the project on time and within the budget. To allow time for right-of-way acquisition, Engineering, permitting and construction of the recommended alternative, the internal approval process needs to be completed within the next two months.



## MEMORANDUM

Date: June 15, 2004

Subject: Barrington Lateral

From: Jerry Yang

To: Dan Fox  
Ted Lenart

cc. George Behrens  
Bob Mudra

**Background:**

The Rand Road neighborhood is experiencing steady growth. To continue to **serve this** community, Nicor **Gas** needs to maintain adequate **supply** by either internally **investing** in facilities **and/or** contracting with additional pipeline suppliers. Three alternatives, **including** internal investment or potential outside suppliers, have been reviewed. In this study, based on the key assumptions of these alternatives, we **provide** Supply Planning with a comparison of the ratepayer's revenue requirement **under** each alternative.

**Key Assumptions**

**North Shore Gas Interconnect - Long-term Contract:**

North Shore Gas would spend approximately \$1.2 million to build an interconnect in their territory and would offer Nicor Gas a 10-yr contract, with a year 1-3 reservation rate of \$357,767/year and years 4-10 of \$304,439/year. This contract is assumed to be renewable for 10 years at Year 11 and Year 21, at transportation cost of approximately \$193,000 [ $\$0.02/\text{dth}/\text{day} * 151 \text{ days} * 50,000 \text{ dth} * 2.5\% \text{ inflation rate compounded for 10 years}$ ] and \$247,000, respectively. If the unit cost is \$0.01/dth/day, then the contract would be renewed at transportation cost of \$97,000 for 10 years at Year 11 and \$124,000 at Year 21.

In addition, Nicor Gas would spend approximately \$3.6 million, including \$3.0 million on the pipeline and \$0.6 million on the easement. The initial annual operating cost for maintenance would be 1% of the \$3.0 million pipeline capital investment and will be escalated with 2.5% inflation rate. There is additional commodity cost of \$5,000/year ( $\$0.01/\text{dth}/\text{day} * 50,000 \text{ dth} * 10 \text{ days}$ ) in Year 1 and will be increased by 2.5% inflation rate.

**NGPL Station 317 Revision:**

Nicor Gas would engage NGPL for \$400,000 plus 35% tax gross-up to revise station 317 on Route 22. This CIAC (contribution in aid construction) item is amortized over 15 years (straight-line) for tax purposes and it is expensed in Year 1. In addition, Nicor Gas will spend \$5.0 million, including \$4.0 million (\$2.19 million in 2005, \$1.81 million in 2006) on the pipeline and \$1.0 million (all in 2005) on the easement. Initial annual operating cost for maintenance would be 1% of the \$4.0 million pipeline capital investment. Inflation rate is assumed at 2.5%.

Nicor Elgin-Yolo Tap Revision:

Nicor Gas would invest \$5.28 million to construct the Elgin-Volo tap, including \$4.25 million (\$2.37 million in 2005, \$1.91 million in 2006) on pipeline and \$1.0 million (all in 2005) on easement. Initial annual operating cost for maintenance would be 1% of the pipeline capital investment. Inflation rate is assumed at 2.5%.

A 10% discount rate is used in all three alternatives. No bonus MACRS is assumed as the project would take place in 2005.

Results

Based on the above key assumptions, the 30-year levelized revenue requirements and NPV are shown below.

(US\$ '000)		North Shore	NGPL 317 Station	Nicor Elgin-Volo
CapEx	Nicor - Pipeline	3,000	4,000	4,278
	Nicor - Easement	600	1,000	1,000
	NGPL - CIAC (35% tax)	-	1,300	-
OpEx	1% of CapEx	30	40	42.5
	Additional Commodity Cost	5	-	-
Long-term Contract		Yr 1-3: \$358	-	-
		Yr 4-10: \$304	-	-
30-Yr Levelized Revenue Requirement		\$595	\$877	\$838
30-Yr Levelized Reservation Costs (PGA)		285	-	-
30-Yr Levelized Revenue Requirement \$/yr		\$880	\$877	\$838
NPV @ 10% (Nicor Gas Capital & Res. Costs)		(\$5,722)	(\$5,442)	(\$4,760)

Footnote: NPV @ 10% (Nicor Gas Capital Only)

(\$3,377)

(\$5,442)

(\$4,760)

The Nicor Elgin-Volo option has the lowest annual revenue requirement (30-year levelized) among the three options of \$838K/year and the lowest total cost (\$4.76MM) NPV. The levelized revenue requirement and the NPV illustrated above include both the reservation costs which would flow through the PGA as well as the recovery of capital and operating expense which are recovered through base rates. Therefore, these measures are appropriate for evaluating the lowest total cost alternative from the ratepayers' perspective. The results are dependent on future reservation rate assumptions with North Shore Gas and ideally a 30-year contract quote, if available, would reduce this uncertainty.

As noted above, the North Shore Gas interconnection carries the uncertainty of future contract renewal rates at year 11-year and beyond. If the unit transportation cost were to drop to \$0.01/dth/day from \$0.02/dth/day in year 11, the total revenue requirement would drop to \$844,000. However, a potential future reduction to this level is uncertain at this time. In fact, as of the date of this memorandum, North Shore Gas has not provided Nicor Gas with confirmation of the terms and conditions of the five ten-year contract, let alone how the contract would be renewed.

The Nicor Elgin-Volo alternative also has other operational benefits (outlined by Supply Planning), such as the flexibility to serve additional growth within the territory. From a Supply Planning perspective, the Elgin-Volo provides more diversity in Nicor's portfolio and it provides another source of supply to a portion of Nicor's system that is not back-fed.

<b>RESULTS</b>	
NPV OF CASH FLOWS (DISCOUNT RATE = 10.00%)	(\$4,760)
PRESENT VALUE OF REV REQ (SAVINGS)	\$7,899
LEVELIZED REVENUE REQUIREMENT	\$828
INTERNAL RATE OF RETURN	#DIV/0!
RETURN ON EQUITY	#DIV/0!
TOTAL PROJECT CAPITAL INVESTMENT	\$2,368
PROJECT LIFE	30

Capital Cost \$ 4200

Nicor Elgin-Volo Tap.xls

<b>PROJECT SAVINGS</b>	
	PROJECTED
SAVINGS	0 1 2 3 4 5 6 7 8 9 10
SAVINGS REQUIREMENT (COS)	0 0 0 0 0 0 0 0 0 0 0
	\$715 \$1,082 \$1,051 \$1,017 \$984 \$953 \$923 \$894 \$867 \$840

<b>OPERATING CASH FLOW</b>	
PROJECT YEAR	0 1 2 3 4 5 6 7 8 9 10
INVESTMENT	(\$2,368) (\$1,910) \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
NON-DEPR INVESTMENT	(1,000) 0 0 0 0 0 0 0 0 0 0
OPERATING REVENUES	0 0 0 0 0 0 0 0 0 0 0
OPERATING EXPENSES	0 0 0 0 0 0 0 0 0 0 0
OTHER EXPENSE	0 (43) (44) (45) (46) (47) (48) (49) (51) (52) (53)
INV CAPITAL TAX	0 (34) (34) (32) (30) (29) (27) (26) (25) (23) (22)
INC TAX	0 86 127 148 135 131 123 116 110 106 106
CASH FLOW	(\$3,368) (\$1,921) \$50 \$71 \$63 \$56 \$48 \$41 \$34 \$31 \$31
RUNNING NPV	(\$3,368) (\$5,114) (\$5,073) (\$5,019) (\$4,978) (\$4,942) (\$4,915) (\$4,895) (\$4,878) (\$4,865) (\$4,853)
CUML CASH FLOW	(\$3,368) (\$5,289) (\$5,239) (\$5,168) (\$5,105) (\$5,050) (\$5,002) (\$4,961) (\$4,927) (\$4,896) (\$4,865)

<b>INCOME TAX BEFORE INTEREST EXPENSE</b>	
PROJECT YEAR	1 2 3 4 5 6 7 8 9 10
REVENUES	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
LESS - OPERATING EXPENSES	0 0 0 0 0 0 0 0 0 0
- OTHER EXPENSES	43 44 45 46 47 48 49 51 52 53
- TAX DEPR	89 243 296 274 253 234 217 200 192 191
- ICT	34 34 32 30 28 27 26 25 23 22
TAXABLE INCOME	(166) (320) (373) (350) (329) (310) (292) (276) (267) (266)
INCOME TAXES	(\$66) (\$127) (\$148) (\$139) (\$131) (\$123) (\$116) (\$110) (\$106) (\$106)

<b>IC</b>	
PROJECT YEAR	1 2 3 4 5 6 7 8 9 10
BEG BOOK BASIS	\$4,278 \$4,199 \$4,056 \$3,914 \$3,771 \$3,629 \$3,486 \$3,343 \$3,201 \$3,058
LESS: PREV DEFERRED TAXES	0 4 44 105 157 201 237 287 290 305
TAXABLE BASIS	4,278 4,195 4,013 3,809 3,614 3,428 3,249 3,077 2,911 2,749
INV CAPITAL TAX	\$34 \$34 \$32 \$30 \$29 \$27 \$26 \$25 \$23 \$22

<b>DEPRECIATION</b>	
PROJECT YEAR	1 2 3 4 5 6 7 8 9 10
BEG TAX BASIS	\$2,368 \$4,189 \$3,947 \$3,651 \$3,377 \$3,124 \$2,889 \$2,673 \$2,472 \$2,280
ADDITIONS	1,910 0 0 0 0 0 0 0 0 0
AW TAX BASIS	4,278 4,189 3,947 3,651 3,377 3,124 2,889 2,673 2,472 2,280
TAX DEPR	4,278 89 243 296 274 253 234 217 200 192 191
CUML TAX DEPR	89 331 627 901 1,154 1,389 1,605 1,806 1,998 2,189
ENDING TAX BASIS	4,189 3,947 3,651 3,377 3,124 2,889 2,673 2,472 2,280 2,089
BEG BOOK BASIS	2,368 4,199 4,056 3,914 3,771 3,629 3,486 3,343 3,201 3,058
ADDITIONS	1,910 0 0 0 0 0 0 0 0 0
ADJ BOOK BASIS	4,278 4,199 4,056 3,914 3,771 3,629 3,486 3,343 3,201 3,058
BOOK DEPR	4,278 79 143 143 143 143 143 143 143 143
CUML BOOK DEPR	79 222 364 507 649 792 935 1,077 1,220 1,362
ENDING BOOK BASIS	4,199 4,056 3,914 3,771 3,629 3,486 3,343 3,201 3,058 2,916

<b>FINANCIAL ASSUMPTIONS</b>			
PERCENTAGE DEBT	43.00%	COMBINED TAX RATE	39.75%
LT DEBT INTEREST RATE	7.80%	INVESTED CAPITAL TAX RATE	0.80%
REQ RETURN ON EQUITY	14.00%	REQ RETURN ON TOTAL CAPITAL (BTX)	11.33%
O&M INFLATION RATE	2.50%	REQ RETURN ON TOTAL CAPITAL (ATX)	10.00%

WP (E-4) 11 12/11

COSTING SERVICE REVENUE REQUIREMENTS											
PROJECT YEAR	Total	1	2	3	4	5	6	7	8	9	10
OPERATING EXPENSES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
BOOK DEPR	\$4,278	79	143	143	143	143	143	143	143	143	143
RETURN ON EQUITY	\$6,959	269	415	400	384	368	353	339	325	312	299
INTEREST ON DEBT	\$2,925	113	174	168	161	155	149	143	137	131	126
OTHER EXPENSES	\$1,866	43	44	46	46	47	48	49	51	52	53
ICT	\$473	34	34	32	30	29	27	26	26	23	22
INCOME TAXES	\$4,580	177	273	264	253	243	233	224	215	206	197
TOTAL		<u>\$715</u>	<u>\$1,082</u>	<u>\$1,061</u>	<u>\$1,017</u>	<u>\$984</u>	<u>\$953</u>	<u>\$923</u>	<u>\$894</u>	<u>\$867</u>	<u>\$840</u>
Running PV		\$650	\$1,544	\$2,334	\$3,028	\$3,640	\$4,178	\$4,651	\$5,068	\$5,436	\$5,760
W OF REV REQ	\$7,899										
LEVELIZED REV REQ	\$838										

Nicor Ekin-Volo Tariffs

BEGINNING NET INVESTMENT AND RATE BASE											
PROJECT YEAR		1	2	3	4	5	6	7	8	9	10
DEPRECIABLE INVESTMENT	\$2,368	\$4,199	\$4,056	\$3,914	\$3,771	\$3,629	\$3,486	\$3,343	\$3,201	\$3,058	
NON-DEPRECIABLE INVESTMENT	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
TOTAL NET INVESTMENT	<u>\$3,368</u>	<u>\$5,199</u>	<u>\$5,056</u>	<u>\$4,914</u>	<u>\$4,771</u>	<u>\$4,629</u>	<u>\$4,486</u>	<u>\$4,343</u>	<u>\$4,201</u>	<u>\$4,058</u>	
PREV DEFERRED TAXES	0	4	44	105	157	201	237	267	290	309	
RATE BASE	3,368	5,196	5,019	4,809	4,614	4,428	4,249	4,077	3,911	3,749	

NET OPERATING INCOME AND RETURN ON RATE BASE											
PROJECT YEAR		1	2	3	4	5	6	7	8	9	10
REVENUES	\$715	\$1,082	\$1,061	\$1,017	\$984	\$953	\$923	\$894	\$867	\$840	
OPERATING EXPENSES	0	0	0	0	0	0	0	0	0	0	
BOOK DEPRECIATION	79	143	143	143	143	143	143	143	143	143	
OTHER EXPENSES	43	44	45	46	47	48	49	51	52	63	
ICT	34	34	32	30	29	27	26	25	23	22	
INCOME BEFORE TAXES	559	862	832	798	766	735	705	677	649	622	
CURRENT TAXES	218	303	270	265	260	256	251	246	238	228	
DEFERRED TAXES	4	40	61	52	44	36	29	23	20	19	
TOTAL TAXES	<u>222</u>	<u>343</u>	<u>331</u>	<u>317</u>	<u>304</u>	<u>292</u>	<u>280</u>	<u>269</u>	<u>258</u>	<u>247</u>	
NET OPERATING INCOME	<u>\$337</u>	<u>\$520</u>	<u>\$501</u>	<u>\$481</u>	<u>\$461</u>	<u>\$443</u>	<u>\$425</u>	<u>\$408</u>	<u>\$391</u>	<u>\$375</u>	
RETURN ON RATE BASE	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	

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COST OF SERVICE (REVENUE REQUIREMENTS)											
PROJECT YEAR	Total	1	2	3	4	5	6	7	8	9	10
OPERATING EXPENSES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
BOOK DEPR	\$3,000	100	100	100	100	100	100	100	100	100	100
RETURN ON EQUITY	\$4,640	287	279	267	266	245	235	225	216	207	198
INTEREST ON DEBT	\$1,960	121	117	112	108	103	99	95	91	87	83
OTHER EXPENSES	\$1,537	36	36	37	38	39	40	41	42	43	44
ICT	\$321	24	23	22	21	20	19	18	17	16	15
INCOME TAXES	\$3,060	189	184	178	169	162	155	149	142	136	130
<b>TOTAL</b>		<b>\$757</b>	<b>\$739</b>	<b>\$715</b>	<b>\$691</b>	<b>\$669</b>	<b>\$647</b>	<b>\$627</b>	<b>\$607</b>	<b>\$589</b>	<b>\$570</b>
Running PV		\$688	\$1,299	\$1,835	\$2,307	\$2,723	\$3,088	\$3,410	\$3,693	\$3,943	\$4,162
PV OF REV REQ	\$6,605										
LEVELIZED REV REQ	\$595										
			LRR		\$595						
			GC- Reservation cost		249						
					843						

BEGINNING NET INVESTMENT AND RATE BASE											
PROJECT YEAR		1	2	3	4	5	6	7	8	9	10
DEPRECIABLE INVESTMENT	\$3,000	\$2,900	\$2,800	\$2,700	\$2,600	\$2,500	\$2,400	\$2,300	\$2,200	\$2,100	\$2,000
NON-DEPRECIABLE INVESTMENT	600	600	600	600	600	600	600	600	600	600	600
<b>TOTAL NET INVESTMENT</b>	<b>\$3,600</b>	<b>\$3,500</b>	<b>\$3,400</b>	<b>\$3,300</b>	<b>\$3,200</b>	<b>\$3,100</b>	<b>\$3,000</b>	<b>\$2,900</b>	<b>\$2,800</b>	<b>\$2,700</b>	<b>\$2,600</b>
PREV DEFERRED TAXES	0	5	51	91	125	153	177	195	209	223	223
<b>RATE BASE</b>	<b>3,600</b>	<b>3,495</b>	<b>3,349</b>	<b>3,209</b>	<b>3,075</b>	<b>2,947</b>	<b>2,823</b>	<b>2,705</b>	<b>2,591</b>	<b>2,477</b>	<b>2,377</b>

NET OPERATING INCOME AND RETURN ON RATE BASE											
PROJECT YEAR		1	2	3	4	5	6	7	8	9	10
REVENUES	\$757	\$739	\$715	\$691	\$669	\$647	\$627	\$607	\$589	\$570	\$550
OPERATING EXPENSES	0	0	0	0	0	0	0	0	0	0	0
BOOK DEPRECIATION	100	100	100	100	100	100	100	100	100	100	100
OTHER EXPENSES	36	36	37	38	39	40	41	42	43	44	44
ICT	24	23	22	21	20	19	18	17	16	15	15
<b>INCOME BEFORE TAXES</b>	<b>598</b>	<b>580</b>	<b>566</b>	<b>533</b>	<b>510</b>	<b>489</b>	<b>469</b>	<b>449</b>	<b>430</b>	<b>411</b>	<b>391</b>
CURRENT TAXES	233	184	181	178	174	171	168	164	164	167	160
DEFERRED TAXES	5	46	40	34	28	23	18	14	13	13	13
<b>TOTAL TAXES</b>	<b>237</b>	<b>231</b>	<b>221</b>	<b>212</b>	<b>203</b>	<b>194</b>	<b>186</b>	<b>178</b>	<b>171</b>	<b>171</b>	<b>163</b>
<b>NET OPERATING INCOME</b>	<b>\$360</b>	<b>\$350</b>	<b>\$335</b>	<b>\$321</b>	<b>\$308</b>	<b>\$295</b>	<b>\$282</b>	<b>\$271</b>	<b>\$259</b>	<b>\$248</b>	<b>\$248</b>
<b>RETURN ON RATE BASE</b>		10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%

COST OF SERVICE (REVENUE REQUIREMENTS)											
PROJECT YEAR	Total	1	2	3	4	5	6	7	8	9	10
OPERATING EXPENSES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
BOOK DEPR	\$4,000	73	133	133	133	133	133	133	133	133	133
RETURN ON EQUITY	\$5,755	255	390	374	356	339	322	306	290	275	260
INTEREST ON DEBT	\$2,419	107	164	157	150	142	135	129	122	116	109
OTHER EXPENSES	\$3,056	1,340	41	42	43	44	45	46	48	49	50
ICT	\$351	32	31	29	28	26	24	23	21	20	18
INCOME TAXES	\$3,796	168	257	247	235	223	212	202	191	181	172
<b>TOTAL</b>		<b>\$1,975</b>	<b>\$1,017</b>	<b>\$982</b>	<b>\$944</b>	<b>\$908</b>	<b>\$872</b>	<b>\$838</b>	<b>\$806</b>	<b>\$774</b>	<b>\$743</b>
Running PV		<b>\$1,795</b>	<b>\$2,636</b>	<b>\$3,374</b>	<b>\$4,018</b>	<b>\$4,582</b>	<b>\$5,074</b>	<b>\$5,505</b>	<b>\$5,880</b>	<b>\$6,209</b>	<b>\$6,495</b>
PV OF REV REQ	\$8,265										
LEVELIZED REV REQ	\$577										

NGPI Station 317 1/3/91s

BEGINNING NET INVESTMENT AND RATE BASE											
PROJECT YEAR		1	2	3	4	5	6	7	8	9	10
DEPRECIABLE INVESTMENT		\$2,191	\$3,927	\$3,794	\$3,660	\$3,527	\$3,394	\$3,260	\$3,127	\$2,994	\$2,860
NON-DEPRECIABLE INVESTMENT		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>TOTAL NET INVESTMENT</b>		<b>\$3,191</b>	<b>\$4,927</b>	<b>\$4,794</b>	<b>\$4,660</b>	<b>\$4,527</b>	<b>\$4,394</b>	<b>\$4,260</b>	<b>\$4,127</b>	<b>\$3,994</b>	<b>\$3,860</b>
PREV DEFERRED TAXES		0	38	109	201	284	360	428	490	546	599
<b>RATE BASE</b>		<b>3,191</b>	<b>4,889</b>	<b>4,684</b>	<b>4,459</b>	<b>4,243</b>	<b>4,034</b>	<b>3,832</b>	<b>3,637</b>	<b>3,447</b>	<b>3,261</b>

NET OPERATING INCOME AND RETURN ON RATE BASE											
PROJECT YEAR		1	2	3	4	5	6	7	8	9	10
REVENUES		\$1,975	\$1,017	\$982	\$944	\$908	\$872	\$838	\$806	\$774	\$743
OPERATING EXPENSES		0	0	0	0	0	0	0	0	0	0
BOOK DEPRECIATION		73	133	133	133	133	133	133	133	133	133
OTHER EXPENSES		1,340	41	42	43	44	45	46	48	48	60
ICT		32	31	29	28	26	24	23	21	20	18
<b>INCOME BEFORE TAXES</b>		<b>530</b>	<b>811</b>	<b>777</b>	<b>740</b>	<b>704</b>	<b>670</b>	<b>636</b>	<b>604</b>	<b>572</b>	<b>541</b>
CURRENT TAXES		172	251	218	211	204	198	191	184	175	163
DEFERRED TAXES		38	71	92	83	76	69	62	56	53	52
<b>TOTAL TAXES</b>		<b>211</b>	<b>323</b>	<b>309</b>	<b>294</b>	<b>280</b>	<b>266</b>	<b>253</b>	<b>240</b>	<b>227</b>	<b>215</b>
<b>NET OPERATING INCOME</b>		<b>\$319</b>	<b>\$489</b>	<b>\$468</b>	<b>\$446</b>	<b>\$424</b>	<b>\$403</b>	<b>\$383</b>	<b>\$364</b>	<b>\$345</b>	<b>\$326</b>
<b>RETURN ON RATE BASE</b>		<b>1000%</b>	<b>100%</b>	<b>1000%</b>	<b>1000%</b>	<b>1000%</b>	<b>1000%</b>	<b>100%</b>	<b>10.00%</b>	<b>10.00%</b>	<b>10.00%</b>

WP (F-4) 12

1/10

## **Gas Distribution Improvement – Main Replacement**

NICOR GAS COMPANY  
FINANCIAL POLICY COMMITTEE APPROVAL  
BOARD OF DIRECTORS APPROVAL

PROJECT REVISION

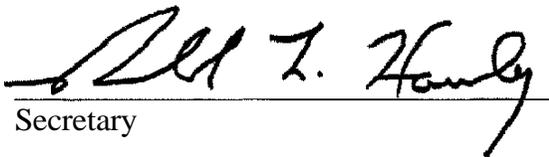
Budget Item No. 3379 – Rte. 64 in Addison. Public Imurovement

This project involves the replacement of 9,265 feet of 24-inch pipe, 1,880 feet of 8-inch pipe, 2,360' of 6-inch pipe, 810 feet of 4-inch pipe, 5,580 feet of 2-inch pipe and 3 vaults for an IDOT Public Improvement in Addison, IL. During construction, contaminated soil was encountered that had to be removed and disposed of. Additional company labor was required for Watch and Protect for the new 24-inch pipe. A 24-inch valve was added for system security and flexibility. Also, DOT required removal of some of ~~the~~ retired 24-inch pipe. **This project is complete.**

Original Authorization    \$3,000,000

Revised Authorization    \$3,439,000

**Approved by Financial Policy Committee**

  
Secretary

June 23,2004  
Date

**Approved by Board of Directors**

  
Secretary

September 16,2004  
Date

NORTH AVENUE

Note: Use additional pages if more space is needed.

BUDGET ITEM NO.	A/U NO.	REGION	CAPITAL TYPE (see back)	AFUDC (see back) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Estimated Expenditures (\$000)			
					Year	This Request	Previous Authorization	Total Authorization
3379	396	Central	Public Improve					
Activity # Investment	133988			PARTIAL AUTHORIZATION <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2002	\$ \$0.00	\$ \$2,870,000	\$ \$2,870,000
Activity # Retirement	333988				2003	\$ \$310,000	\$ \$0.00	\$ \$310,000
Activity # Investment						\$	\$	\$
Activity # Retirement						\$	\$	\$
FILE NO. WC18061A-J	NBA / MR / PI / SI NO. C2789	ESTIMATED START DATE Year 2002	EST. COMPLETION Year 2002	Retired		\$ \$129,000	\$ \$130,000	\$ \$259,000
		Quarter 2	Quarter 3	Total		\$ \$439,000	\$ \$3,000,000	\$ \$3,439,000

Project Location  
Illinois Route 64 between Route 53 and Addison Road, Addison, DuPage County

Project Description  
Replace 9265' - 2 4 pipe, 1880' - 8" pipe, 2360' - 6" pipe, 810' - 4" pipe, 5580' - 2" pipe and 3-5'x5' Dual Vaults due to proposed public improvement.

Alternatives Considered  
Considered lowering sections of 24" main in place: potential \$400K savings through continued negotiations with IDOT.

For Revisions  
Revision:  1  2  3  4

Reason for Request  
To avoid conflicts with a public improvement invoking roadway reconstruction, additional lanes, drainage, lighting, and traffic signal modernization.

Reimbursable?  
 No  
 Yes \_\_\_%

Reason for Budget Revision  
Investment Unbudgeted contaminated spoil found and required removal hauloff +\$211,000;  
Unbudgeted Patch and Protect labor due to size of project and risk level +\$42,000;  
24" valve added to project for system security and flexibility +\$28,000;  
8" steel contractor price greater than budgeted +\$29,000.  
increased retirement cost due to increase in 24" retired pipe that IDOT required removal +\$129,000.

included in overall budget?  
 Yes  No  
Dollars and year(s):  
\$1.5 MM / 2002

Mains to be Installed				Cost/Foot		Mains to be Retired							
Footage	Size	Type	Class	Est.	Std.	Footage	Size	Yr. Installed	Type	Footage	Size	Yr. Installed	Type
see	attached	sheet				see	attached	sheet					

Feet of total main to be installed: 19895

Feet of total main to be retired: 18075

Other Facilities (installed or retired). Also include any operating expense impact.  
Install 3- 5'x5' Dual Vauns w/ Valves Retire 3- 5'x5' Dual Vaults w/ Valves Retire 1- Tin Whistle  
install 2- 2 4 Valves Retire 2-24" Valves

Economic Assessment Data		Approvals			
Item (see page 2)	Value	PRINT RECOMMENDED BY	DATE	PRINT APPROVED BY VICE PRESIDENT 1	DATE
Cost of Capital (after tax)	0%	C. Hynes	3/8/04	A. McCain	
Net Present Value at C/C (after tax)	\$	RECOMMENDED BY SIGNATURE		APPROVED BY SIGNATURE	
Internal rate of return (IRR), if applicable	%	C. Hynes	3/8/04	[Signature]	
Treasurer's Office Approval (only if FPC to approve)		APPROVED BY CPR	DATE	APPROVED BY BOARD OF DIRECTORS/FPC	DATE
		CMT	3-26-04	FPC	6/23/04 BOD 9/16/04
By _____	Date _____	BUDGET COMPLETION/TOLERANCE CHECK BY	DATE	POST INVESTMENT REVIEW	
				<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Undecided	
		ACTUAL EXPENDITURES AND COMMITMENTS THROUGH DATE OF COMPLETION	\$	If yes, Quarter _____ Year _____	
				CPR COMPLETION BY	DATE

NICOR GAS COMPANY  
FINANCIAL POLICY COMMITTEE APPROVAL  
BOARD OF DIRECTORS APPROVAL

NEW PROJECT

Budget Item No. 3379 - Public Improvement

**Relocation** of existing Company **main** on public **right-of-way** due to **road** improvements **and** lane widening of **approximately** 3 miles of Route 64 between **Route** 53 and **Addison** Road.

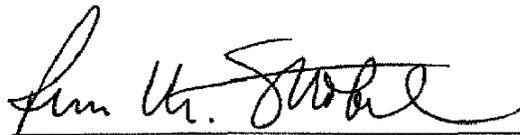
Total Authorization      \$3,000,000

**Approved by Financial Policy Committee**

  
\_\_\_\_\_  
Secretary

April 11, 2002  
Date

**Approved by Board of Directors**

  
\_\_\_\_\_  
Secretary

April 18, 2002  
Date

Note: Use additional pages if more space is needed.

BUDGET ITEM NO.	AU NO.	REGION	CAPITAL TYPE (see back)	AFUDC (see back) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Estimated Expenditures (\$000)			
					Year	This Request	Previous Authorization	Total Authorization
3379		Central	Public Improvement		2002	\$ 2,870	\$	\$ 2,870
Activity # Investment	133988			PARTIAL AUTHORIZATION <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		\$	\$	\$
Activity # Retirement	333988					\$	\$	\$
Activity # Investment						\$	\$	\$
Activity # Retirement						\$	\$	\$
FILE NO.	NBA/MR/PI/SINO.	ESTIMATED START DATE	EST. COMPLETION					
WC1 8061A-J	C2789	Year 2002	Year 2002	Retired	Quarter 2	\$ 130	\$	\$ 130
		Quarter 2	Quarter 3	Total		\$ 3,000	\$	\$ 3,000

**Project Location**  
Illinois Route 64 between Route 53 and Addison Road, Addison, DuPage County

**Project Description**  
Replace 9265' - 24" pipe, 1880' - 8" pipe, 2360 - 6" pipe, 810' - 4" pipe, 5580' - 2" pipe and 3-5'x5' Dual Vaults due to proposed public improvement. See Attached.

**Alternatives Considered**  
Considered lowering sections of 24" main in place.  
ENE negotiations with IDOT Engineers to reduce the amount of Nicor facilities in conflict.

**For Revisions Only**  
Revision:  
 1  2  3  4

**Reason for Request**  
To avoid conflicts with a "Build Illinois" roadway reconstruction consisting of additional lanes, drainage, lighting, and traffic signal modernization. See Attached.

Reimbursable?  
 No  
 Yes \_\_\_%

**Reason for Budget Revision**

Included in overall budget?  
 Yes  No  
Dollars and year(s)  
**\$1.5MM 12002**

Mains to be Installed				Cost/Foot		Mains to be Retired							
Footage	Size	Type	Class	Est.	Std.	Footage	Size	Yr. Installed	Type	Footage	Size	Yr. Installed	Type
see	attached	sheet				see	attached	sheet					

Feet of total main to be installed: 19895

Feet of total main to be retired: 18075

**Other Facilities** (installed or retired). Also include any operating expense impact.

Install 3- 5'x5' Dual Vaults w/ Valves  
Install 2- 24" Valves

Retire 3- 5'x5' Dual Vaults w/ Valves  
Retire 2-24" Valves

Retire 1- Tin Whistle

Economic Assessment Data		Approvals			
Item (see page 2)	Value	PRINT RECOMMENDED BY	DATE	PRINT APPROVED BY VICE PRESIDENT!	DATE
Cost of Capital (after tax)	0%	Gary Stercay	4/8/02	Lonnie Upshaw	4/8/02
Net Present Value at C/C (after tax)	\$	RECOMMENDED BY SIGNATURE		APPROVED BY SIGNATURE	
Internal rate of return (IRR), if applicable	%	<i>Gary Stercay</i>	4/8/02	<i>Lonnie Upshaw</i>	
Treasurer's Office Approval (only if FPC to approve)		APPROVED BY CPR	DATE	APPROVED BY BOARD OF DIRECTORS/FPC	DATE
By _____ Date _____		BUDGET COMPLETION/ TOLERANCE CHECK BY	DATE	POST INVESTMENT REVIEW <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Undecided	
		ACTUAL EXPENDITURES AND COMMITMENTS THROUGH		If yes, Quarter _____ Year _____	
		DATE OF COMPLETION	\$	CPR COMPLETION BY	DATE

Mains to be Installed				Cost/foot	
Footage	Size	Type	Class	Est.	Std.
9265	24"	STL	2	\$251.00	
1880	8"	STL	2	\$48.00	\$45.00
2360	6"	STL	2	\$40.00	\$37.00
620	4"	STL	2	\$33.00	\$30.31
1350	2"	STL	2	\$25.00	\$20.53
190	4"	PE	2	\$27.00	\$24.84
4230	2"	PE	2	\$18.00	\$16.89

Total feet of main to install = 19895

Mains to be Retired			
Footage	Size	Yr. Installed	Type
9120	24"	1968	STL
660	16"	1959	STL
275	8"	1968	STL
290	8"	1962	STL
555	8"	1959	STL
300	8"	1954	STL
230	6"	1989	STL
900	6"	1983	STL
260	6"	1979	STL
610	6"	1962	STL
70	4"	1963	STL
315	4"	1951	STL
170	4"	1950	STL
210	2"	1988	STL
105	2"	1962	STL
410	2"	1959	STL
2175	2"	1954	STL
1420	2"	1951	STL

Total feet of main to retire = 18075

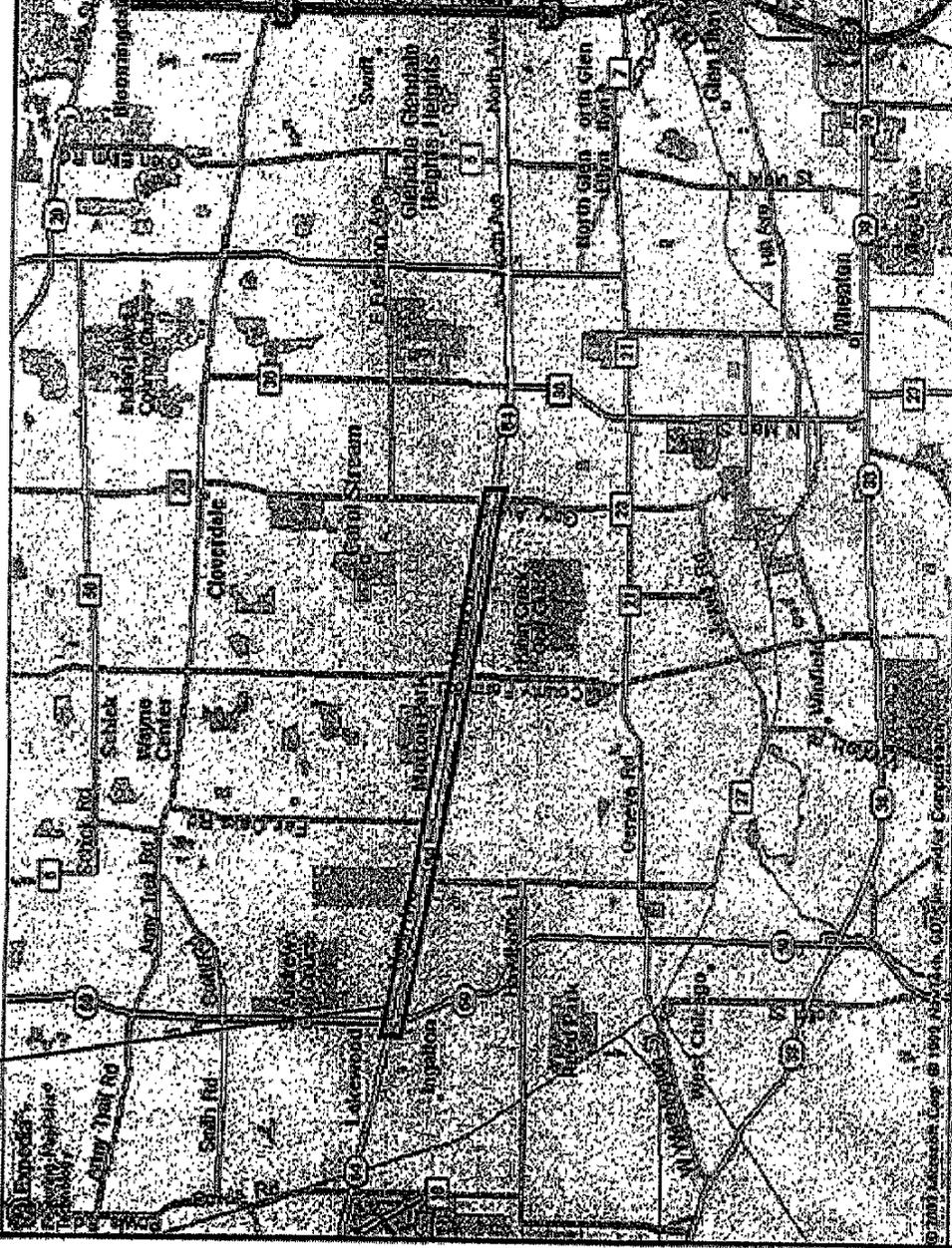
## North Ave (Rte 64) Public Improvement – 4/3/02

- Background
  - 1999 – 5 miles of roadway improvements were done on Rte 64 from Rte 59 to Gary Avenue in West Chicago and Carol Stream
  - 2002 – Rte 64 will be improved from east of Illinois 53 to Villa Ave, Addison and Villa Park
    - Additional lanes for 3.2 miles, drainage, traffic signals and lighting improvements
- The Pre-final plans from IDOT indicate the following conflicts:
  - Drainage structures and sewers – approx. 70%
  - Roadway widening / cuts – approx. 15%
  - Ditch Cuts – approx. 13%
  - Retaining walls approx. 2%
- Scope
  - The W.O. calls for replacement of 9265' of 24"-150psig main. This section of 24" is the "backbone" of the 150psig system and must be replaced size for size.
  - It will also be necessary to replace 1880' of 8" pipe, 2360' of 6" pipe, 810' of 4" pipe and 5580' of 2" pipe
  - 3 – 5' x 5' dual vaults will also need to be replaced
- Timing
  - DOT will let a preliminary contract in June.
  - The main contract will be let in August or September. Dave Krueger from IDOT indicated that he wants Nicor Gas facilities out of the way one month after the letting so that project won't be delayed.
- Cost
  - The project is currently estimated at \$3,000,000
  - ENEngineering is currently negotiating with IDOT's designer to eliminate some of the conflicts in the design phase. If this effort is successful, a potential of \$400,000 reduction in the 24" main relocation cost will be attained.

1999 - 2006 Project

(APPROX. 5 MILES)

ILLINOIS RTE 64 (NORTH AVENUE) PUBLIC IMPROVEMENT



LOCATION MAP  
(SCALE N.T.S.)

FPC April 11, 2002  
Illinois Route 64  
Public Improvement Summary

### Build Illinois

Route 64 (North Avenue) is part of Governor George Ryan's "Build Illinois" **Infrastructure** improvement plan. Starting in 1999 DOT has re-constructed in two phase's five miles of Route 64 **from** Route 59 to Gary Avenue in Carol Stream. Currently, DOT is proposing to re-construct three miles of highway **further** east along route 64 in South Addison and Villa Park.

### Design Process

ENE along with Nicor Gas Projects Department has been negotiating with the state on this road improvement since December 2001. To date, IDOT has not issued **final** project plans. District 1 representatives have indicated awarding "advanced contracts" for clearing ROW and temporary road widening in June 2002, followed by road re-construction and sewer work to be awarded in August or September. DOT is requesting that Nicor's relocation effort be completed by October 2002.

To complete by October 2002, RFP of major material items is **underway**.

### Cost

The project estimate is \$3.0 MM. In November 2001, engineering was aware of the potential road project slated. Working from limited IDOT information, a 2002 budget estimate was made at \$1.5 MM. ENE continues to work on negotiating with DOT and is **awaiting** the states decision to **re-design** a portion of the job.

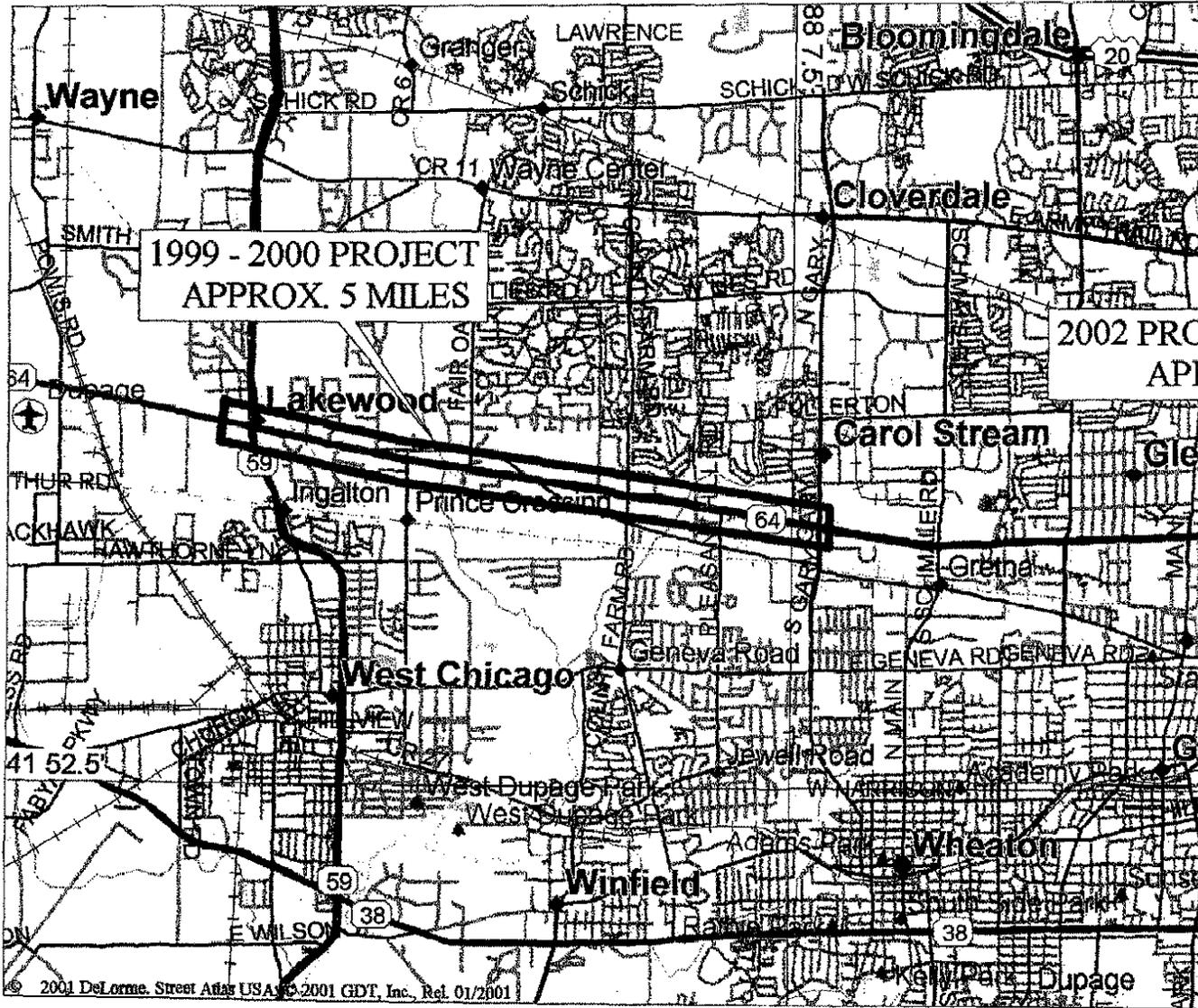
Construction will take 3-4 months to complete.

### Scope

The project is broken into two phases (west and east). The west phase is 2 miles long and directly affects Nicor's 24" 150# system along with various other pipe sizes, including **3** vaults. The east phase is 1 mile long affecting 2" and 4" pipe.

- The Public Improvement Plans indicate the following types of conflicts:
  - Drainage Structures/Sewers – Approx. 70%
  - Roadway Widening/Cuts – Approx. 15%
  - Ditch Cuts – Approx. 13%
  - Retaining Walls – Approx. 2%

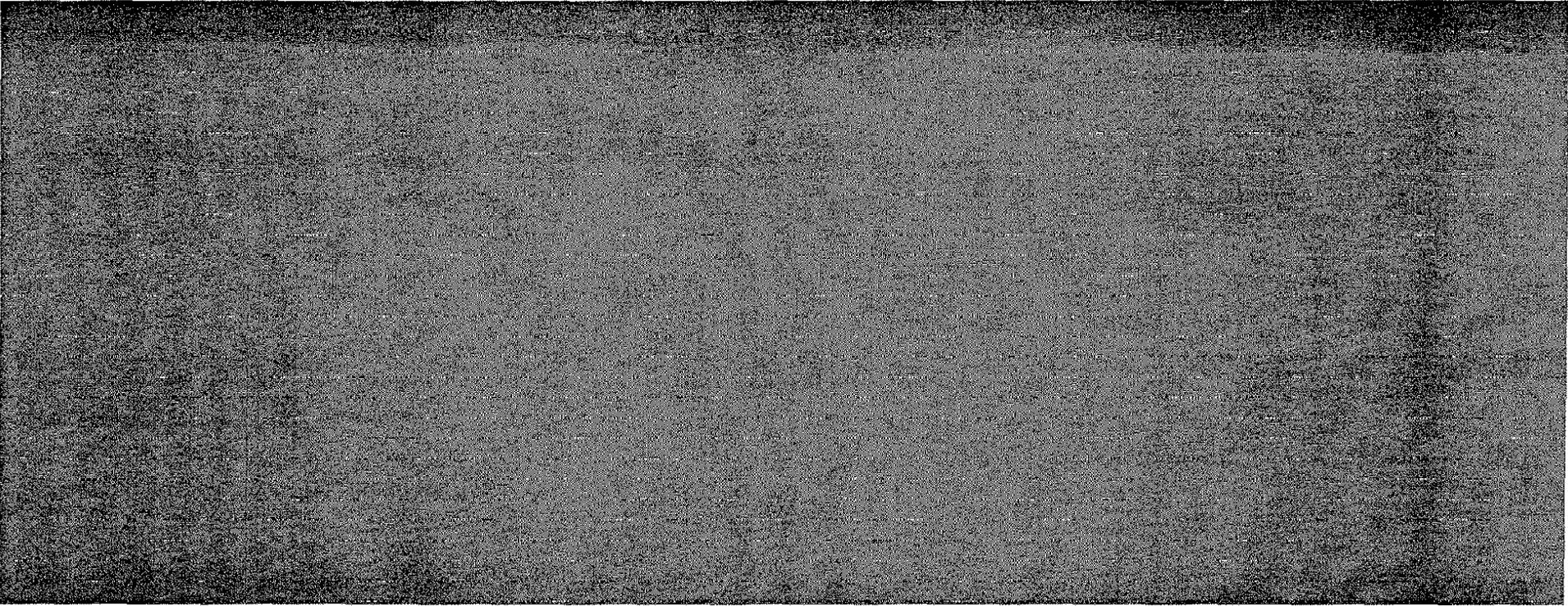
# ILLINOIS RT. 64 (NORTH AVENUE)



**WP (F-4) 13**

**New Mainframe Computer Replacement**

**2005**



# **IS Data Center Transformation Unisys Replacement**

October 2004

Sandy Garcia, Tim Kaufman, Barbara Zeller

Confidential

# Business Case

## Business Decision

**Nicor** Gas must continue to support **CIS/Billing** systems on the Unisys through May **2006** *and* build new skills and environments on the open systems platform to support **n'Able** project testing starting in June **2005**.

- The current production mainframe, NX5822-62, was purchased in 1999. At the time, the Customer One project was in progress and IS planned to downsize the NX5822-62 in December 2004. Instead, IS paid \$258,000 in license fees in January 2004 to Unisys to extend the NX5822-62 for 24 months through January 15, 2006.
- The current NX5822-62 lease expires in December **2005**. IS must make a decision regarding the Unisys mainframe by December 2004 to support the available options.
- IS purchased a test mainframe, NX5821-31 in September 2000 with a license through September 2006.

Early **n'Able** releases began the migration of legacy systems to open systems in 2002, but will not change the sizing of the NX5822-62 before May 2006, to accommodate the current production systems. As IS transitions to the open systems platform, the Data Center responsibilities will change which require training and certification for Console Operators:

- Responsible for maintaining service levels that are tracked by a new suite of monitoring tools that are being implemented.
- Expand their role to include new assignments that include open systems, servers, disk, database and network events which they must resolve or refer to other technical teams.

IS has reviewed three options to support the current CIS strategy to move to Cordaptix in May 2006, with continued support of a limited number of legacy applications remaining on the NX (payroll, stockholders, field asset management):

- Option 1: Status Quo - Keep current NX5822-62 beyond its economic life with increased maintenance costs
- Option 2: Outsource to Unisys on a 5yr or 7yr contract. Unisys would provide mainframe capacity and operating (operators and systems programmers) personnel
- Option 3: Purchase new Unisys Libra under a 5 yr maintenance contract and keep operations internal (includes a production server for 5 years and a test server for 2 years)

# Options Considered

Option	Pro's	Con's	Risk / Comment
1a. Status Quo – Keep existing Hardware beyond End of Life  Extend HW/SW maintenance	<ul style="list-style-type: none"> <li>- No outlay of capital</li> <li>- No disruption to current operations</li> <li>- Unisys contract extension for current level support</li> </ul>	<ul style="list-style-type: none"> <li>- Operating expense is additional \$4.7 million to maintain maintenance</li> <li>- Currently experiencing capacity issues, particularly at month and quarter end</li> </ul>	<ul style="list-style-type: none"> <li>- MCP 5.0 release is last supported release for NX Hardware (2005)</li> </ul>
1b. Keep existing Hardware beyond End of Life  Do not extend Hardware Maintenance or Software Subscription (which allows for software upgrades)	<ul style="list-style-type: none"> <li>- Higher NPV and lower Operating Expense</li> <li>- No disruption to current operations</li> </ul>	<ul style="list-style-type: none"> <li>- Hardware maintenance is billed as Time and Materials</li> <li>- Support is limited to regional engineers</li> <li>- Limited parts availability</li> <li>- No Guaranteed Time to Respond</li> </ul>	<ul style="list-style-type: none"> <li>- Delays in acquiring replacement parts</li> <li>- Longer Unisys production down time</li> </ul>
2. Outsource Hardware and Operations to Unisys	<ul style="list-style-type: none"> <li>- Allows Data Center FTEs to focus on new platforms and tools</li> <li>- Hardware and software upgrades performed by Unisys</li> <li>- Unisys coordinates Disaster Recovery and Unisys tape handling</li> <li>- Allows for Capacity on Demand</li> </ul>	<ul style="list-style-type: none"> <li>- Management of outsourcing relationship is new to department</li> <li>- Cultural impact of outsourcing critical production systems</li> <li>- Downsize or outsource current IS FTEs</li> <li>- Ability to negotiate contract</li> </ul>	<ul style="list-style-type: none"> <li>- Management of outsourcing relationship (SLAs, Callout, Day to Day operations)</li> <li>- Recourse for SLA violations</li> <li>- Delay in production support response</li> </ul>
3. Purchase Unisys Libra580 in 2004	<ul style="list-style-type: none"> <li>- Early Purchase savings due to software credits (capital savings of \$520K, OE savings of \$160K)</li> <li>- Allows for Capacity on Demand</li> </ul>	<ul style="list-style-type: none"> <li>- Ability to negotiate contract by November 12<sup>th</sup></li> <li>- Requires budget funding in 2004, ITSC, CMT, FPC and Board approval</li> </ul>	<ul style="list-style-type: none"> <li>- Data Center FTE availability for n'able</li> </ul>
4. Purchase Unisys Libra580 in 2005	<ul style="list-style-type: none"> <li>- Capital is budgeted in 2005 IT</li> <li>- Allows for Capacity on Demand</li> </ul>	<ul style="list-style-type: none"> <li>- Early purchase discounts lost (\$520K capital, \$160K OE)</li> </ul>	<ul style="list-style-type: none"> <li>- Data Center FTE availability for n'able</li> </ul>

# 5 Year Financial Analysis

US\$000	Option I a Keep Current NX with support	Option II b Keep Current NX without support	Option 2 Outsource to Unisys	Option 3 Purchase 2004 (\$3.6M)	Option 4 Purchase 2005 (\$4.1M)
NPV at 10% disc rate	\$(6,748)	\$(4,613)	\$(5,567)	\$(5,398)	\$(5,834)
Levelized Revenue Requirement	\$2,955	\$2,020	\$2,437	\$2,378	\$2,569
Total 5-yr Operating Expense	\$15,101	\$10,428	\$11,853	\$6,597	\$6,751
-2005	\$1,784	\$762	\$3,386	\$1,205	\$1,359
-2006	\$3,263	\$2,416	\$2,553	\$1,314	\$1,314
-2007	\$3,304	\$2,414	\$1,963	\$1,323	\$1,323
-2008	\$3,351	\$2,416	\$1,971	\$1,359	\$1,359
-2009	\$3,400	\$2,419	\$1,980	\$1,397	\$1,397
Capital Expenditure				\$3,604	\$4,126

\*Option I a is most costly

\*Option 1b is not being considered based on identified business risks

\*Option 2 has the highest NPV and lowest levelized revenue requirement for 2005

•Option 3 has the highest NPV and lowest levelized revenue requirement but requires 2004 capital

\*Option 4 is budgeted



# Recommendation

- **Purchase Libra580 in 2004**