

# CHUGACH ELECTRIC

Presented to:

**Blue Ribbon Panel**

**July 19<sup>th</sup>, 2007**

# Chugach Electric Association

Who we are



What we do



Current Challenges



Chugach's Future



# Agenda

## Who we are – an overview

- History of our cooperative
- Our business
- Customer expectations

## What we do (and how we perform)

- Generation, Transmission and Distribution
- Finance and Rates
- Business Issues

# Agenda

## Current Challenges

- Fuel Supply
- Generation
- Loss of wholesale customers
- Refinancing
- Fair rates
- Transmission issues
- Renewable generation
- Price of power
- Gas transmission issues

# Agenda

## Chugach's Future

- Meet our customers' expectations of reliable power at reasonable rates.



## Vision

**Powering Alaska's Future**

## Mission

**Through superior service, safely provide reliable and competitively priced energy.**

## Value

**We recognize our role in the community and we expect ethical conduct, teamwork and innovation from ourselves and those with whom we do business.**

# Executive Management



YOS – Years of Chugach Service

# An Overview of Chugach

**Presented by Phil Steyer**  
**Director of Government Relations**  
**& Corporate Communications**



# Overview Contents

- Chugach History
- Chugach Snapshot
- What Chugach consumers value
- Communications

# Chugach History

- Incorporated in 1948
- 1970's - Major generation and transmission additions
- 1980's – 25-year wholesale power contracts with MEA and HEA; 20+ year fuel supply contracts
- 1990's - Focused on improving reliability after rapid growth of the 1980's
- 2000's – Preparing for wholesale power contracts expiration, higher cost fuel and capital cost of new efficient generation to offset higher fuel prices

# Chugach Snapshot

- **Electric Cooperative**
- **Governed by a seven member Board of Directors**
- **Not-for-profit**
- **Largest provider of electricity in Alaska**
- **Regulated by the RCA**
- **Union and non-union workforce**

# Chugach Snapshot

## Vertically Integrated Utility



### Chugach Retail

Number of Members: 64,400

Number of Meters: 79,700

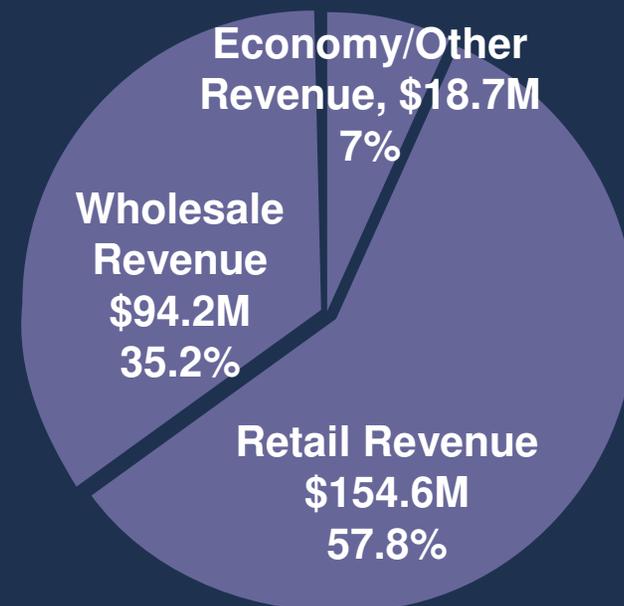
# Chugach Snapshot

## Total 2006 Sales & Revenue

**Total Sales (MWh):**  
**2,750,000**



**Total Revenue:**  
**\$267,540,000**



# Cooperatives in US and Alaska



**75%**

**Investor Owned Utilities**

**10%**

**15%**

**Municipal Utilities**

**15%**

**10%**

**Cooperatives**

**75%**

# Chugach Snapshot

## Railbelt Utilities Service Territories

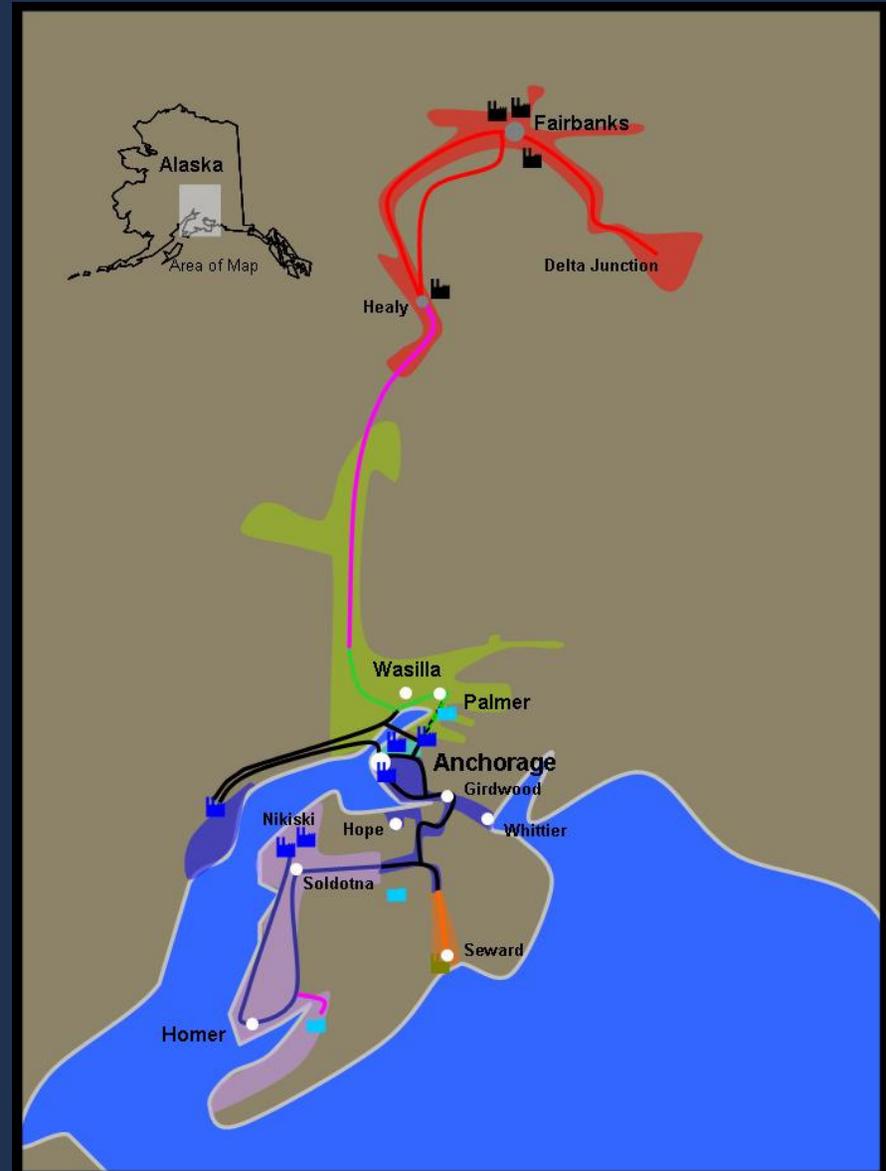
### Six not-for-profit electric utilities:

#### Four cooperatives

1. Chugach Electric
2. Golden Valley Electric
3. Matanuska Electric
4. Homer Electric

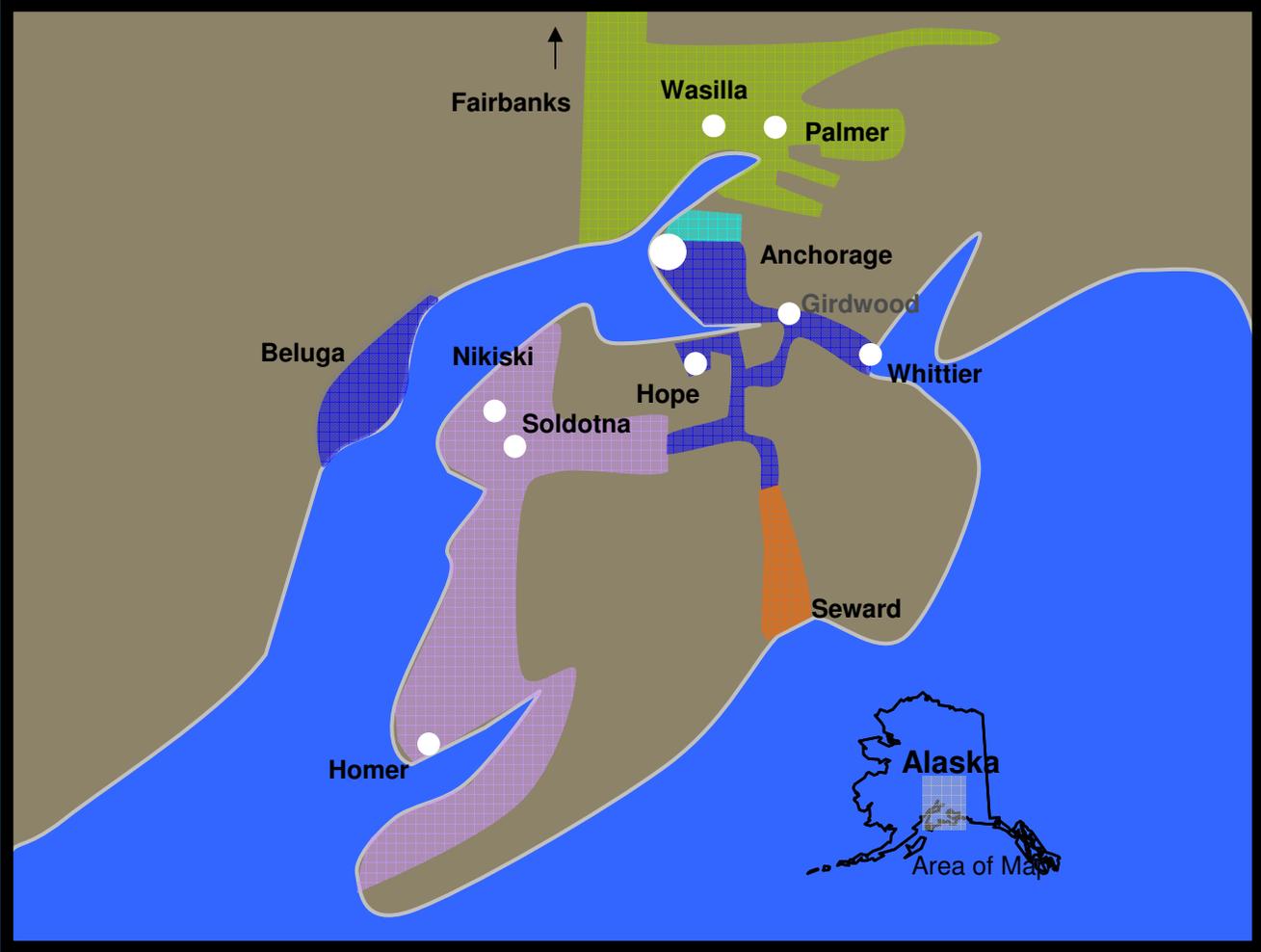
#### Two municipal systems

1. Anchorage Municipal Light & Power
2. Seward



# Chugach Snapshot

## Service Areas

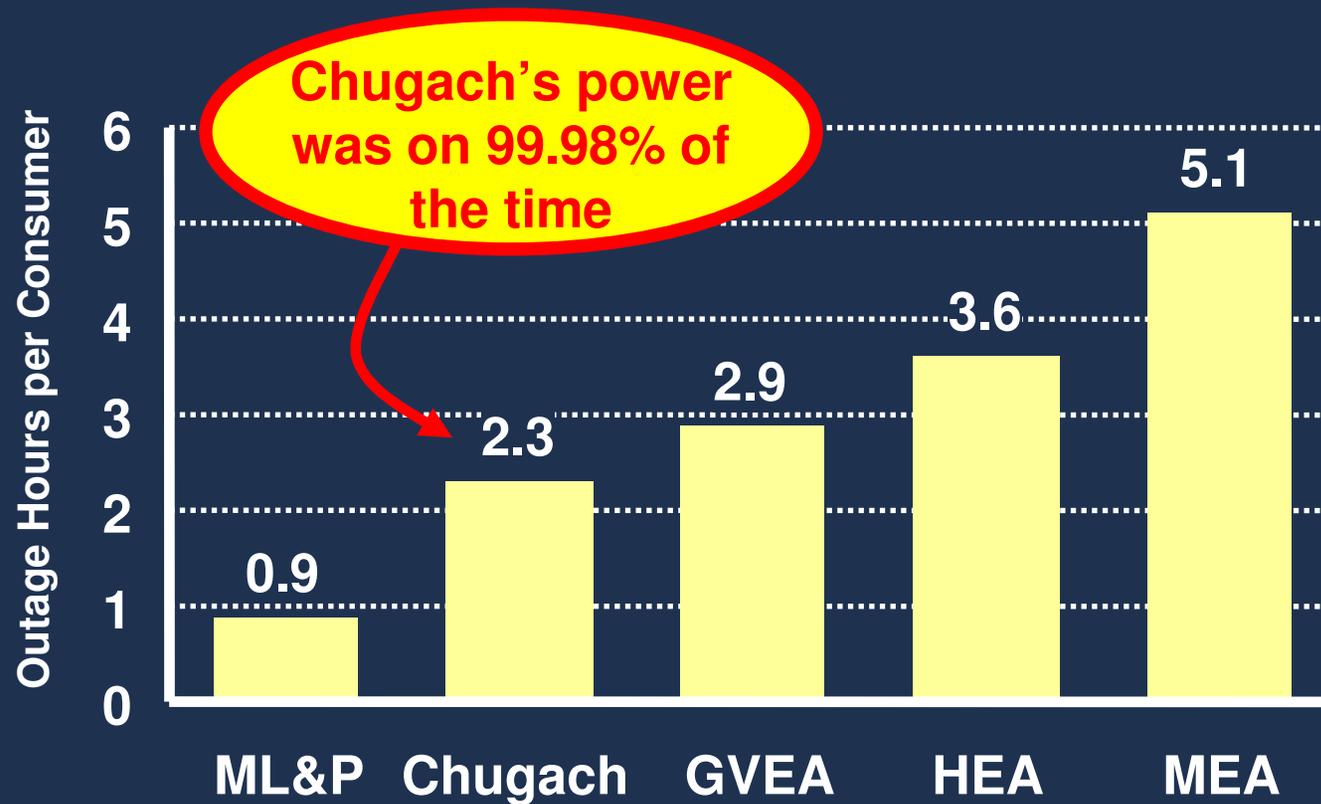


# What Chugach Customers Value

1. Reliability
2. Price
3. Service

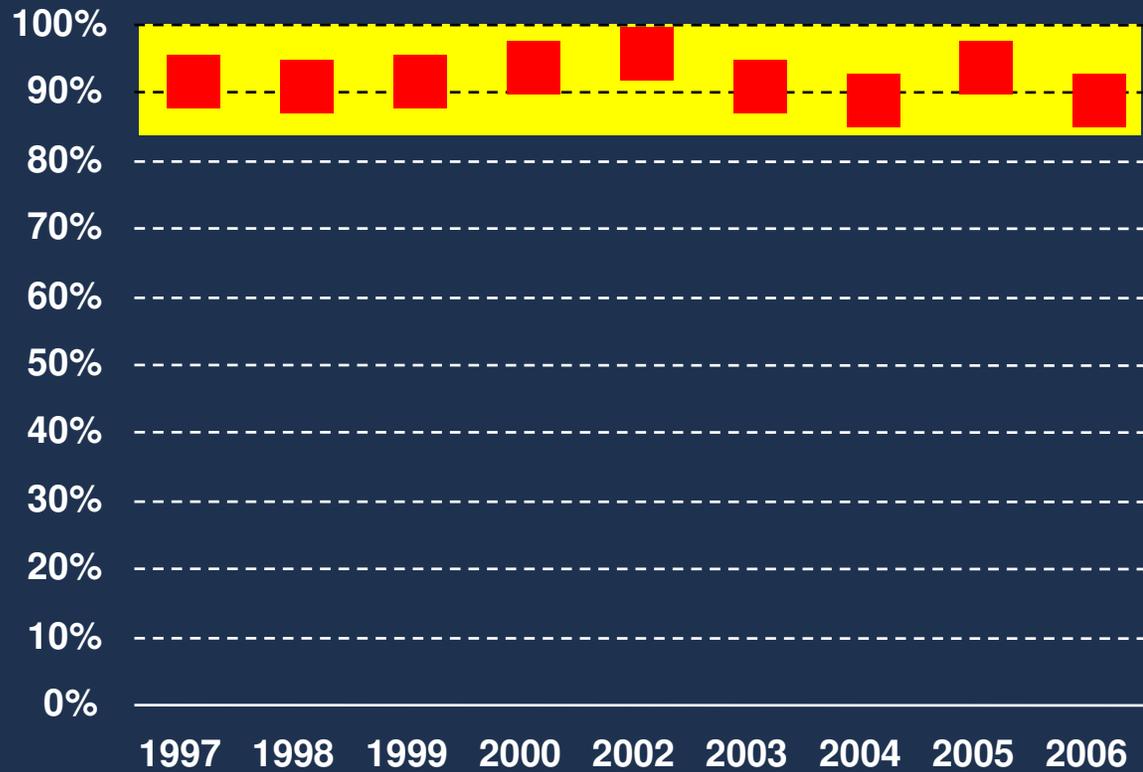
# Chugach Customer Reliability

5-year average outage hours per consumer, ending 2006

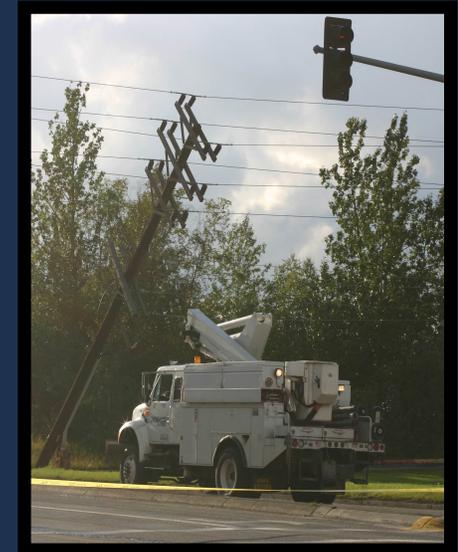


# How is our reliability?

Survey questions: “Overall, how would you rate the reliability of Chugach – would you give Chugach an A, B, C, D or F for the reliability of their electric service?”

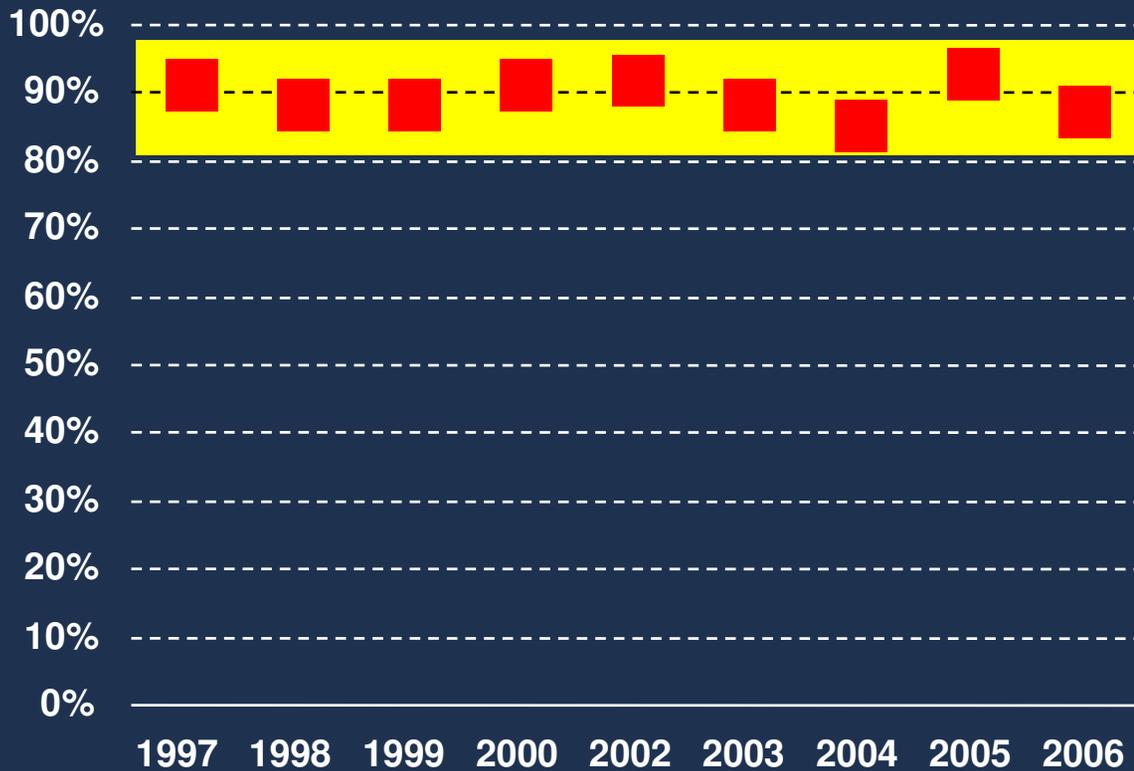


A-B Rating

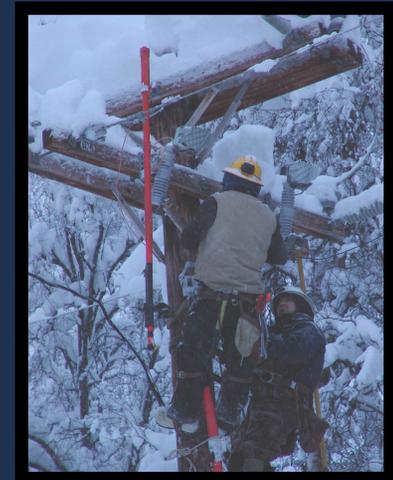


# How quickly do we restore your power?

Survey question: “On average, what grade would you give Chugach in restoring service after a power outage occurs?”

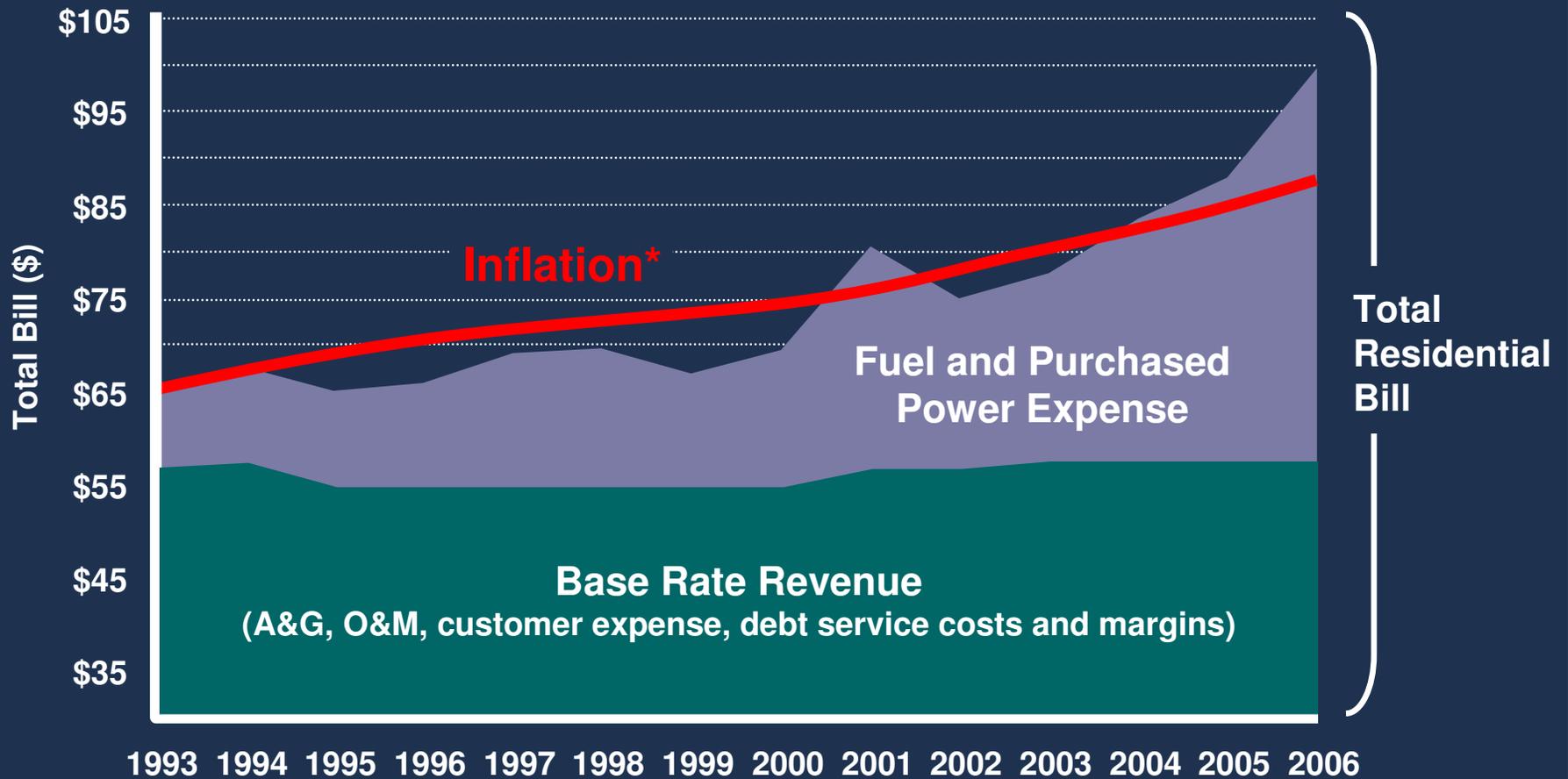


} A-B Rating



# Price

## Residential Bill Based on 700 kWh Consumption – 1993-2006



\* 1993 Residential Bill, adjusted for inflation. Source: US Dept. of Labor, Bureau of Labor Statistics (BLS), CPI-U, Anchorage.

# How is our service?

Survey question: "Thinking about your experience as a member ..., please tell me how satisfied you are with the following items on a scale of 1-5 ...with 5 being "very satisfied"..."

- Reliability of electric service
- Payment options
- Customer service
- Helpfulness of employees
- Keeping you informed
- The Outlet
- Chugach's website
- Capital Credits program
- Rates



4.42

4.14

4.06

4.02

3.67

3.66

3.57

3.51

2.73

# Communications

- **Media**
- **Paid Advertising**
- **Corporate publications**
  - **Outlet, website, annual report, employee newsletter, bill inserts and messages**
- **Presentations**
  - **Community councils, Chamber, Rotary, schools**
- **Large commercial customers**
  - **Commercial account manager**
- **Elected officials and staff**
  - **In-person meetings, letters, testimony, field trips**



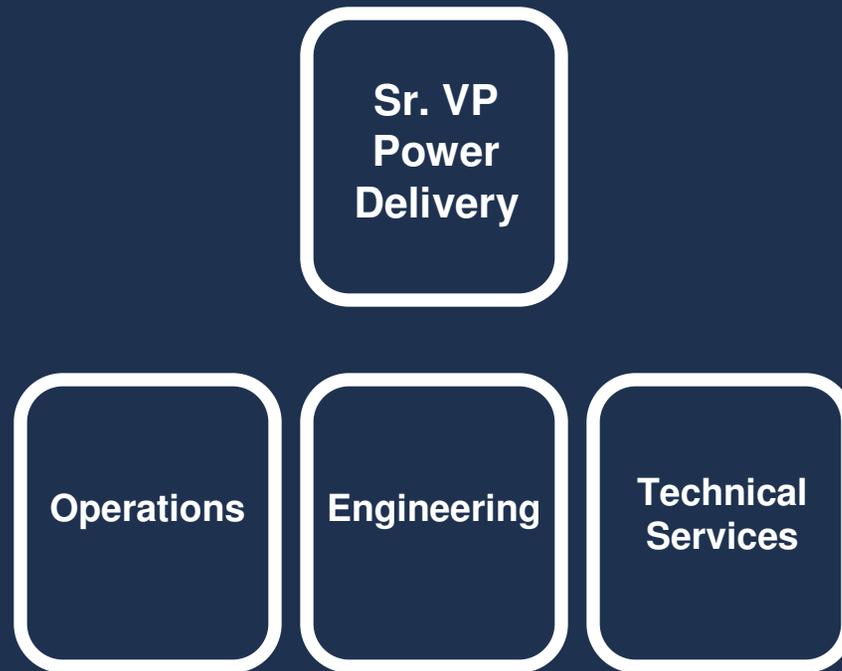
# Power Delivery

**Presented by Lee Thibert  
Sr. Vice President, Power Delivery**

# Power Delivery Contents

- Organization
- Responsibilities
- Power Delivery at a Glance
- Infrastructure & Workforce
- Operating & Capital Budget
- Challenges
- Strengths

# Organization



# Power Delivery Responsibilities

- Provide new service to customers
- Plan for load growth and system improvements
- Design & build transmission & distribution facilities
- Operate & maintain transmission and distribution facilities
- Keep the lights on

# Power Delivery Statistics



## Transmission

- Net utility plant - \$131 million
- 530 miles of line
- 20 substations/switchyards



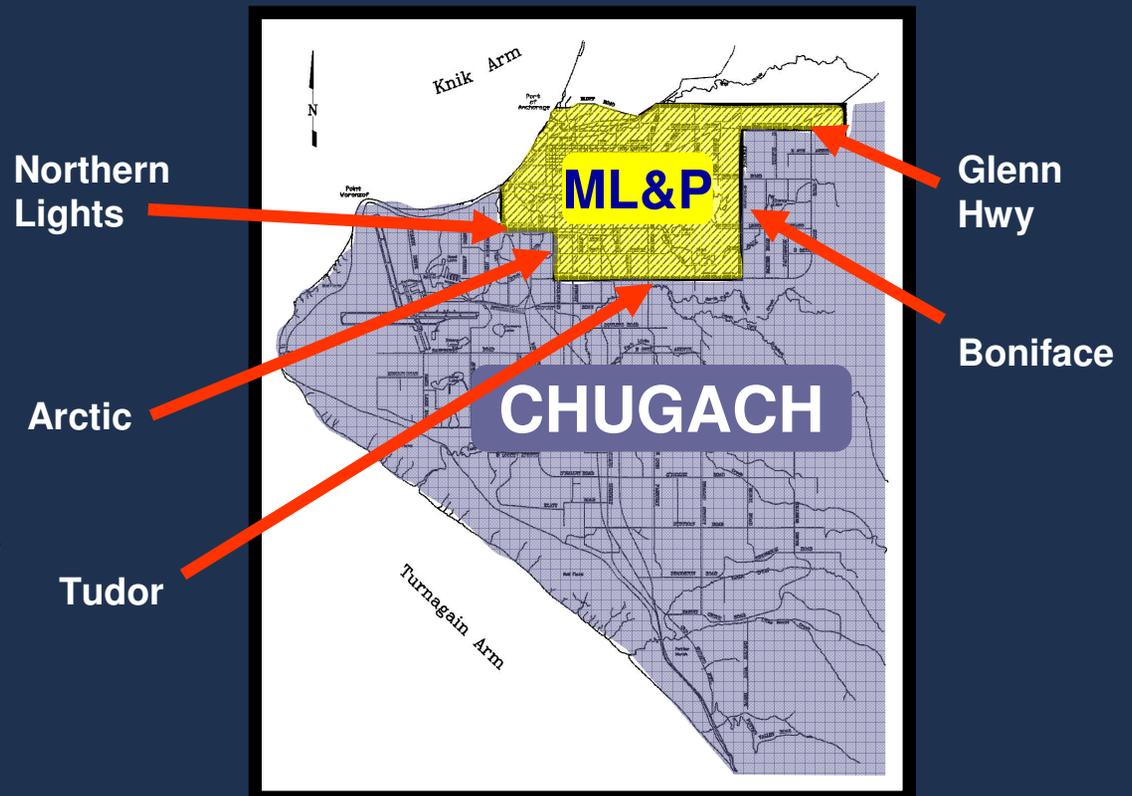
## Distribution

- Net utility plant - \$202 million
- 1,655 miles of line
- 24 substations

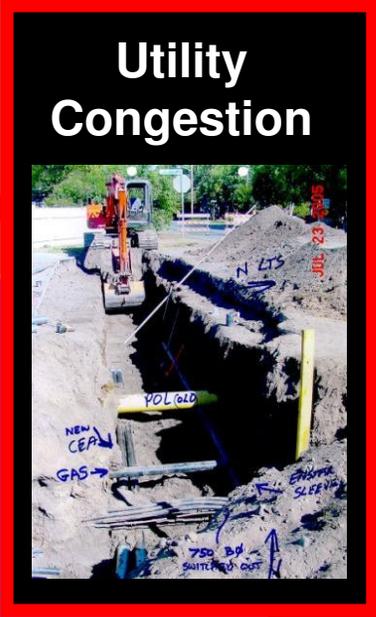
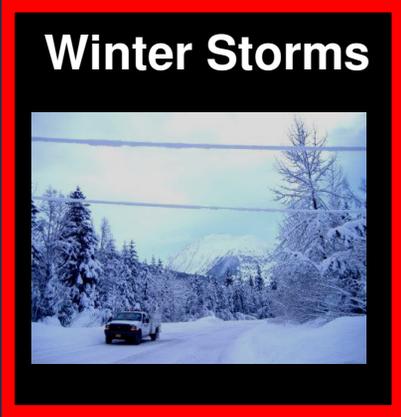
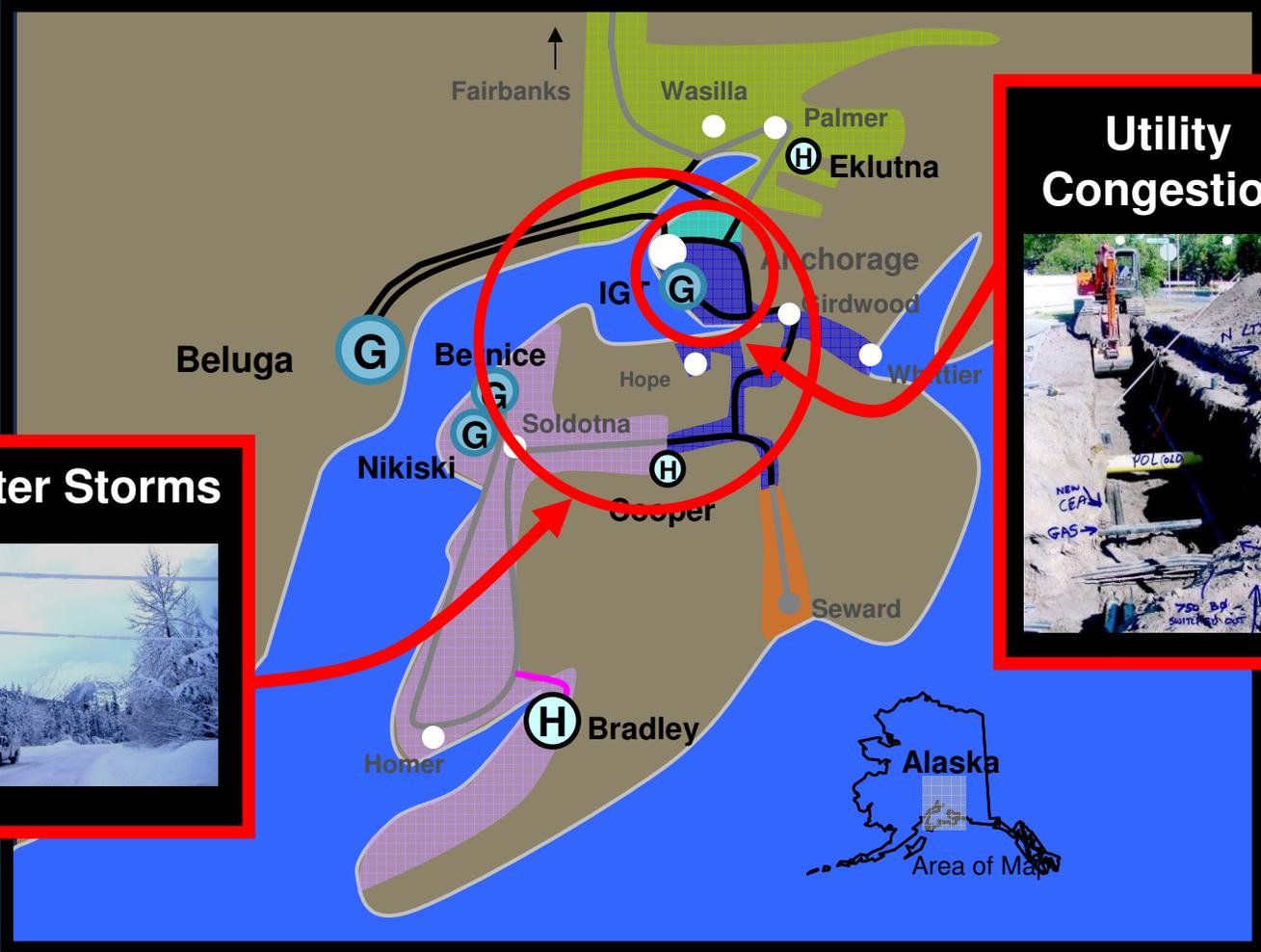


# Distribution

- 64,400 members
- 79,700 metered locations
- 925 mile of overhead line
- 730 miles of underground line



# Distribution Challenging Environment



# Transmission Environmental Challenges

The map displays proposed transmission routes across Alaska, connecting major hubs like Fairbanks, Anchorage, and Homer. Five environmental challenges are highlighted with red callouts:

- Flooding:** A photograph showing a transmission tower partially submerged in water.
- Wildfires:** A photograph of a transmission tower in a charred, post-fire landscape.
- Birds:** A photograph of a bird's nest on a transmission tower.
- Erosion:** A photograph of a steep, eroded embankment.
- Avalanches:** A photograph of a snowy mountain slope with a red arrow pointing to a 'Missing 3-Pole'.

# Transmission The Human Factor

**Chainsaws**



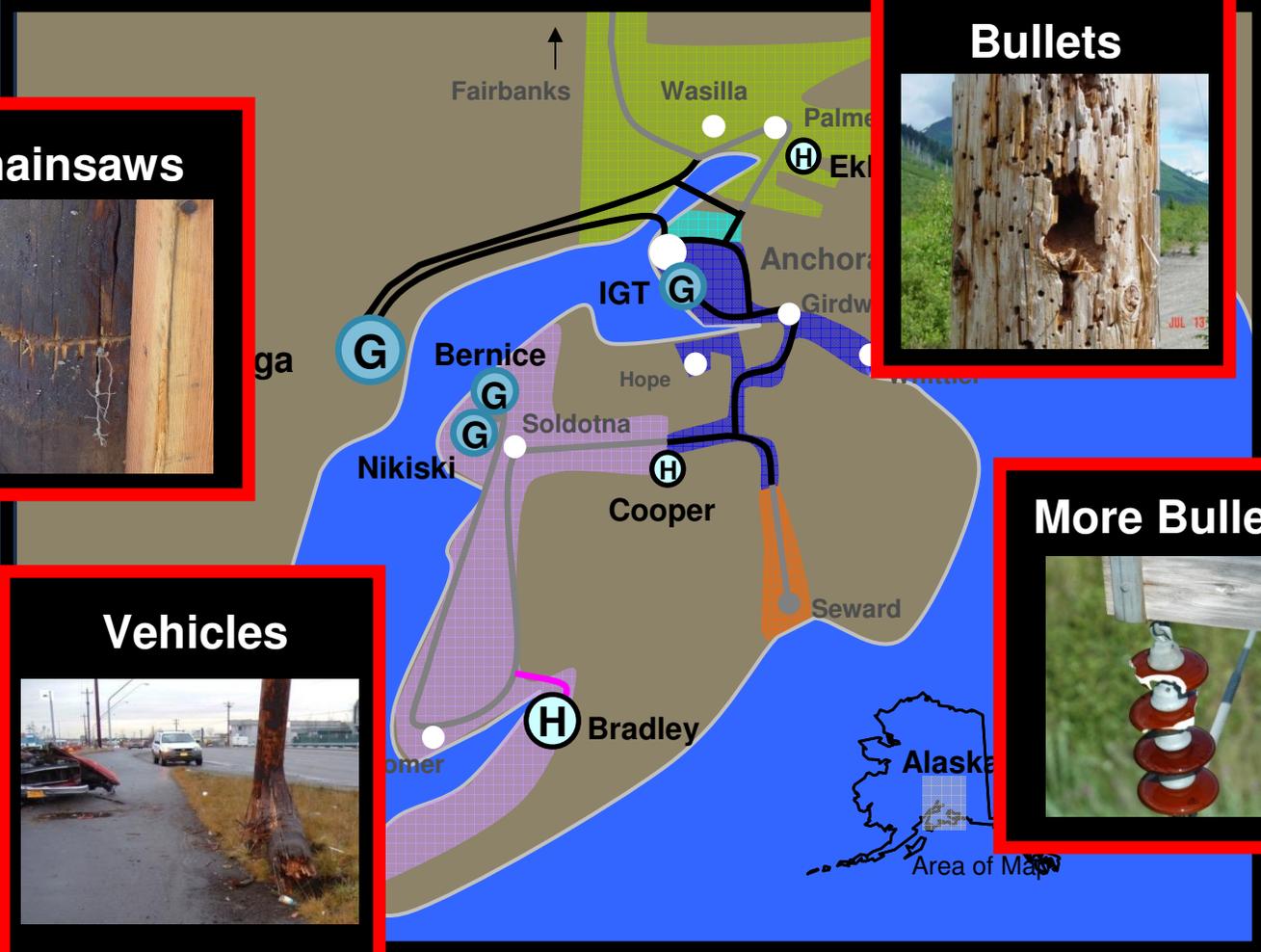
**Bullets**



**Vehicles**



**More Bullets**



# Operating & Capital Budget

## 2007 Budget



<b>Transmission O&amp;M</b>	<b>\$6.1 M</b>
<b>Distribution O&amp;M</b>	<b>\$ 11.8 M</b>
<hr/>	
<b>Transmission Capital Projects</b>	<b>\$12.9M</b>
<b>Distribution Capital Projects</b>	<b>\$19.6M</b>

# Power Delivery Challenges

- Maintain high level of reliability
- Aging electric system
- Aging workforce and recruitment
- Technology
- Extreme environment

# Power Delivery Strengths

- Highly qualified & knowledgeable staff
- High levels of reliability
- Innovation & technology
- Commitment to customer service





# Power Supply

**Presented by Brad Evans**  
**Sr. VP, Power Supply**

# Power Supply Contents

- Organization
- Responsibilities
- Infrastructure
- Operating & Capital Budget
- Challenges
- Strengths

# Power Supply Organization



Sr. VP  
Power  
Supply

System  
Control

Generation  
Technical  
Services

Power  
Plants

SCADA &  
Comm.

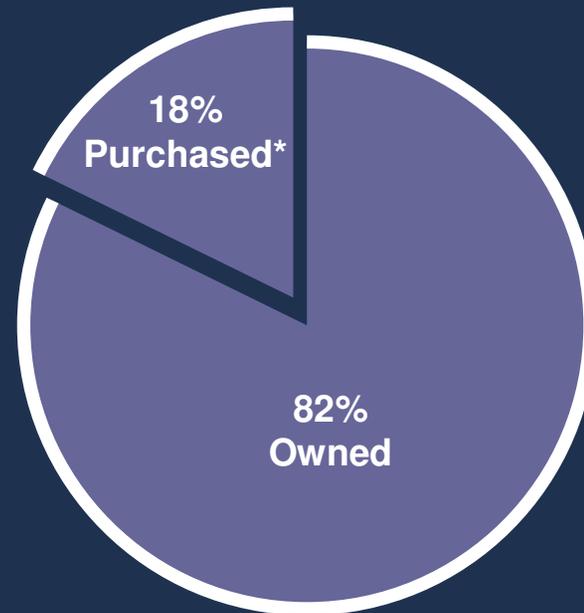
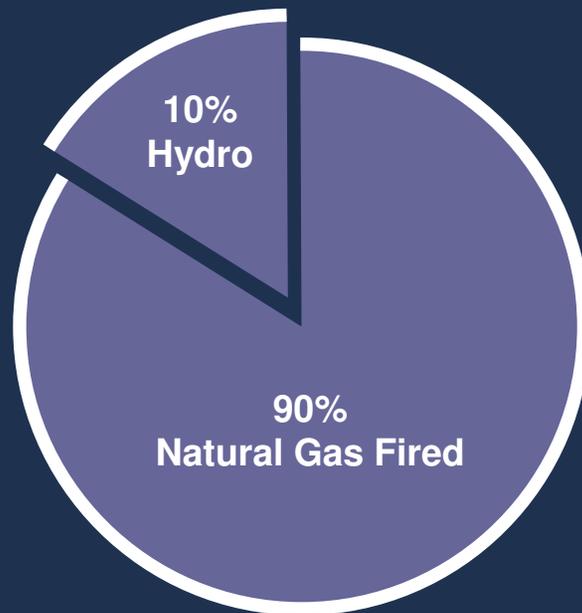
# Power Supply Responsibilities

- Continuously meet customer electric demand
- Operate and maintain generation
- Building or contracting for new power supplies
- Operate system control center
- Maintain Supervisory Control and Data Acquisition System (SCADA)
- Maintain and construct system communications

# Generation

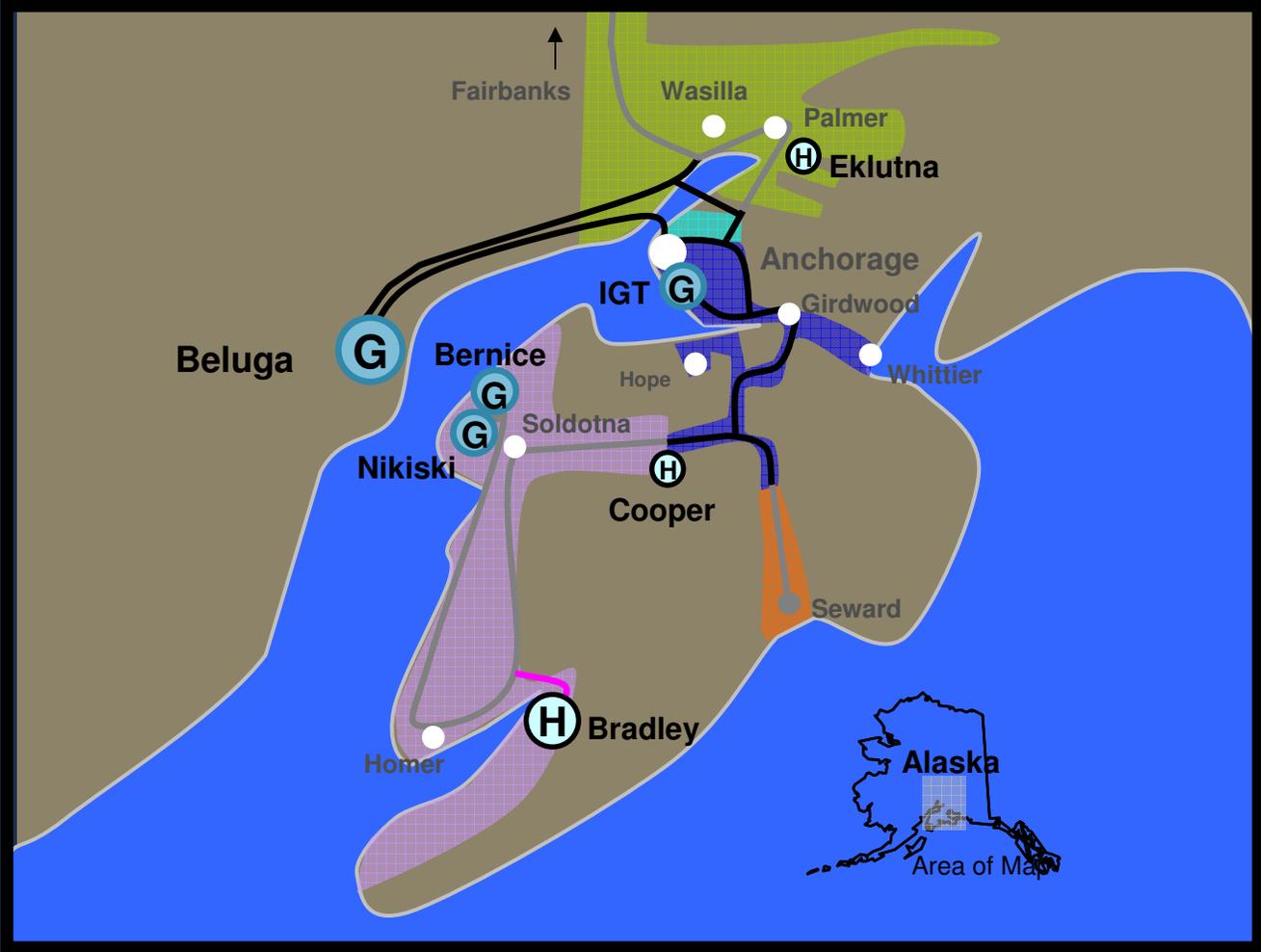
Chugach has 530.1 MWs of capacity

462 MWs of Peak Load



Based on 2006 power sales

# Chugach Generation



# Chugach Generation Beluga Power Plant



6 Gas-fired units  
1 HRSG unit  
385 Total MW



# Chugach Generation

## Bernice Lake Power Plant



Gas-fired  
3 units  
67.5 Total MW



# Chugach Generation International Generation Station



3 Gas-fired units  
46.7 Total MW



# Chugach Generation Cooper Lake Power Plant



Hydroelectric  
2 units  
19.2 Total MW



# Jointly-Owned Generation Eklutna Power Plant



Hydroelectric  
2 units  
47 Total MW  
11.7 MW - Chugach share



# Purchased Power

## Bradley Lake Hydroelectric Project



Hydroelectric  
2 units  
120 Total MW  
36 MW - Chugach share



# Generation Operated by Contract

## Nikiski, HEA Generation



Gas-fired  
1 unit  
39 Total MW  
Contract  
terminates:  
1/2014



# Gas-Fired Unit Summary

## Beluga

<u>Unit</u>	<u>Date</u>	<u>Hours</u>
1	1968	148,473
2	1968	150,352
3	1972	206,314
5	1975	203,657
6	1975	222,278
7	1978	204,789
8	1981	189,330

## Bernice Lake

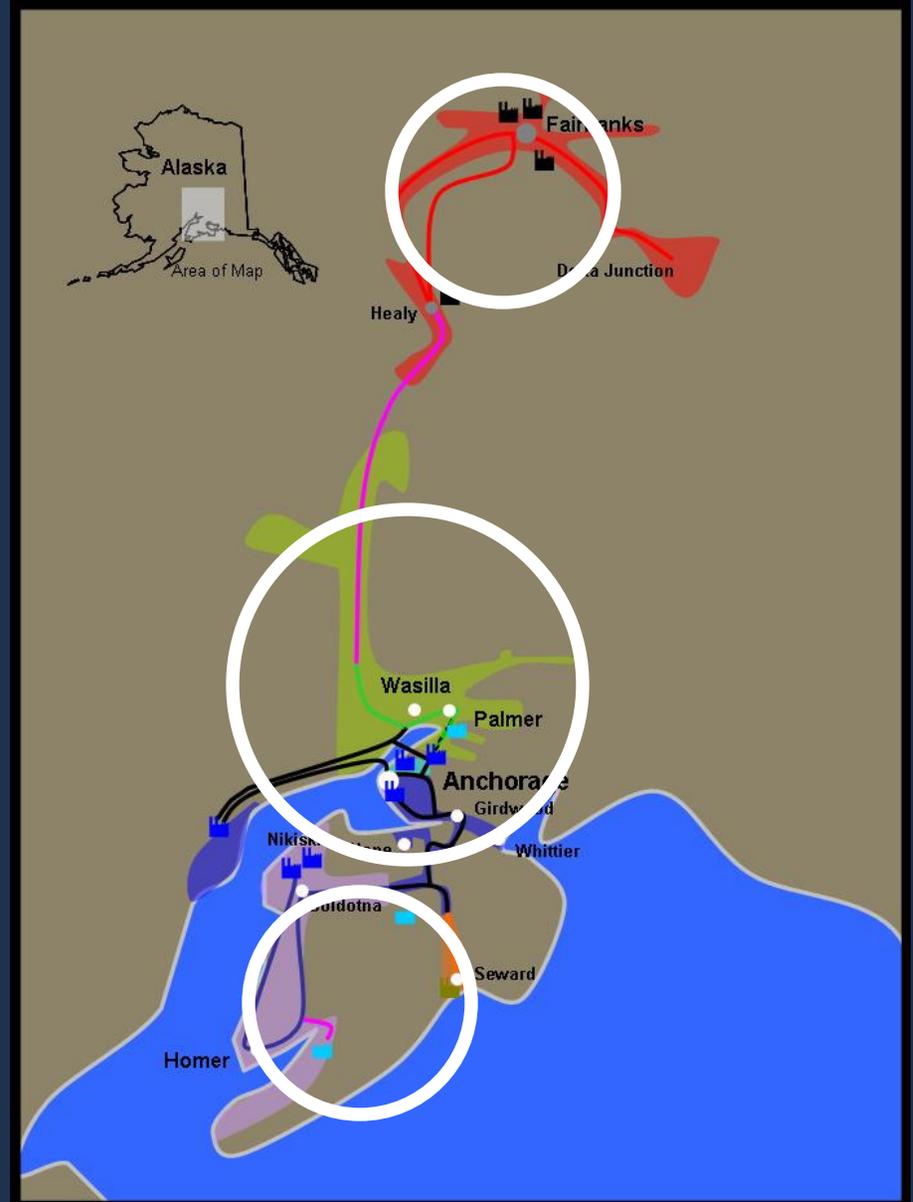
<u>Unit</u>	<u>Date</u>	<u>Hours</u>
2	1971	110,747
3	1978	117,128
4	1981	88,341

## IGT

<u>Unit</u>	<u>Date</u>	<u>Hours</u>
1	1964	57,509
2	1965	53,286
3	1969	58,829

# Railbelt

Three islands of supply and demand

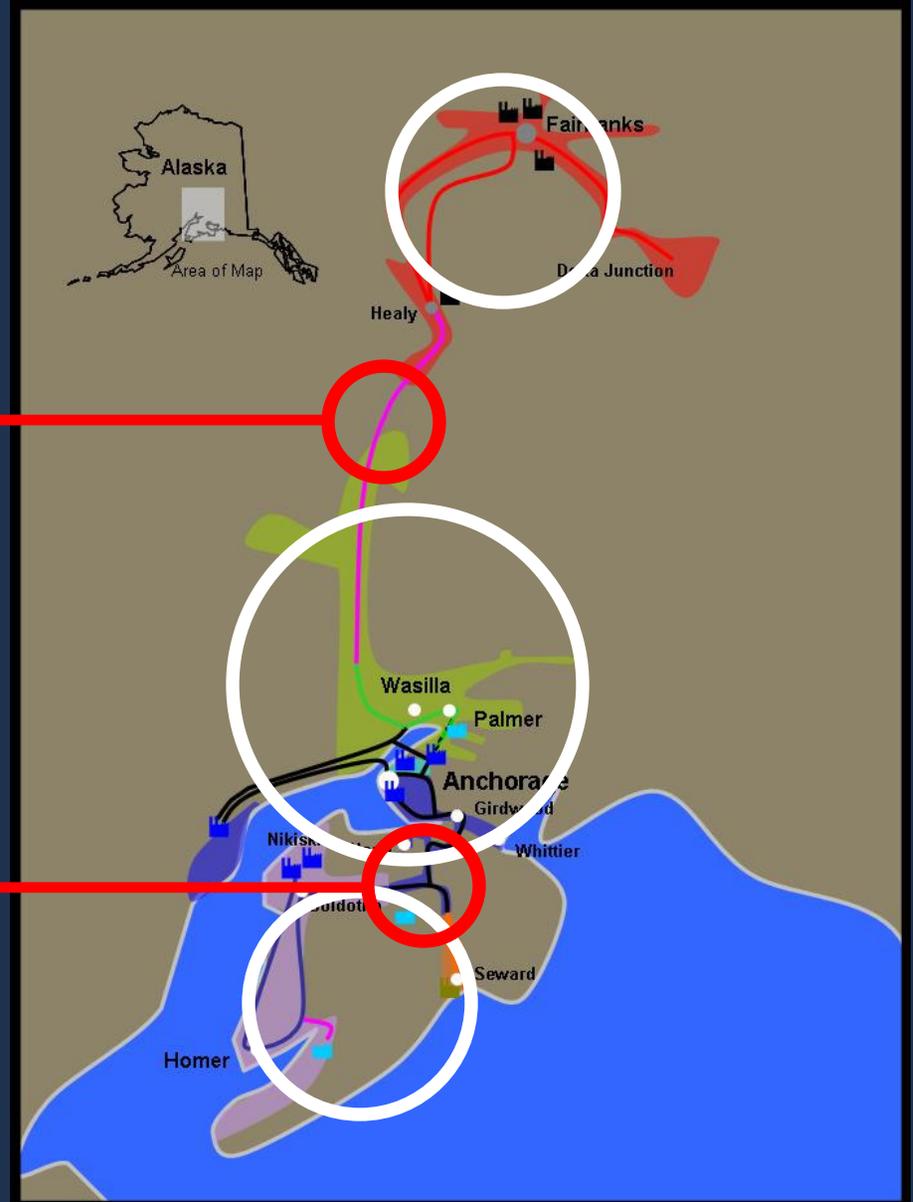


# Railbelt

## Limited Transmission Capability

Alaska Intertie  
138kV  
70 MW Capacity

Chugach  
Southern 115 kV  
75 MW Capacity



# Wholesale Power Contracts

## Four contract types

- All requirements – Chugach meets full energy and demand requirements
- Partial requirements – Chugach meets the energy and demand requirements above that which the purchasing utility meets using its own generation.
- Interruptible – Chugach meets energy and demand requirements but can interrupt service with notice.
- Non-firm – Chugach provides energy as requested and can curtail energy sales at any time.

# Wholesale Power

**Chugach sells about half of its power to MEA, HEA and Seward and sells economy energy to GVEA**

## Matanuska Electric Association (MEA)

- All-requirements through year-end 2014
- Gave notice that it had no desire to renew, extend, or modify the Agreement

## Homer Electric Association (HEA)

- Partial requirements through year-end 2013
- Take or pay 73 MW, 350 GWH per year
- Gave notice that they do not plan to extend the Agreement

## Seward Electric System (SES)

- Existing interruptible contract extended to 12/31/11
- Evergreen, but subject to RCA approval

## Golden Valley Electric System (GVEA)

- Non-firm energy contract through 2009
- Not required to purchase
- Interested in renewing

# System Operation

## How do we make it work?

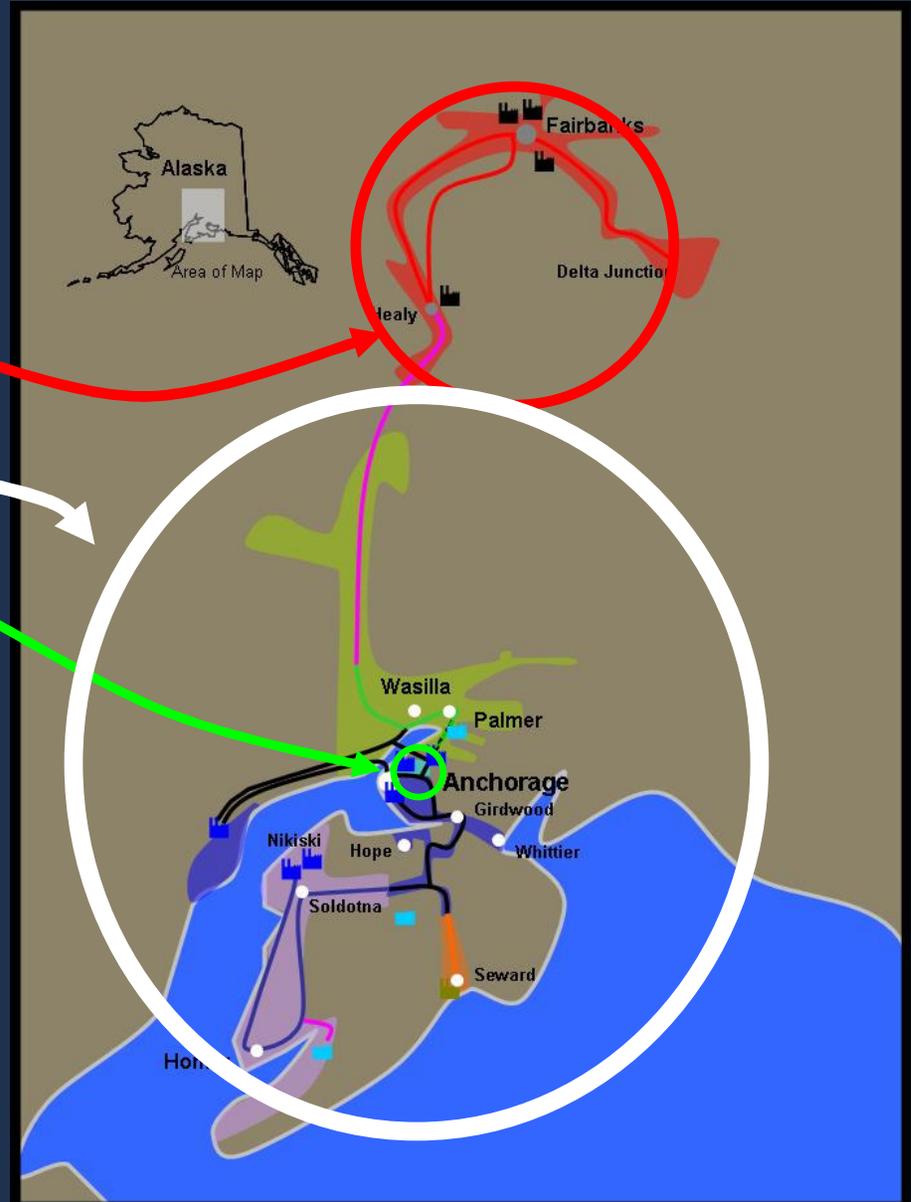
**GVEA control area**

**Chugach control area**

**ML&P control area**

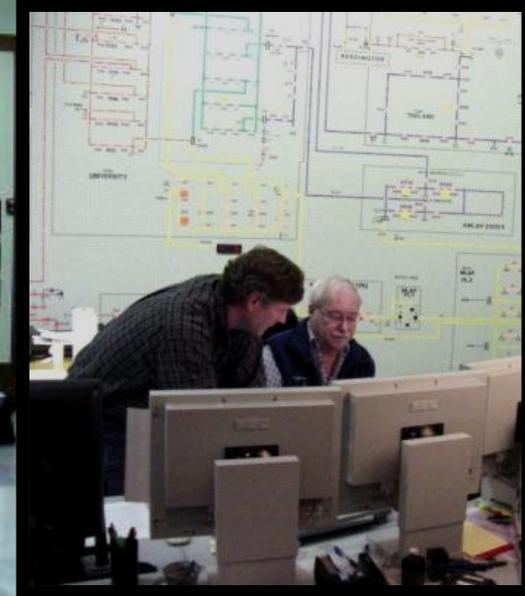
### OPERATING GUIDELINES

- Systems Control
- System Security
- Emergency Operations
- Operating Personnel
- Operations Planning



# System Operation

## How do we make it work?



# Chugach Electric Control Center

## Must continuously meet electric demand:

- Safely
- Without damage to equipment
- Efficiently
- Meeting stringent operating standards

## Must continuously coordinate with other utilities:

- Purchase agreements
- Wheeling
- Interchange accounting
- Interconnected operating standards

# Chugach Electric Control Center

## Utilizes Chugach SCADA Computer System

### Control System

- Schedule Chugach generation & resources
- Load units efficiently to meet demand
- Maintain proper voltage
- Account for and monitor utility interchanges

### System Security

- Generation reserves
- Transmission operation
- Monitoring interconnecting parameters

# Chugach Electric Control Center

## Utilizes Chugach SCADA Computer System

### Emergency Operations

- Insufficient generation capacity
- Transmission overloads
- Load shedding
- System restoration (keeping the lights on)

# 2007 Operating & Capital Budget



<b>Generation O&amp;M</b>	<b>\$14.7M</b>
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<b>Capital Projects</b>	<b>\$16.1M</b>
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<b>Net Plant</b>	<b>\$124M</b>
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# Power Supply Challenges

- Maintaining high level of reliability
- Increasing unit availability
- Maintaining and operating aging generation
- Remote location of generation
- Operation of an islanded system
- Gas transmission system reliability and operations
- Extreme environment
- Aging workforce, recruitment and retention

# Power Supply Strengths

- Highly experienced & knowledgeable staff
- Employee innovation & problem solving skills
- High levels of unit availability
- High levels of unit reliability
- Use of new technology





# Finance

**Presented by Mike Cunningham**  
**Chief Financial Officer**

# Finance Contents

- Organization
- Financial Overview
- Financial Management
- Key Financial Ratios
- Financial Planning Process
- Electric Rates

# Finance Organization



# Financial Overview

## Chugach is a not-for-profit cooperative

- Sources of capital are debt and member equity
- Chugach cannot issue stock to raise capital, but can issue bonds
- Capital projects generally funded from cash generated from operations
- Very large capital projects are debt financed

# Financial Overview

The RCA sets the allowed return and rates that Chugach can charge

- The RCA return is based on an interest expense coverage ratio, times interest earned ratio (TIER)
- Retail and wholesale customers have different allowed TIERs – split TIER issue (1.10 for G&T, >1.60 for distribution)
- The rates are set to cover the cost of business plus generate a small margin

# Financial Overview

## Indenture of Trust Conditions (bond covenants)

Key requirements are:

- **1.10 MFI/I (margins for interest/interest) – TIER-like ratio**
- **22% minimum equity to total capitalization ratio**
- **If 22% minimum equity ratio is not met, a consultant must be hired to recommend rate increases to achieve 22% equity ratio**

# Financial Overview

## 2006 Performance

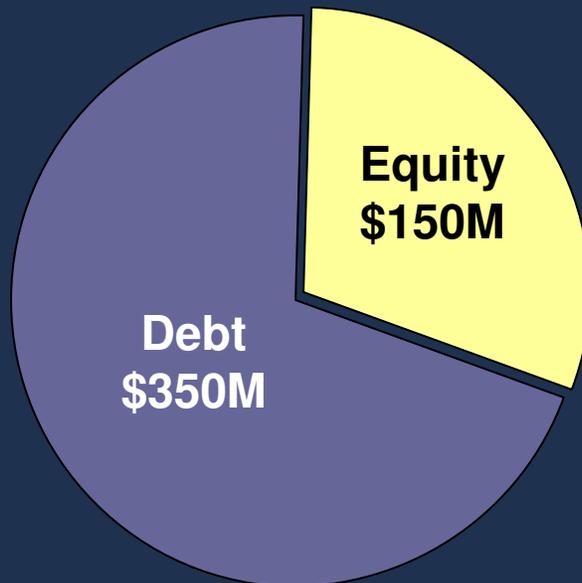


<u>Key Ratio</u>	<u>Target</u>	<u>Achieved</u>
■ MFI/I	> 1.20	1.41
■ Equity Ratio	> 25%	30.1%

# Financial Overview

## Equity Ratio (year-end, 2006)

### Total Capitalization (\$)



$$\frac{\text{Equity } \$150\text{M}}{\text{Total Capitalization } \$500\text{M}} = 30\% \text{ Equity Ratio}$$

# Financial Management Goals

**Goal is to achieve a balance in financial health, reliability and electric rates**

- **Load growth and reliability standards drive capital spending**
- **Operating expense held to no more than the rate of inflation**
- **Must meet margins and equity ratio per indenture**

# Financial Management

## Budget and Planning Processes

Annually recurring internal processes includes:

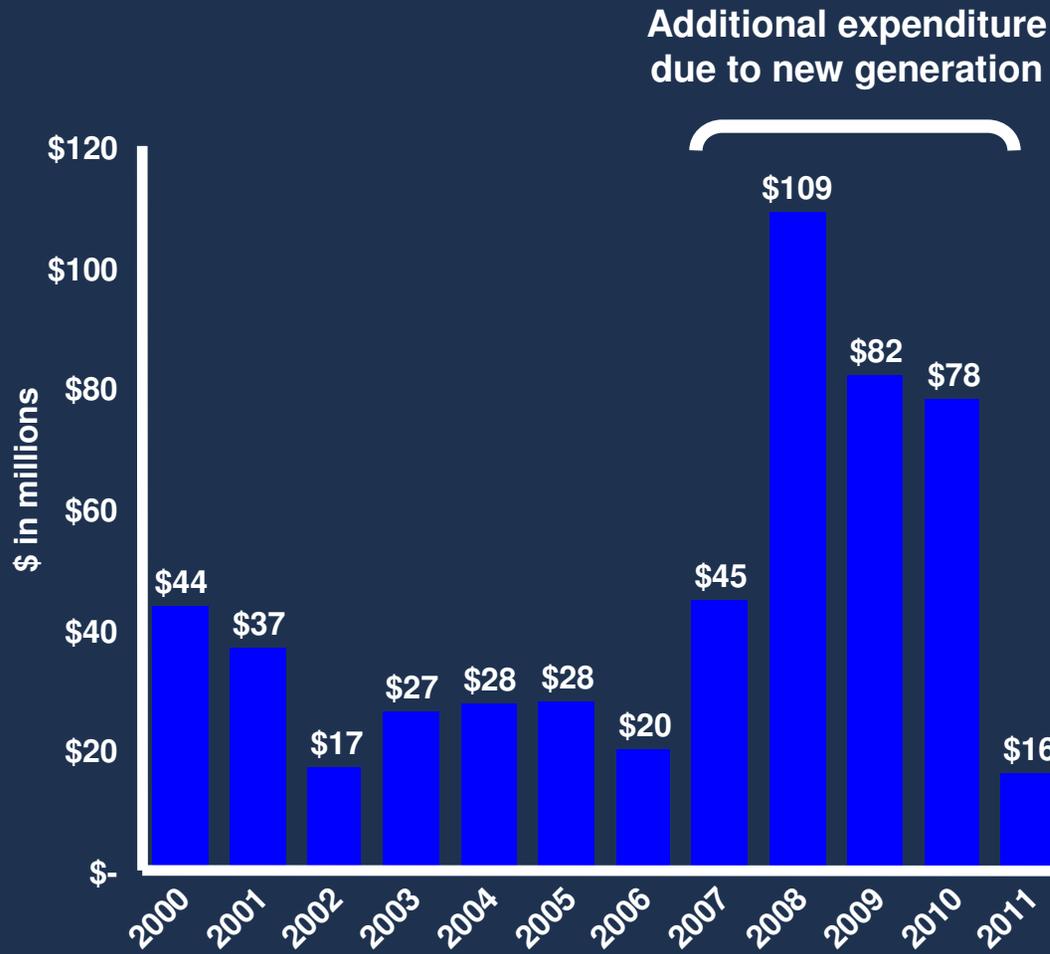
- Annual budget
- Financial Management Plan
  - 5-year Business Plan
  - Debt Management Plan
  - Equity Management Plan
- Capital Improvement Program

# Revenues

- **RCA certificated service territory – Chugach has sole right to serve customers in its service area**
- **Revenues are about 58% from retail and 42% from wholesale and other**
- **Rate case to correct for G&T and Distribution inequities**

# Capital Expenditures

- Planned capital spending limited to depreciation & amortization amounts
- No additional debt since 2002

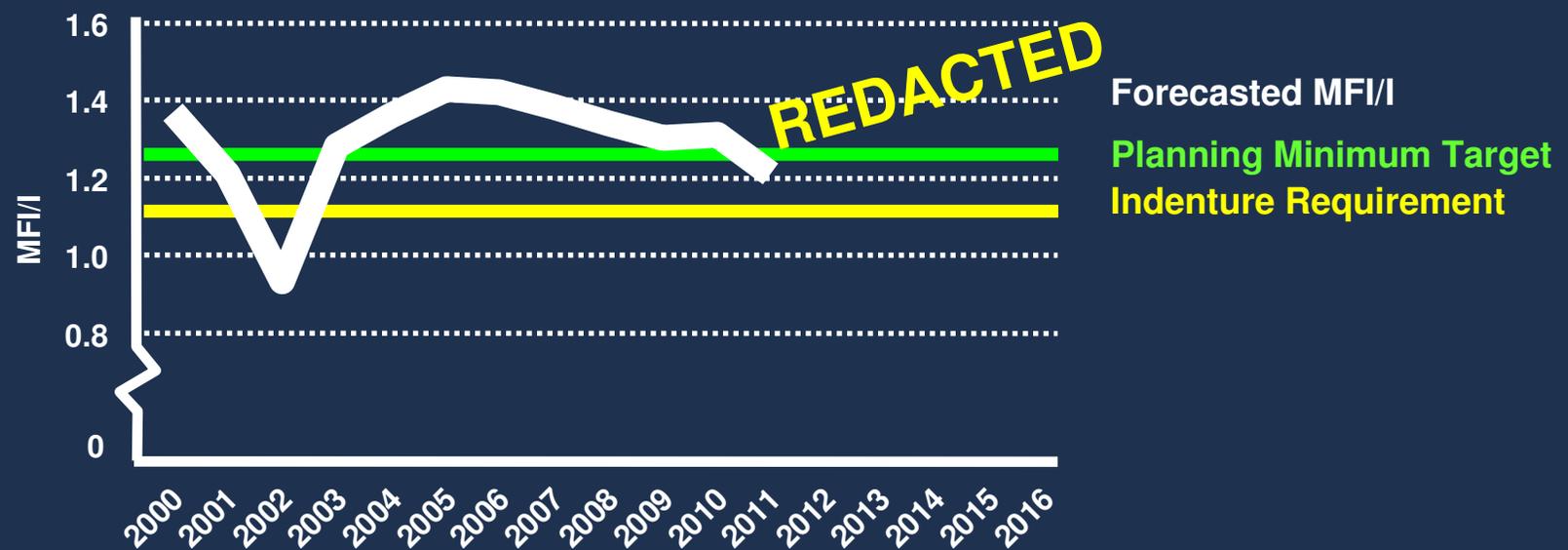


**REDACTED**

# Financial Management

## Key Ratios – MFI/I

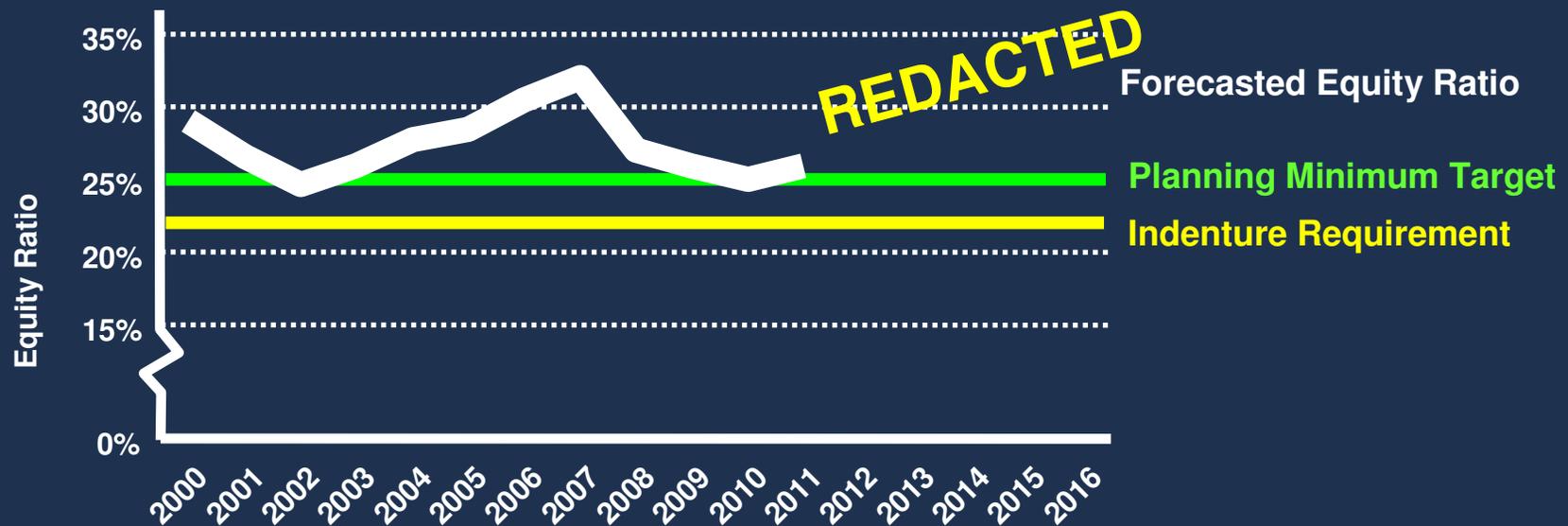
- The MFI/I target is met through careful management of expenses and capital spending
  - 2011 – capital cost of new generation
  - 2014 – loss of wholesale load



# Financial Management

## Key Ratios – Equity Ratio

- Chugach builds equity from its members. To achieve a higher equity ratio means charging more for electricity or reducing amount returned to members.
- Bond insurance requires a minimum 22% equity ratio.
- Chugach targets a minimum equity ratio of 25%.
- Chugach has increased its equity ratio in preparation for the additional debt for the new 2011 generator.
- Chugach can also reduce capital credits to increase the equity ratio.



# Financial Management Electric Rates

## Events that change base rates:

- Update cost of service
- Correct G&T and Distribution inequities - 2008

**REDACTED**

# Unbundled Financial Statements

## 2006 Financials

- Looked at the company's sectors to evaluate results and identify any inequities.
- A key finding was the Distribution business was largely funding the G&T operations and capital program. This led to the 2005 test year rate case.
- Unbundled 2006 financial statements show:

	<u>TIER</u>	<u>Equity Ratio</u>	<u>Margins</u>
■ Chugach Total	1.41	30.05%	\$10 million
■ Chugach G&T	0.78	11.45%	(\$3.8) million
■ Chugach Distr.	2.97	54.21%	\$13.8 million

# 2006 Unbundled Financial Statements

## Statement of Operations

	<u>Total</u>	<u>G &amp; T</u>	<u>Distribution</u>
1. Operating Revenue & Patronage Capital	\$ 267,542,713	\$ 210,269,289	\$ 57,273,424
<b>2. Fuel Expense</b>	<b>120,280,509</b>	<b>120,280,509</b>	<b>0</b>
3. Power Production Expense	15,050,338	15,050,338	0
4. Purchased Power Expense	25,979,918	25,979,918	0
5. Transmission Expense	6,283,845	6,283,845	0
6. Distribution Expense	12,134,087	0	12,134,087
7. Customer Expense	4,982,313	0	4,982,313
8. Administrative & General Expense	18,847,352	9,317,312	9,530,040
<b>9. TOTAL Ops &amp; Maint Expense (2 thru 8)</b>	<b>\$ 203,558,362</b>	<b>\$ 176,911,922</b>	<b>\$ 26,646,440</b>
<b>10. Depreciation &amp; Amortization Expense</b>	<b>\$ 28,529,763</b>	<b>\$ 18,238,712</b>	<b>\$ 10,291,051</b>
11. Tax Expense - Other	837,191	106,188	731,003
<b>12. Interest on LT Debt</b>	<b>24,459,852</b>	<b>17,444,600</b>	<b>7,015,252</b>
13. Interest Charged to Construction - Credit	(448,978)	(189,181)	(259,797)
14. Other Deductions	2,044,013	1,896,698	147,315
<b>15. TOTAL Cost of Electric Service (9 thru 14)</b>	<b>\$ 258,980,203</b>	<b>\$ 214,408,939</b>	<b>\$ 44,571,264</b>
<b>16. Patronage Capital &amp; Operating Margins</b>	<b>\$ 8,562,510</b>	<b>\$ (4,139,650)</b>	<b>\$ 12,702,160</b>
17. Non-Operating Margins - Interest	879,481	0	879,481
18. Allowance for Funds Used During Construction	163,269	68,738	94,531
19. Non-Operating Margins - Other	433,799	311,647	122,152
<b>20. Patronage Capital or Margins</b>	<b>\$ 10,039,059</b>	<b>\$ (3,759,265)</b>	<b>\$ 13,798,324</b>

**Achieved TIER**

**1.41**

**0.78**

**2.97**

# 2006 Unbundled Financial Statements

## Balance Sheet, Assets & Other Debits

	<u>Total</u>	<u>G &amp; T</u>	<u>Distribution</u>
1. Total Utility Plant In Service	\$ 787,005,028	\$ 475,445,603	\$ 311,559,425
2. Construction Work In Progress	20,254,298	6,828,406	13,425,892
<b>3. Total Utility Plant (1 plus 2)</b>	<b>\$ 807,259,326</b>	<b>\$ 482,274,009</b>	<b>\$ 324,985,317</b>
4. Accum. Provision for Depreciation and Amort.	(347,736,513)	(227,402,927)	(120,333,586)
<b>5. Net Utility Plant (3 minus 4)</b>	<b>\$ 459,522,813</b>	<b>\$ 254,871,082</b>	<b>\$ 204,651,731</b>
6. Nonutility Property - Net	24,461	0	24,461
7. Investment in Associated Organizations	11,888,530	8,505,741	3,382,789
<b>8. Total Other Property &amp; Investments (6 plus 7)</b>	<b>\$ 11,912,991</b>	<b>\$ 8,505,741</b>	<b>\$ 3,407,250</b>
9. Cash & Temporary Investments	9,844,914	0	9,844,914
10. Special Deposits	206,191	72,357	133,834
11. Accounts Receivable - Net	32,899,571	23,600,324	9,299,247
12. Temporary Intracompany Non Interest Bearing Balance	3,844,765	0	3,844,765
13. Materials and Supplies	25,424,492	20,812,339	4,612,153
14. Prepayments	1,487,965	930,224	557,741
15. Other Current & Accrued Assets	280,563	52,795	227,768
<b>16. Total Current &amp; Accrued Assets (9 thru 15)</b>	<b>\$ 73,988,461</b>	<b>\$ 45,468,039</b>	<b>\$ 28,520,422</b>
17. Deferred Debits	21,460,648	18,883,416	2,577,232
<b>18. Total Assets &amp; Other Debits (5 + 8 + 16 + 17)</b>	<b>\$ 566,884,913</b>	<b>\$ 327,728,278</b>	<b>\$ 239,156,635</b>

# 2006 Unbundled Financial Statements

## Balance Sheet, Liabilities & Other Credits

	<u>Total</u>	<u>G &amp; T</u>	<u>Distribution</u>
19. Memberships	\$ 1,297,633	\$ 0	\$ 1,297,633
20. Patronage Capital & Margins & Equities	149,418,467	32,423,193	116,995,274
<b>21. Total Margins &amp; Equities (18 plus 19)</b>	<b>\$ 150,716,100</b>	<b>\$ 32,423,193</b>	<b>\$ 118,292,907</b>
22. Long-Term Debt - Bonds (Net)	305,500,000	218,472,225	87,027,775
23. Long-Term Debt - Other (Net)	45,303,530	32,397,915	12,905,615
<b>24. Total Long-Term Debt (22 + 23)</b>	<b>\$ 350,803,530</b>	<b>\$ 250,870,140</b>	<b>\$ 99,933,390</b>
25. Notes Payable	13,728,569	9,817,712	3,910,857
26. Accounts Payable	10,074,426	6,084,653	3,989,773
27. Temporary Intracompany Non Interest Bearing Balance	3,844,765	3,844,765	0
28. Consumer Deposits	2,217,613	0	2,217,613
29. Other Current & Accrued Liabilities	33,191,185	24,397,621	8,793,564
<b>30. Total Current &amp; Accrued Liabilities (25 thru 29)</b>	<b>\$ 63,056,558</b>	<b>\$ 44,144,751</b>	<b>\$ 18,911,807</b>
31. Deferred Credits	2,308,725	290,194	2,018,531
<b>31. Total Liab &amp; Other Credits (21 + 24 + 30 + 31)</b>	<b>\$ 566,884,913</b>	<b>\$ 327,728,278</b>	<b>\$ 239,156,635</b>

**Equity Ratio**

**30.05%**

**11.45%**

**54.21%**

# 2006 Unbundled Financial Statements

## Statement of Cash Flows

	<u>Total</u>	<u>G&amp;T</u>	<u>Distribution</u>
<b>1. Cash flows from operating activities:</b>			
Assignable margins	\$ 10,039,059	\$ (3,759,265)	\$ 13,798,324
Adjustments to reconcile assignable margins to net cash provided (used) by operating activities:			
Depreciation & amortization	28,529,763	18,238,712	10,291,051
Capitalization of interest	(612,247)	(257,919)	(354,328)
Other	(5,478)	(20,581)	15,103
Changes in assets and liabilities:			
(Increase) decrease in assets:	(7,161,675)	(7,352,389)	190,714
Increase (decrease) in liabilities:	553,385	511,183	42,202
<b>Net cash provided by operating activities:</b>	<b>\$ 31,342,807</b>	<b>\$ 7,359,741</b>	<b>\$ 23,983,066</b>
<b>2. Cash flows from investing activities:</b>			
Extension and replacement of plant	(19,460,691)	(7,223,745)	(12,236,946)
<b>Net cash used for investing activities:</b>	<b>\$ (19,460,691)</b>	<b>\$ (7,223,745)</b>	<b>\$ (12,236,946)</b>
<b>3. Cash flows from financing activities:</b>			
Repayments of long-term obligations	(8,325,687)	(4,500,450)	(3,825,237)
Temporary Intracompany Non Interest Bearing Balance	0	3,844,765	(3,844,765)
Patronage capital / Other	(4,362,109)	42,496	(4,404,605)
<b>Net cash used for financing activities:</b>	<b>(12,687,796)</b>	<b>(613,189)</b>	<b>(12,074,607)</b>
Net increase (decrease) in cash and cash equivalents	(805,680)	(477,193)	(328,487)
<b>4. Cash &amp; cash equivalents at beginning of year</b>	<b>\$ 10,650,594</b>	<b>\$ 477,193</b>	<b>\$ 10,173,401</b>
<b>5. Cash &amp; cash equivalents at end of period</b>	<b>\$ 9,844,914</b>	<b>\$ 0</b>	<b>\$ 9,844,914</b>

# Long-term Debt Structure

December 31, 2006 Long Term Debt:

1. 2001 Series A Bond, 6.55%, matures 2011	\$150,000,000
2. 2002 Series A Bond, 6.20%, matures 2012	120,000,000
3. 2002 Series B Bond, auction rate, matures 2012	41,000,000
4. CoBank 2, 5.50%, matures 2010	7,500,000
5. CoBank 3 & 4, variable rate, matures 2022	41,032,099
6. CoBank 5, 6.72%, matures 2007 To be refinanced September, 2007 to amortizing debt	5,000,000
7. 2007 portion of debt due	<u>13,728,569</u>
<b>Total Long Term Debt:</b>	<b><u><u>\$350,803,530</u></u></b>

Amortizing

# Finance Strategy

- Continue to target 30% or less variable rate debt
- Manage fixed debt
  - Refinance series A bullet debt with amortizing debt
  - Finance new generation debt with bullet debt

# Rating Agencies

## Standard & Poor's

A-(Stable)

- “The ‘A-’ underlying rating on Chugach revenue bonds reflects the integrated electric cooperatives satisfactory business risk profile and intermediate financial risk profile.”

## Moody's Investor Services

A2 (Stable)

- “The actual underlying rating assigned for Chugach reflects its generally sound financial profile...”

## Fitch Ratings

A- (Stable)

- “Historically, Chugach has benefited from consistently solid financial performance, competitive electric retail rates, diversified customer base, and a supportive regulatory framework.”

# Rating Agencies

## Main Issues

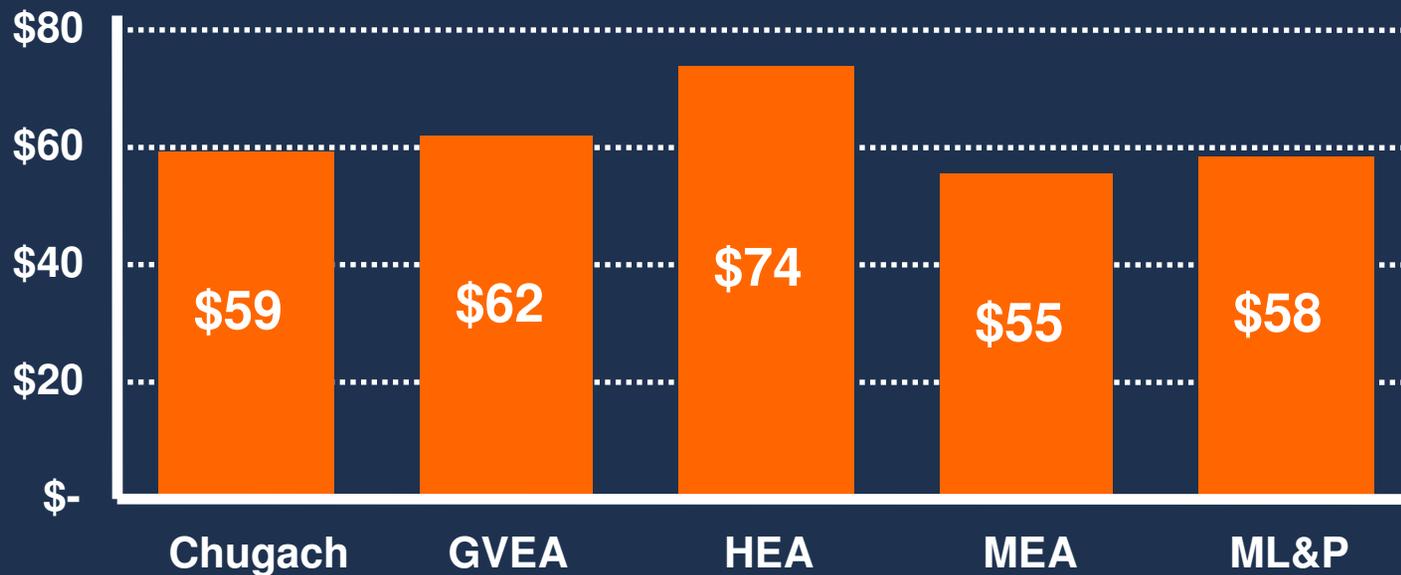
- RCA
- Wholesale Contracts
- Natural Gas Supply
- Bullet Debt

# Base Electric Rates Comparison

## Residential Consumer, 700 kWh (2Q 2007)

Most utility base costs are approximately the same

### Base Rates



# Fuel & Purchased Power Comparison

## Residential Consumer, 700 kWh (2Q 2007)

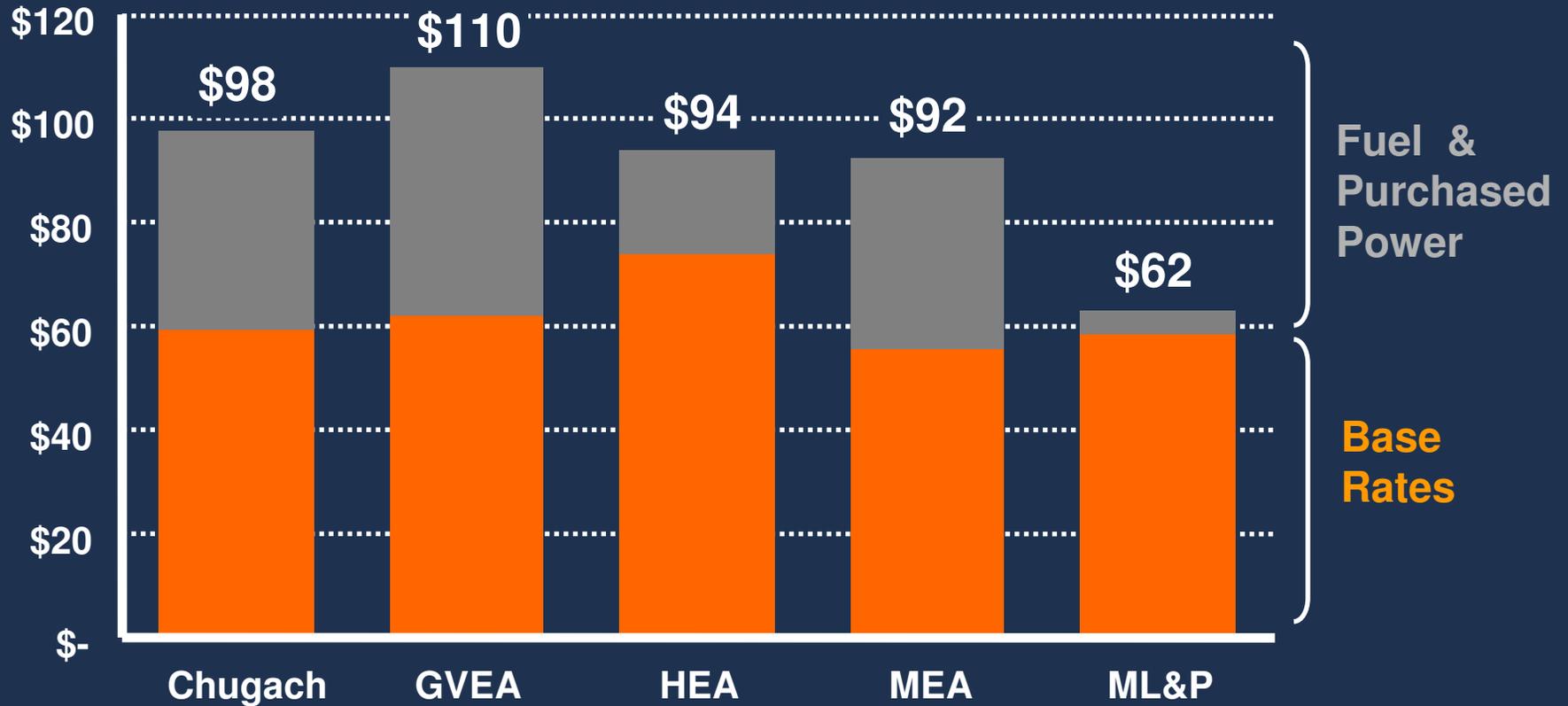
- HEA's cost is influenced by fuel surcharge balance account.
- ML&P's F&PP cost is a function of owning their own gas field.
- GVEA's F&PP cost is a function of using oil-based baseload generation.

### Fuel & Purchased Power



# Electric Rates Comparison

## Residential Consumer, 700 kWh (2Q 2007)



# Financial Summary

- Chugach has maintained an “A” rating since entering the public debt market in 1991.
- Chugach uses sophisticated economic and financial models to analyze business risks and develop plans to meet financial targets.
- Chugach is financially strong and well prepared to undertake building new generation and the loss of wholesale load in 2014.

# Finance – Other Reporting Functions

## Member Services

- Received and responded to 141,105 phone calls within an average of 26 seconds.
- Limited write-off of bad debt to 0.16% of retail revenue.

## Administration

- Provided procurement and services support to operating divisions ensuring timely and cost-effective completion of projects and maintenance activities for over \$35 million in returns to the Anchorage economy.

## Environmental Engineering

- Ensured compliance with State of Alaska and Federal environmental regulations and permitting processes for Chugach facilities.



# Business

**Presented by Bill Stewart**  
**Chief Executive Officer**

# Business Contents

- Operating Environment
- Governance
- Workforce
- Performance
- Strategic Planning Issues

# Operating Environment

- **Regulatory Commission of Alaska**
- **State Legislature**
  - **Railbelt Energy Fund**
- **Geography**
- **Utility Organizations**
  - **Alaska Power Association (APA)**
  - **National Rural Electric Cooperative Association (NRECA)**
  - **NorthWest Public Power Association (NWPPA)**
- **Communities**
- **Security**

# Governance

- **Board of Directors**
  - **7-member board**
  - **Member-elected**
  - **Staggered terms**
- **Annual election process**
  - **Elections held every April**
  - **2 or 3 directors elected each April**
  - **3-year terms, 3 terms maximum**
  - **About 15% of the membership votes**

# Workforce

- Workforce Overview
- Workforce Challenges
- Aging Workforce
- Workforce Turnover
- Retention Strategy

# Workforce Overview

**Chugach currently has 326 regular employees**

**100 Non-represented employees**

**226 Represented employees**

- **Three agreements with International Brotherhood of Electrical Workers – Local 1547**
  - Office & Engineering Agreement – 83 employees
  - Outside Agreement – 59 employees
  - Generation Agreement – 78 employees
- **One agreement with Hotel Employees Restaurant Employees – Local 878**
  - Culinary workers at Beluga – 6 employees

# Workforce Challenges

- **Aging workforce**
- **Attracting and retaining staff**
- **Working at a remote site; week on/week off (Beluga)**
- **Compete with higher paid oil industry jobs**
- **Compete with construction industry and North Slope jobs**
- **Low unemployment rates**

# Aging Workforce

	<u>Average Age</u>
■ Non-represented workforce	51
■ Represented	47
■ Journeyman Lineman	45
■ Power Plant	48
■ Power Dispatchers	50

# Aging Workforce

## Loss of Institutional Knowledge

<u>Employees</u>	<u>Retirements Since 2000</u>	<u>2007 Budgeted Positions</u>
Linemen	18	39
Power Plant	21	47
Dispatchers	9	10

# Meeting Workforce Challenges

- Succession planning
- Active partner with Alaska Electrical Apprenticeship Program
- Student intern programs with APU, UAF and UAA
- Annual wage & salary plan
- Competitive labor contracts
- Relocation assistance
- Education assistance

# Measuring Chugach's Performance

## Balanced Scorecard

### Scorecard System

- Objective is to encourage superior performance, growth and development
- Purpose is to clearly outline individual and department goals and targets to be achieved within a calendar year
- Link compensation to individual and corporate performance
- Basis for performance appraisal and compensation



A vertical column of four blue icons on the left side of the slide. From top to bottom: a vertical bar with a small circle at the top, a stylized 'A' shape, a house-like shape, and a square with a smaller square inside.

# CHUGACH ELECTRIC

## Financial Perspective

Presented to:

**Blue Ribbon Panel**

**July 25<sup>th</sup>, 2007**

# Contents

- Cooperative Financial Objective
- Key Financial Ratios
- Chugach's "A" Rating
- Financial Performance Comparison
- Other Financial Metrics
- Finance Strategy

# Cooperative Financial Objective

## Cooperative

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- Operated for the benefit of their member owner
- Equity owners and rate paying consumers are a single entity
- Goal is to select appropriate rate of return and margin level to result in lowest rates for cooperative members

## Investor Owned Utility

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- Operated for the benefit of public shareholders with obligation to serve regulated ratepayers
- Equity owners and rate paying consumers are typically not the same entity
- Goal is maximize shareholder value

# Key Financial Ratios - Return

## Cooperative

- Debt is the primary source of capital
- Debt is typically 80% of capital structure
- Focus is low cost debt and equity management to attract low cost debt
- Key metrics are related to debt: interest coverage (TIER) and debt service coverage (DSC)

## Investor Owned Utility

- Shareholder equity is the primary source of capital
- Equity is typically 60% of capital structure
- Focus is return on equity and low cost debt
- Key metric is related to equity: return on equity (ROE)

# Chugach's "A" Rating

- Chugach is "A" rated, and outlook is stable
  - S&P A-, stable
  - Moody A2, stable
  - Fitch A-, stable
- Ratings achieved because of long-term financial performance and detailed plans that address the future challenges
- Rating process is rigorous, Moody evaluates:
  - Wholesale Power Contracts
  - Rate Flexibility
    - Regulator Review
    - Board Involvement
    - Purchased Power/Sales
    - New Building CapEx
    - Rate Comparison
    - Rate Shock
  - Member/owner Profile
    - Growth
    - Residential Sales
    - Member Consolidated Assets
    - Member Consolidated Equity/Cap
    - Regulatory Status
  - 3-year Average G&T Financial Metrics
    - TIER
    - DSC
    - Funds from operations / Debt
    - Funds from operations / Interest
    - Equity / Capitalization
    - Net Operating Margin
  - G&T Size
    - Energy sales
    - Revenue
    - Net PP&E
    - Generation Owned / Purchased

# Chugach's Financial Performance

- Chugach has two businesses:
  - Generation and Transmission (G&T)
  - Distribution
- Less than 10 of the 900 cooperatives in United States have both businesses
- Chugach compares its financial performance as separate G&T and Distribution cooperatives

# Chugach's Financial Performance

Comparison of Chugach G&T and Peer Group of  
"A" Rated G&T Cooperatives

	TIER 3-year average	2006 Equity to Total Capitalization Ratio
▪ Buckeye	2.80	39%
▪ Basin	1.60	28%
▪ Tri-State	1.40	15%
▪ Arkansas	1.40	36%
▪ Associated	1.20	19%
▪ Old Dominion	1.20	16%
▪ Oglethorpe	1.10	12%
▪ Average	1.53	23%
▪ Chugach	0.84	12%

# Chugach's Financial Performance

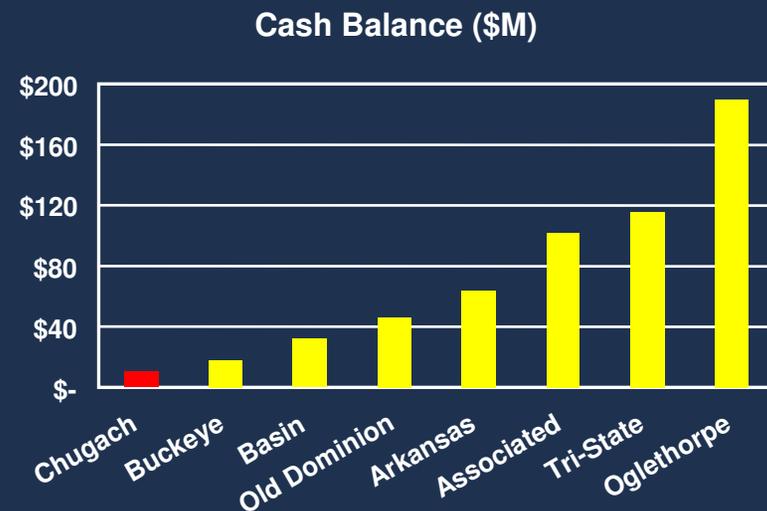
Comparison of Chugach Distribution and Peer Group of  
"A" Rated Distribution Cooperatives

	TIER 3-year average	2006 Equity to Total Capitalization Ratio
▪ Cobb	2.7	35%
▪ Snapping Shoals	5.6	39%
▪ Diverse	2.4	58%
▪ Brunswick	2.1	27%
▪ Average	2.26	35%
▪ Chugach	2.27	54%

# Other Financial Metrics

## Cash Balance Comparison

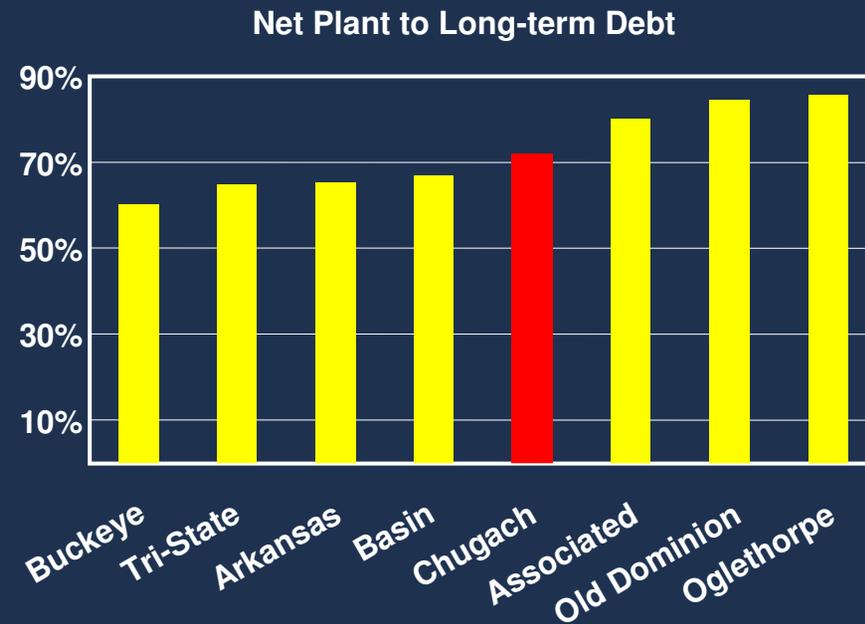
- Chugach has the lowest cash balance in the G&T peer group
- Chugach has a \$57.5 million line of credit that is less costly than maintaining a higher cash balance.
- Line of credit is typically used once a year at a rate of about 5%



# Other Financial Metrics

## Net Plant in Service / Long-Term Debt

- Chugach is in the middle of the G&T peer group
- Financial Management Plan shows this does not change with new generation in 2011
- CoBank covenants require net plant to be less than 80% of long term debt



# Financial Strategy Alternatives

**REDACTED**



# Financial Strategy

## Potential Impacts

- Financial Management Plan assumes 7% interest rate in 2011
- Higher interest rates could impact electric revenues by as much as 5%
- Chugach actively monitors interest rates to determine whether we are going to pursue a hedge

Bullet Refinancing Interest Rate vs. Impact on Revenues



# Financial Strategy Summary

**REDACTED**





# Measuring Chugach's Performance - Introduction to Benchmarking and Performance Management Activities

Presented by Dave Smith  
Director, Information Services

# Benchmarking Contents

- Background and history of benchmarking at Chugach
- Scope, approach and results

# What is Performance Benchmarking?

Performance Benchmarking is the process of evaluating internal performance relative to an objective standard of performance. Effective benchmarking considers:

- What the organization values in terms of performance
- Metrics that appropriately measure the organization's values
- Comparable standards of performance, which may include functional peers, industry peers or internal progress over time

# The Goal of Benchmarking is to Improve Results

Benchmarking allows Chugach to continually assess its operations, establish appropriate targets and measure improvements to its performance



# Enterprise Benchmarking Began in 2005

Efforts in the Early 1990's Focused on Distribution Operations  
2005 – All Areas Targeted

**Administration & Business Services**

**Consumer Accounts**

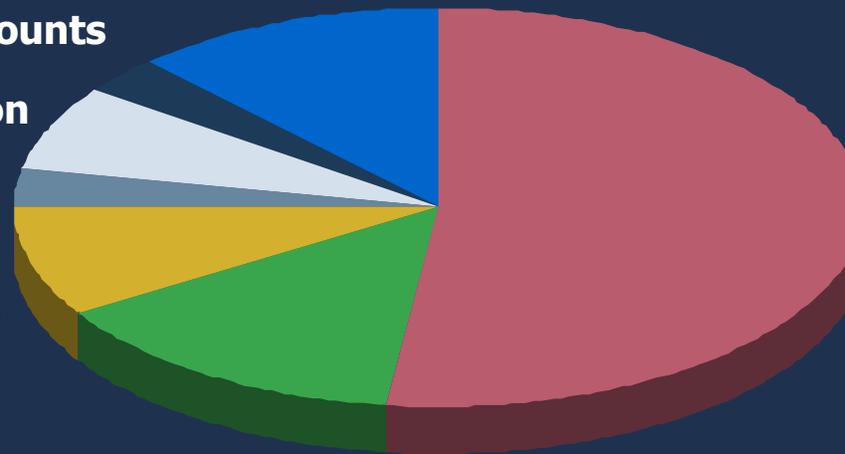
**Distribution**

**Transmission**

**Generation**

**Purchased Power**

**Fuel**



based on 2005 operating expenses, excluding Depreciation

# An External Partner Lends Objectivity

- Semeron - consulting firm headquartered in Seattle, WA with a satellite office in Houston, TX
- Semeron's staff have extensive backgrounds in their respective areas of expertise
- Former executives of public sector or utility companies
- Average 25 years of professional experience
- Jill Sheley, the principal consultant for Chugach, is the co-founder of Semeron
- 19 years of experience – seven years with a “Big Five” audit and consulting firm, three years with a national technology firm, and the last nine years with Semeron
- CPA

# The Benchmarking Process Relies on Published Data and Custom Surveys

## Published Data

- CFC Key Ratio Trend Analysis
- Gartner Group
- Operational Reliability & Analysis Program (ORAP)
- American Public Power Associates
- Other Functional-Specific Data Sources

## Custom Surveys

1. Determine metrics to benchmark
2. Develop and administer survey to comparable utilities
3. Compile, analyze and report results
4. Develop action steps

# Professional Benchmarking Principals Ensure Reliable Results

## Balanced Metrics

- Cost of Service
- Reliability
- Customer Service
- Safety
- Investment Capital

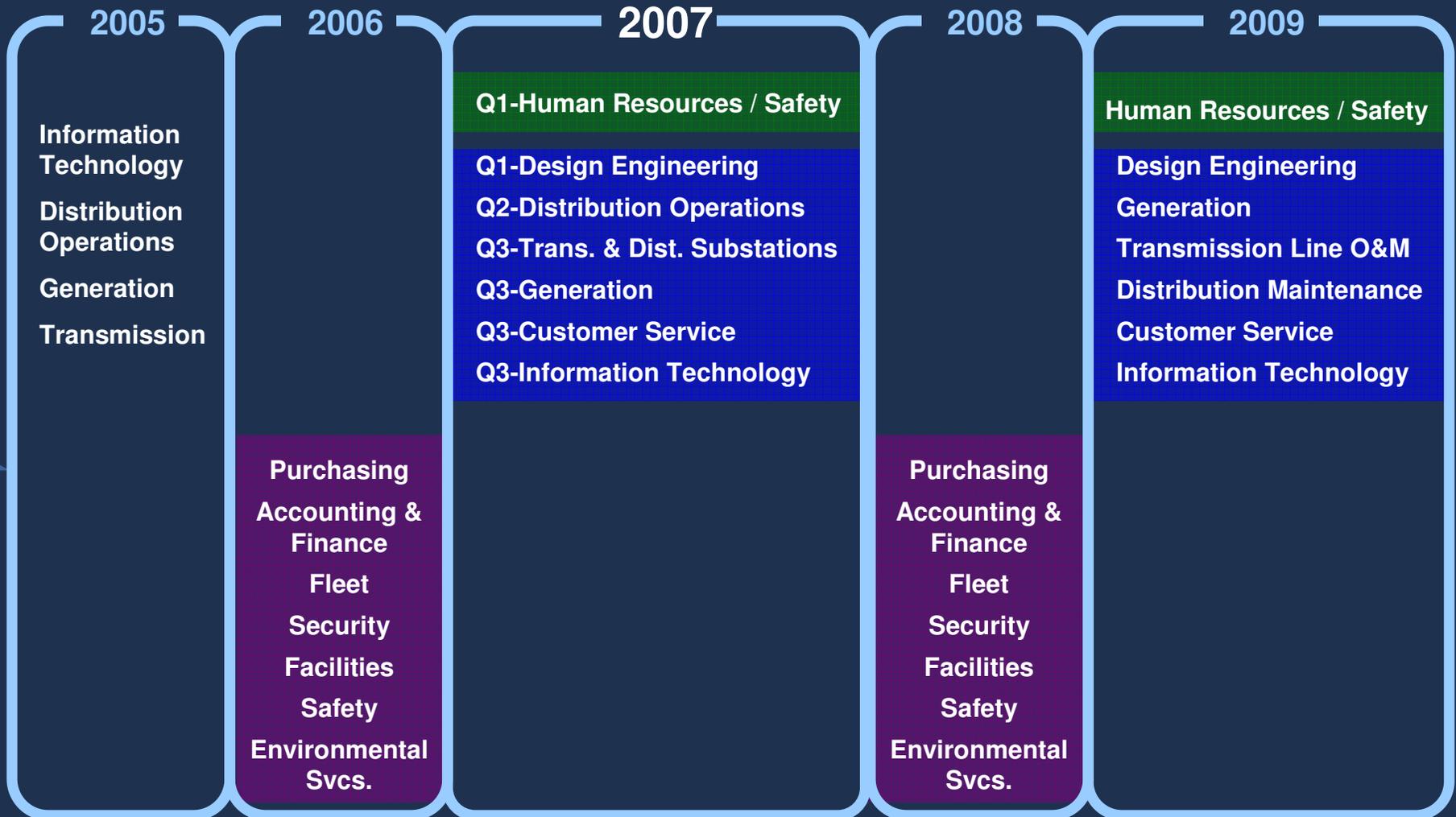
## Comparability of Benchmark Partners

- Muni's, Co-ops
- G, T & D
- Similar size of employees, revenue, climate and territory

## Adequate Respondent Pool

## On-going Relationship Development

# The Benchmarking Plan Calls for Bi-Annual Studies



# Sample 2005-2006 Summary Benchmarking Results (2005 Data)

Reliability		
	Chugach	Benchmark
Customer Outage Hours per Year	2.0	3.26
Planned Transmission Equipment Outage/Circuit End	.195	.871
Unplanned Transmission Equipment Outage/Circuit End	.033	.090
<b>REDACTED</b>		
IT System Uptime	99.9%	99.5%

Customer Service		
	Chugach	Benchmark
Residential Customer Satisfaction	89%	83%
Minutes to Respond & Restore Power	90	125
New Service Installation (Days)	3.17	5.0
% of Calls Answered in 30 Seconds or Less	83%	77%
Days to Close a Completed Capital Project	180	89

Expense Control		
	Chugach	Benchmark
Distribution Variable Adder	\$20.62	\$17.61
Processing Cost / Payment	\$1.02	\$0.41
Bad Debt Write Off	0.16%	0.38%
<b>REDACTED</b>		
Transmission Total Operating Cost, \$/MWH	\$2.12	\$2.58

Capital Investment		
	Chugach	Benchmark
Return on Overnight Funds	4.22%	3.59%
Underground Construction Cost/Mile	\$15,767	\$9,919
% of Meters on AMR	94%	2%

Safety		
	Chugach	Benchmark
Lost Time Incident Rate	3.61	1.2

# Benchmarking Results

## Reliability

	<u>Chugach</u>	<u>Benchmark</u>
Customer outage hours per year	2.0	3.26
Planned transmission equipment outage/circuit end	.195	.871
Unplanned transmission equipment outage/circuit end	.033	.090
	<b>REDACTED</b>	
IT system uptime	99.9%	99.5%

Sample 2005-2006 Summary Benchmarking Results (2005 Data)

# Benchmarking Results

## Customer Service

	<u>Chugach</u>	<u>Benchmark</u>
Residential customer satisfaction	89%	83%
Minutes to respond & restore power	90	125
New service installation (Days)	3.17	5.0
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Sample 2005-2006 Summary Benchmarking Results (2005 Data)

# Benchmarking Results

## Expense Control

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<b>REDACTED</b>		
Transmission total operating cost, \$/MWh	\$2.12	\$2.58

Sample 2005-2006 Summary Benchmarking Results (2005 Data)

# Benchmarking Results

## Capital Investment and Safety

	<u>Chugach</u>	<u>Benchmark</u>
Return on Overnight Funds	4.22%	3.59%
Underground Construction Cost/Mile	\$15,767	\$9,919
% of Meters on AMR	94%	2%
	<u>Chugach</u>	<u>Benchmark</u>
Lost Time Incident Rate	3.61	1.2

Sample 2005-2006 Summary Benchmarking Results (2005 Data)

# Focus on Improvement

Opportunity	Goal	Action Steps
1. Reduce distribution adder O&M costs, while maintaining high levels of customer service	<ul style="list-style-type: none"> <li>▪ Achieve distribution adder comparable to benchmarking average</li> <li>▪ Maintain less than 2.5 hours of customer outage per year</li> </ul>	<ul style="list-style-type: none"> <li>▪ Benchmark processes to improve efficiency of:               <ul style="list-style-type: none"> <li>▪ Loop wagon operations</li> <li>▪ Contract underground locating</li> </ul> </li> <li>▪ Evaluate mobile GIS technology</li> </ul>
2. Reduce underground construction costs	<ul style="list-style-type: none"> <li>▪ Establish cost baseline and improvement targets</li> </ul>	<ul style="list-style-type: none"> <li>▪ Benchmark to identify cost drivers</li> <li>▪ Improve efficiency of design and construction processes</li> <li>▪ Evaluate in-house vs. contractor construction</li> </ul>
3. Hold payment processing costs steady	<ul style="list-style-type: none"> <li>▪ Increase automatic bank withdrawals from 7% to 10% of all customer payments and de-emphasize acceptance of credit cards</li> </ul>	<ul style="list-style-type: none"> <li>▪ Promote automatic bank withdrawals</li> </ul>
4. Reduce time to close capital projects	<ul style="list-style-type: none"> <li>▪ Close capital projects within 90 days of project completion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improve and automate work order close out processes.</li> </ul>
5. Reduce lost time injury incident rate	<ul style="list-style-type: none"> <li>▪ Achieve lost time incident rate of 3.25</li> </ul>	<ul style="list-style-type: none"> <li>▪ Conduct additional benchmarking</li> <li>▪ Expand safety advisory group</li> <li>▪ Conduct employee safety survey</li> <li>▪ Develop and implement injury prevention action plans</li> </ul>

# Benchmarking Sets the Stage for Improvement

## Benchmarking

- Reliability
- Expense Control
- Customer Service
- Capital Investment
- Safety Performance



## Performance Improvement

- Structure
  - How we should be organized for the future
- People
  - Job Descriptions
  - Responsibilities
  - Qualifications
  - Competencies
- Process
  - Work Flow
  - Metrics
- Automation



# Introduction to Sarbanes-Oxley Compliance Activities

Presented by Dave Smith  
Director, Information Services

# Sarbanes-Oxley Overview

- Legislative goal: To protect investors from financial statement manipulation that might result in a misleading impression of a company's financial condition and future prospects. In Chugach's case it is to protect the bond holders.
- The Sarbanes-Oxley Act legislates that companies must have internal controls in place over financial reporting, including IT controls.
- Good internal controls are no longer just a best practice- An effective control structure is the law under the Sarbanes-Oxley Act.
- SEC's primary goals –
  - “improve financial statement reliability”
  - “protect investors”
- Chugach Sarbanes-Oxley (SOX) compliance deadline 12/31/2007

# Sarbanes-Oxley Project Team

- Cheryl Klein CPA, CISA, CITP
- 5 years SOX experience including 7 separate SOX projects. Engagement manager for 6 separate projects (project methodology, project planning and reporting, issue tracking, Audit Committee presentations, team oversight, etc.)
- 20 years of experience including IT audit, Internal Audit, Quality Assurance, Planning and Budgeting, Integration Testing, Security, and Vendor Management
- 10+ years experience in process reengineering/redesign, governance frameworks (CobiT) and system integration
- Karyn Huffman CPA, M.S., M.Div.
- 15+ years of experience in Internal Audit, Big 4 External Audit, SOX, and consulting in business processes and accounting
- 5+ years experience as Audit Director at a multi-national engineering firm
- 10 years managing engagements, audits, and projects

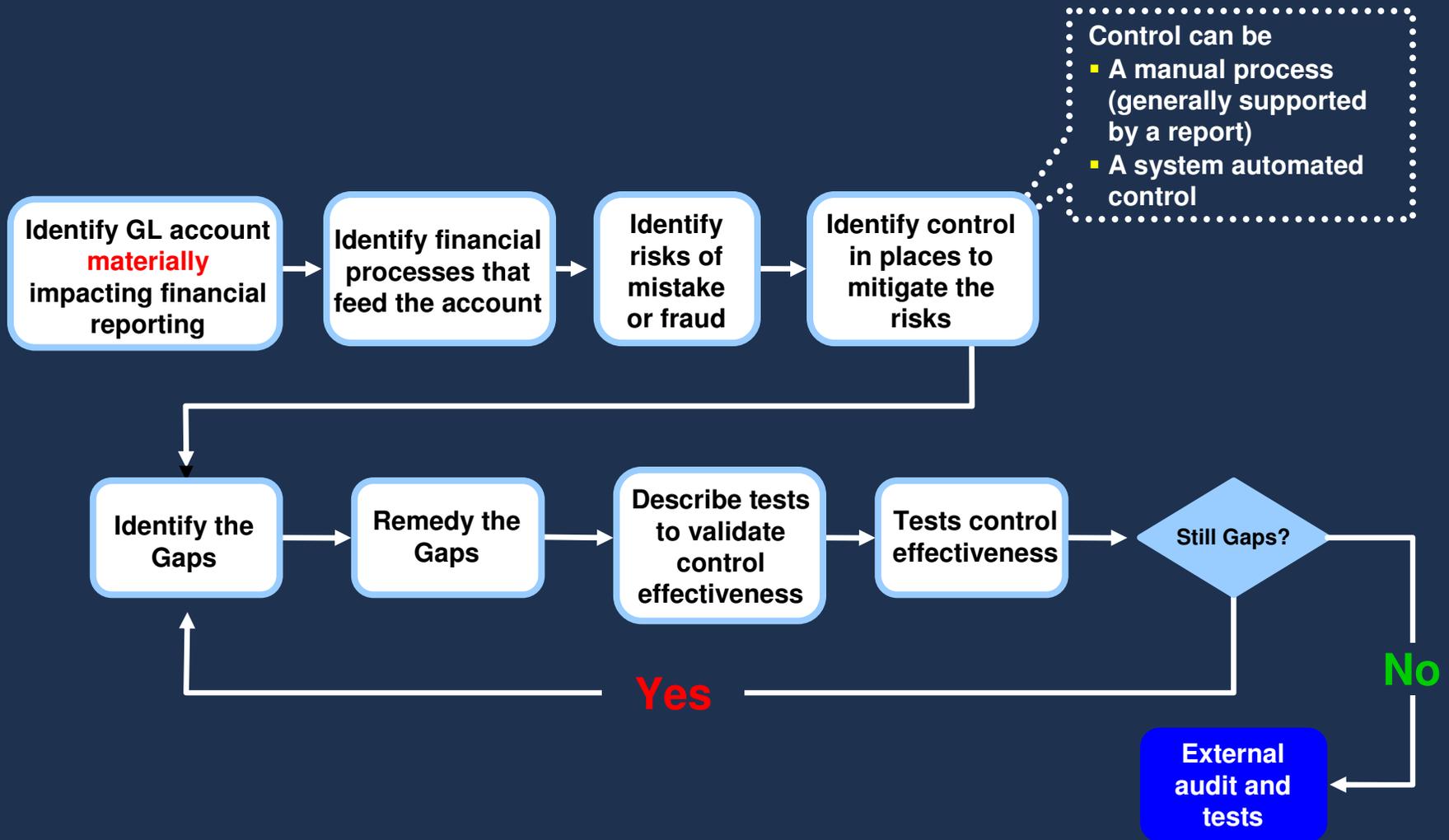
# Scope of Sarbanes-Oxley Compliance Review

<p><b>Corporate Governance</b>            Integrity and Ethical Values            Commitment to Competence            Board of Directors: Activity Level and Effectiveness            Managements Philosophy and Operating Style            Corporate Strategy and Organization Structure            Assignment of Authority and Responsibility            Human Resources Policies and Practices</p>	<p><b>Financial Reporting</b>            Accounting Estimates            General Ledger Closing            Financial Statement Consolidation            Other Assets / Liabilities Account Reconciliations            Disclosure of Contingencies            Disclosure of Debt Maturities / Fair Value            Disclosure of Capital Credits Retirement            Reporting and Disclosure</p>
<p><b>Productive Assets</b>            Capital Expenditures / CIP            Fixed Asset Recordkeeping            Disposals / Impairment Review            Depreciation</p>	<p><b>Expenditures</b>            Vendor Management            Order Placement (Purchasing)            Receipt of Goods / Services (Purchasing)            Accounts Payable Processing            Property (Gross Receipts) Tax Processing / Prepaids            Cash Disbursements</p>
<p><b>Close / Financial Management and Reporting</b>            Cash Management            Accounting for Investment in Associated Companies            Accounting for Deferred Charges and Credits            Interest Rate Swap Management            Issuance of Member Interests            Distribution of Patronage Capital            Income Tax Exempt Status Compliance            Debt Borrowings            Debt Payments            Debt Covenant Compliance</p>	<p><b>Revenue / Receivables</b>            Wholesale and Wheeling Revenue and Contract Administration            New Customer Establishment and Existing Customer Support            Energy Service Measurement (Meter Reading)            Rate Making            Billing            Cash Receipts and Application            Accounts Receivable Management            Estimating Revenue (Retail)            SCADA</p>
<p><b>HR / Payroll / Time Expense</b>            Time Reporting (Payroll Processing)            Payroll Administration (Payroll Processing)            Plan Contribution (Payroll Processing)            Payroll Processing</p>	<p><b>Fuel</b>            Procurement            Contract Administration            Cost Recovery</p>

# Scope of Sarbanes-Oxley Compliance Review (continued)

<p><b>Logical, Application, &amp; Physical Security (limited)</b></p> <ul style="list-style-type: none"> <li>Policies and Procedures</li> <li>Physical security</li> <li>Network security</li> <li>Operating system security</li> <li>Application security</li> <li>Security administration and review</li> </ul>	<p><b>Backup, Recovery, &amp; Operations (limited)</b></p> <ul style="list-style-type: none"> <li>Policies and Procedures</li> <li>Backup and Restoration</li> <li>Batch Processing</li> </ul>
<p><b>All Cycles</b></p> <ul style="list-style-type: none"> <li>Restricted Access</li> <li>Segregation of Duties</li> <li>Journal Entry Preparation and Review</li> <li>Standing Data Maintenance</li> <li>Adjustments and Ledger Maintenance</li> <li>Policies and Procedures</li> </ul>	<p><b>Maintenance</b></p> <ul style="list-style-type: none"> <li>Receipt of Materials and Supplies</li> <li>Materials and Supply Management</li> <li>Materials and Supply Costing</li> <li>Maintenance Agreement Administration</li> <li>Relief of Materials and Supplies</li> </ul>
<p><b>Change Control / Program Dev Process</b></p> <ul style="list-style-type: none"> <li>Policies and Procedures</li> <li>Change request process</li> <li>Documented Requirements</li> <li>Unit, system, and user testing</li> <li>Migration to production</li> </ul>	<p><b>Entity Level Controls</b></p> <ul style="list-style-type: none"> <li>Legal and Regulatory</li> <li>Strategic Planning</li> <li>Financial Management and Corporate Budgeting</li> <li>Human Resources – Employment, Compensation and Performance Practices</li> </ul>

# Compliance Review Process



# Improvements Underway

## Information Services

- Improving security reviews and audits
- Expanding change controls to key applications
- Upgrading to Server 2003

## Payroll

- Identifying automated application controls
- Improving segregation of duties
- Maximize use of PeopleSoft

## Supply Chain

- Identifying automated application controls

## Finance & Accounting

- Improving segregation of duties
- Improving documentation of control activities

## Company-wide Excel spreadsheets

- Implementing change control, security and review

# Continuous Improvement & Assessment

## Sarbanes Oxley

### Control walkthroughs

- Business processes ▶
- Information technology ▶

### Management assessment

- Entity level ▶
- Business processes ▶
- Information Technology ▶

### External assessment – external auditor for prior year

## Payment card industry

- Self assessment ▶

	2007		2008				2009				2010	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	
Control walkthroughs												
▪ Business processes	X			X				X				
▪ Information technology				X				X				
Management assessment												
▪ Entity level		X				X					X	
▪ Business processes		X				X					X	
▪ Information Technology		X				X					X	
External assessment – external auditor for prior year			X				X					X
Payment card industry												
▪ Self assessment		X				X					X	

# We Expect These Efforts to Position Chugach for the Future

- Leads to better performance and lower costs
- Demonstrates a commitment to excellence
- Ensures employees are performing at required levels
- Clearly defines roles and responsibilities
- Identify employee training requirements
- Strengthens communication among groups

# Strategic Planning Issues

Introduced by Bill Stewart  
Chief Executive Officer



# Strategic Planning Issues

- Overview
- Organization
- New generation
- Fuel supply



# Strategic Planning Issues - Overview

Presented by Lee Thibert  
Chief of Staff

# Organization

**Chief of Staff**

Lee Thibert

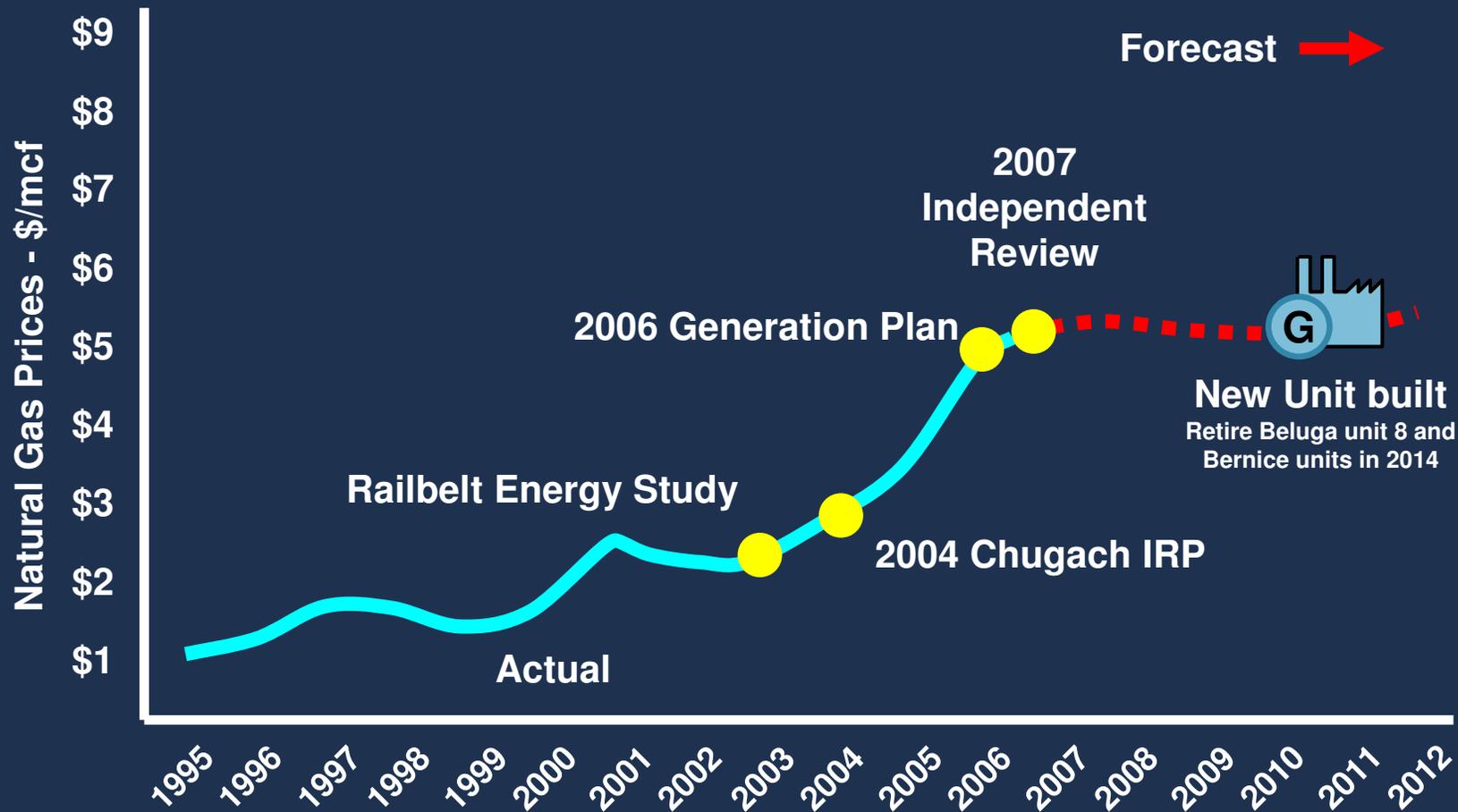
**Corporate Planning & Analysis**

Mark Fouts

**Fuel Supply**

Suzanne Gibson

# Rising fuel prices drive replacement of aging, inefficient generation



# Wholesale customers seek independence at conclusion of power sales agreements

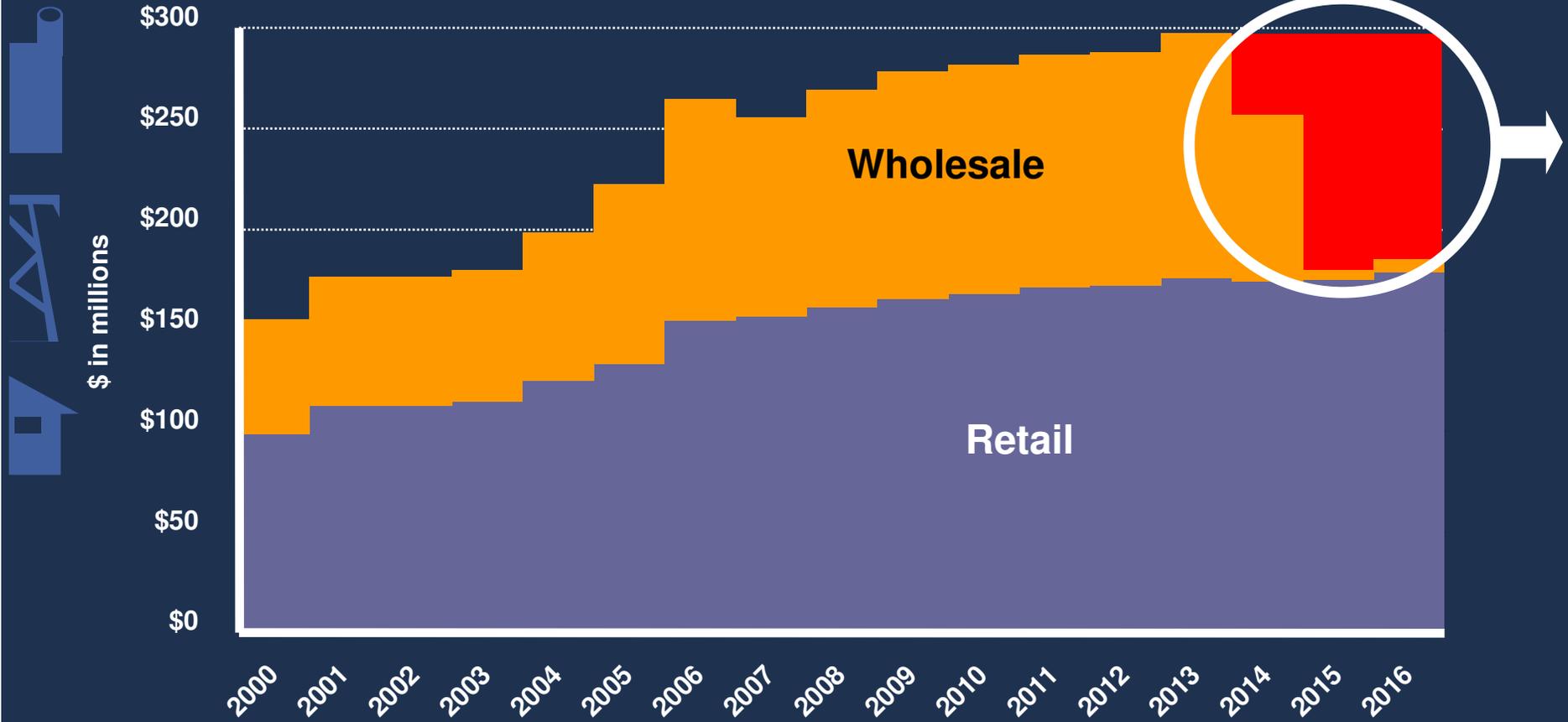
- MEA (May 12, 2004) – “Although our power supply planning efforts are still in progress, MEA has conclusively eliminated continuation of its all requirements relationship with CEA from further consideration.”
- HEA (January 9, 2007) – “In order to avoid any doubt concerning HEA’s intentions, Chugach is hereby notified that HEA will not seek to renew the Power Sales Agreement.”
  - “HEA remains open to interim modifications in the existing supply relationship that would benefit both parties in the transition process as well as advance long-term power supply goals of the parties.”

# Chugach provides valued services to Railbelt utilities post 2014



**REDACTED**

# Loss of Wholesale Revenue in 2015



# Mitigating Wholesale Revenue Loss

**REDACTED**





# New Generation

**Presented by Mark Fouts**  
**Manager of Corporate Planning & Analysis**

# How is new generation evaluated?

## Least cost planning:

- All generation plans must meet the load requirements
- The questions are:
  - Which plan has the least cost?
  - Which plan has the least risk?

# Existing Chugach Thermal Units

<u>Chugach Generation</u>	<u>Production (GWh)</u>
IGT 1,2 & 3	<1
Beluga 1 & 2	<1
Bernice 2, 3 & 4	4
Beluga 3	300
Beluga 5	300
Beluga 6/7/8	1500

## Base Load Generation

### Beluga 6/7/8:

- Two-thirds of Chugach annual fuel expense
- End of service life for Unit 8

# What are the drivers?

**REDACTED**



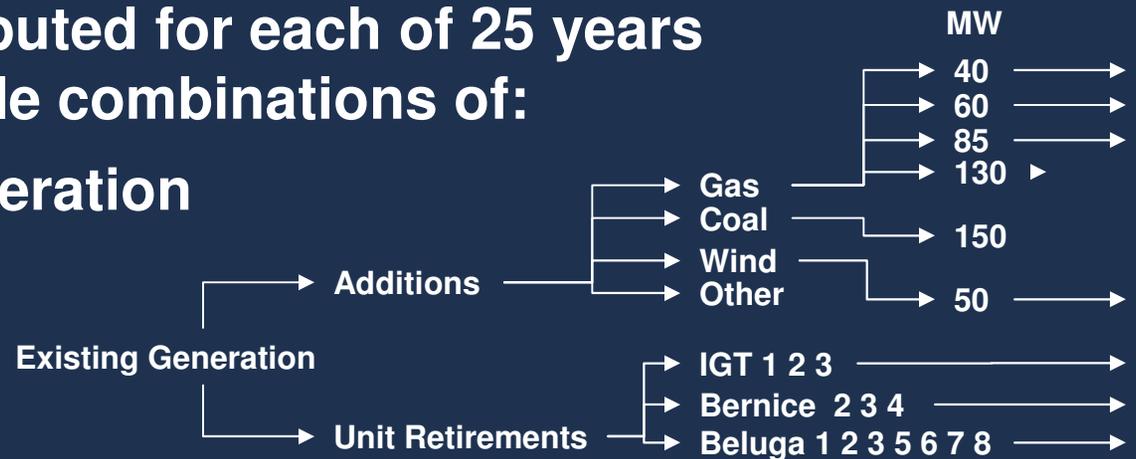
# 2004 Integrated Resource Plan

## What is the least cost alternative?

Given the uncertainty in fuel price, loads and other factors, a dynamic model is used to evaluate all plan combinations for:

- Each load forecast
- Upwards of 2,500 generation plans or “portfolios”
- Least cost computed for each of 25 years given all possible combinations of:

- Existing generation
- Retirements
- New Units



# 2004 Integrated Resource Plan Results

Least cost plan is to build 130MW generator to serve Chugach retail and any level of service to wholesale load.

## Load Scenarios Analyzed

### Full Requirements

- MEA and HEA
- MEA only
- HEA only

### Partial Requirements

- MEA and HEA
- MEA only
- HEA only

### Economy Sales

- MEA and HEA
- MEA only
- HEA only

Gas-fired Generation Plant



# Alternative Resource Investigations

(conducted in 2005 & 2006)

## Coal Plants

- Emma Creek – 200 MW close to Healy
- Chuitna (Remote Site) – 130-260 MW close to Beluga
- Non-remote Site – 130-260 MW non-remote location
- Agrium Blue Sky Coal Gasification – 130 MW

**Wind Power – Fire Island** (not base load power)

**Hydro - Chakachamna and Susitna Dam potential**

**Geothermal - Mt. Spurr potential**

**Tidal - Cook Inlet potential**

**Conclusion: Alternatives were either too costly, could not be built in near-term, or were not commercial.**

# 2006 Generation Plan

## (refinement of 2004 IRP)

### Developed detailed generation plans:

- Plan I** Status Quo: rebuild Beluga 8
- Plan II** Flexibility Plan: three 60 MW unit + steam unit by 2012
- Plan III** Current FMP Plan: 130 MW unit by 2011
- Plan IV** 5-yr Deferral: 60 MW by 2009; 130 MW coal by 2015
- Plan V** 10-year Deferral: 100 MW by 2009; 130 MW coal by 2015
- Plan VI** Own half 260 MW: Half 260 MW by 2011
- Plan VII** 3 60 MW units: New units by 2009, 2010, 2012
- Plan VIII** Own Entire 260 MW: Own entire unit by 2011

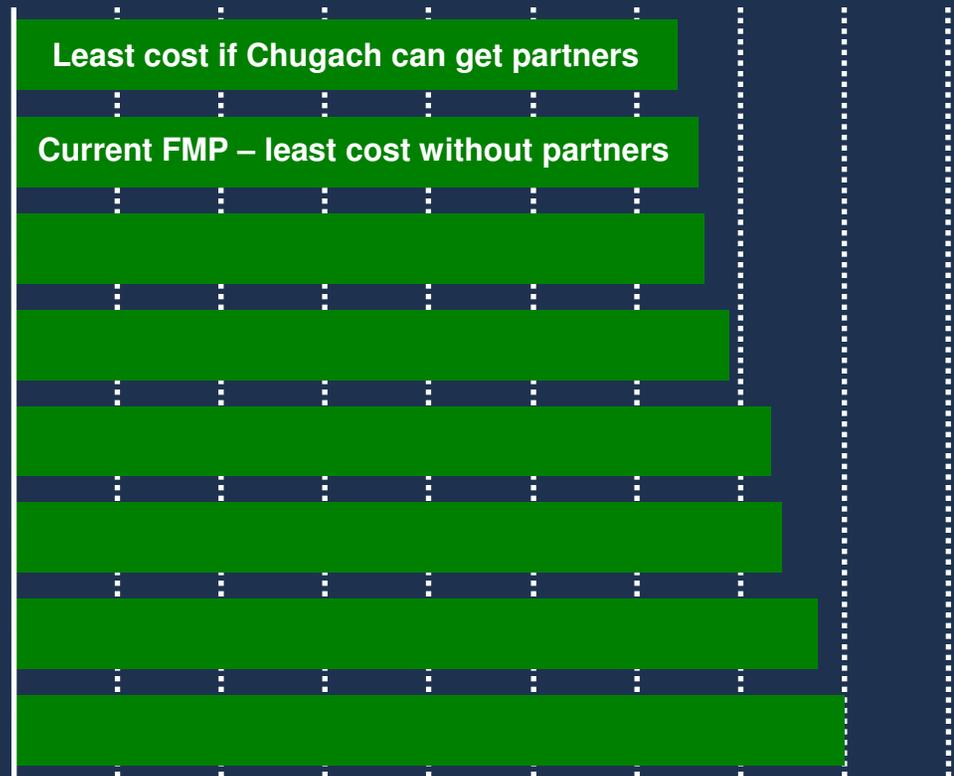
# Cost of Generation Alternatives

(\$ billions)\*

(Plans reordered by cost)

\$0.0 \$0.2 \$0.4 \$0.6 \$0.8 \$1.0 \$1.2 \$1.4 \$1.6 \$1.8

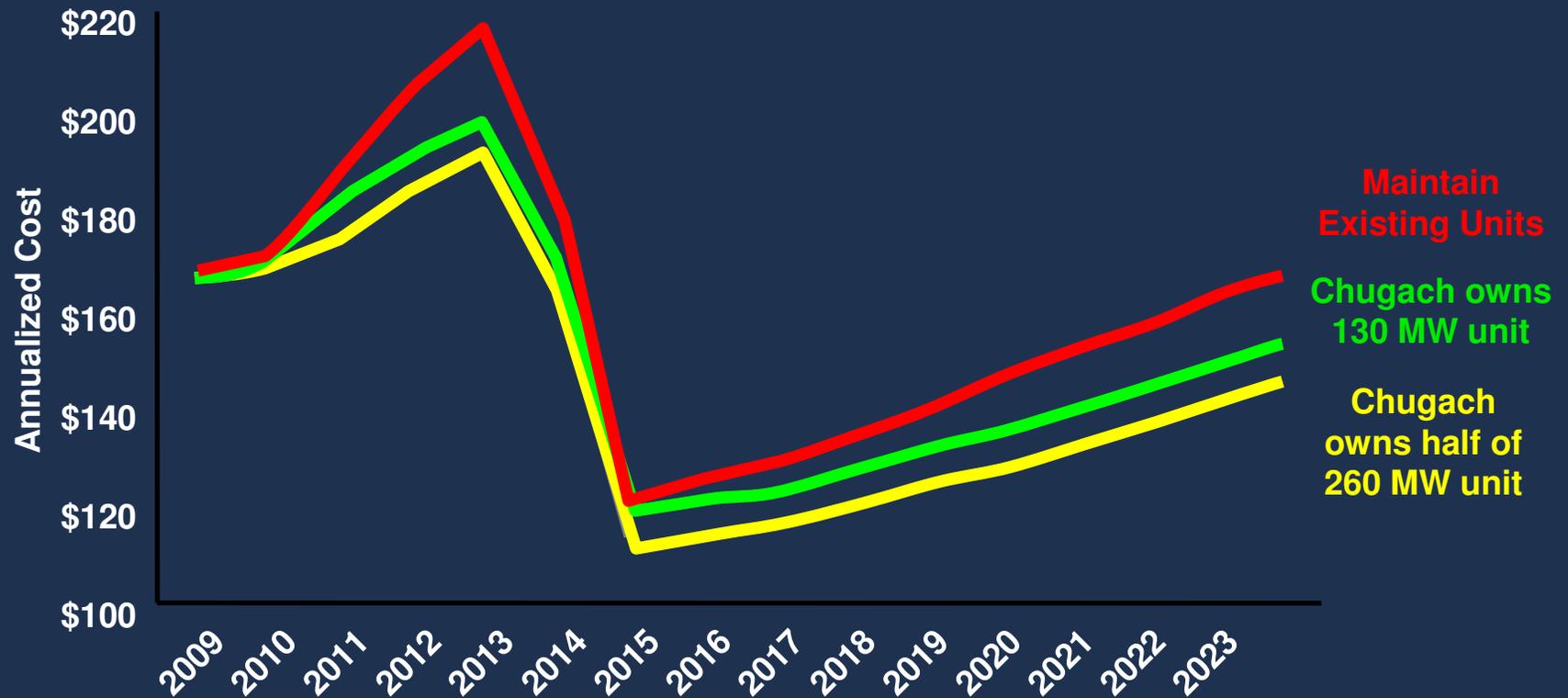
- Plan VI – Own half 260 MW
- Plan III – Own 130 MW
- Plan VIII – Own 260 MW
- Plan II – Flexibility Plan
- Plan VII – 3 60 MW units
- Plan I – Status Quo
- Plan IV – 5-yr Deferral
- Plan V – 10-year Deferral



\* Cost from Independent Analysis and Risk Assessment of Chugach’s 2006 Generation Plan

# 2006 Generation Plan Results

Annual cost of generation, O&M and fuel



# 2006 Generation Plan Results

## 130 to 260 MW Gas-fired Generation:

- Meets range of load forecasts
- Reduces gas expense
- Hedges possible increase in gas prices
- Reduces reliance on aging equipment
- Reduces reliance on transmission and submarine cables with Anchorage location for new generation
- Positions Chugach to purchase energy from coal, wind, hydro and renewables when developed

# 2007 Independent Review of 2006 Generation Plan Validates 2006 Generation Plan

## Least Cost Plan strategy:

- Seek partners on a 206FA CC, Chugach to own half (approximately 130 MW)
- Own entire 206FA if financially viable
- Own 106FA
- Retire Beluga Unit 8 and Bernice Units 2, 3 & 4 in 2015

# 2006 Generation Plan & 2007 Independent Assessment Results

130 to 260 MW gas-fired generation  
built by 2011 is least cost.

Gas-fired Generation Plant



# Least Risk Plan

What are the risks associated with the generation plans?

## Status Quo – Maintain Existing Units

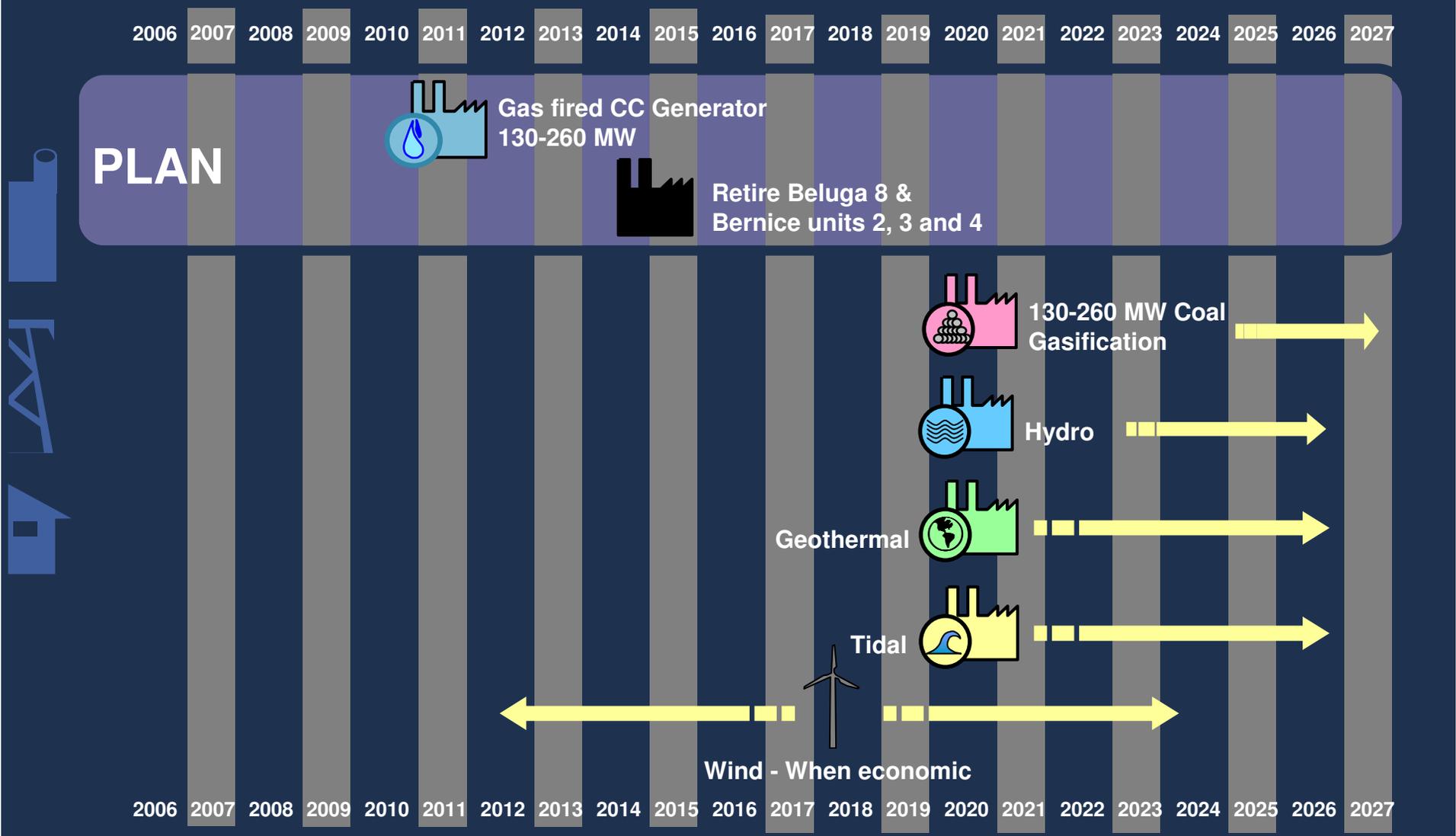
- Risk of high fuel prices and inefficient generation significantly increasing cost to members.
- Risk of lower reliability due to higher force outage rate with aging base load generation

**OR**

## Build New Gas-fired Generation

- Risk of construction cost over run

# Generation Plan Summary





# Fuel Supply

**Presented by Suzanne Gibson**  
**Energy Asset Manager**

# Cook Inlet Gas Market



## PRODUCERS

- ConocoPhillips
- Marathon Oil
- Chevron
- AML&P

## SUPPLY



## DELIVERABILITY

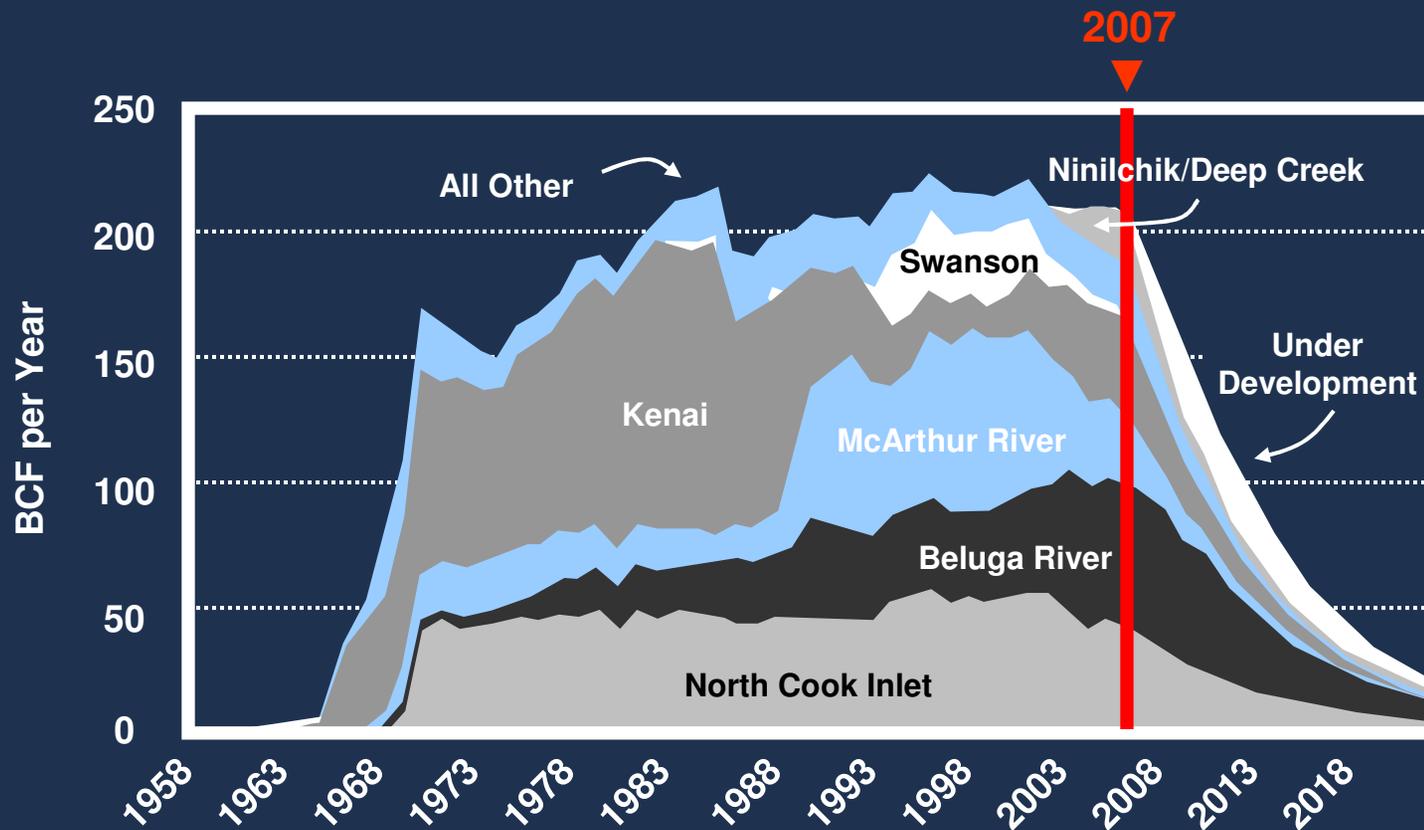
- Peak Demand > Peak Production



## CONSUMERS

- LNG Exports
- Ammonia-Urea manufacture
- Power generation
- Gas utilities
- Field operations

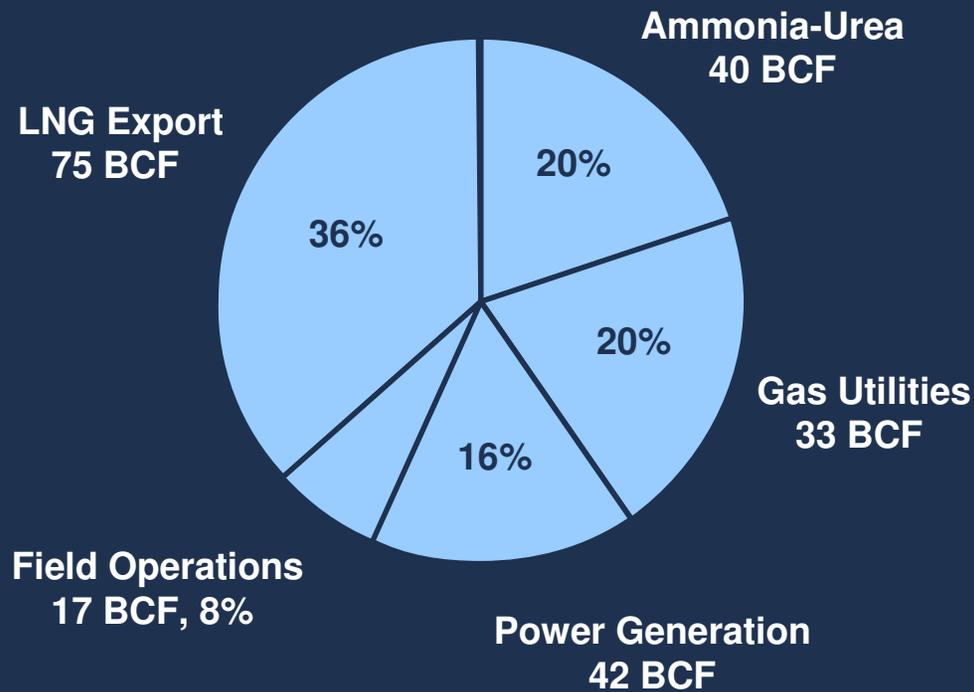
# Cook Inlet Natural Gas Production Historic and Projected, 1958 to 2022



Source: SOA Dept. of Natural Resource, Division of Oil and Gas 2006 Report

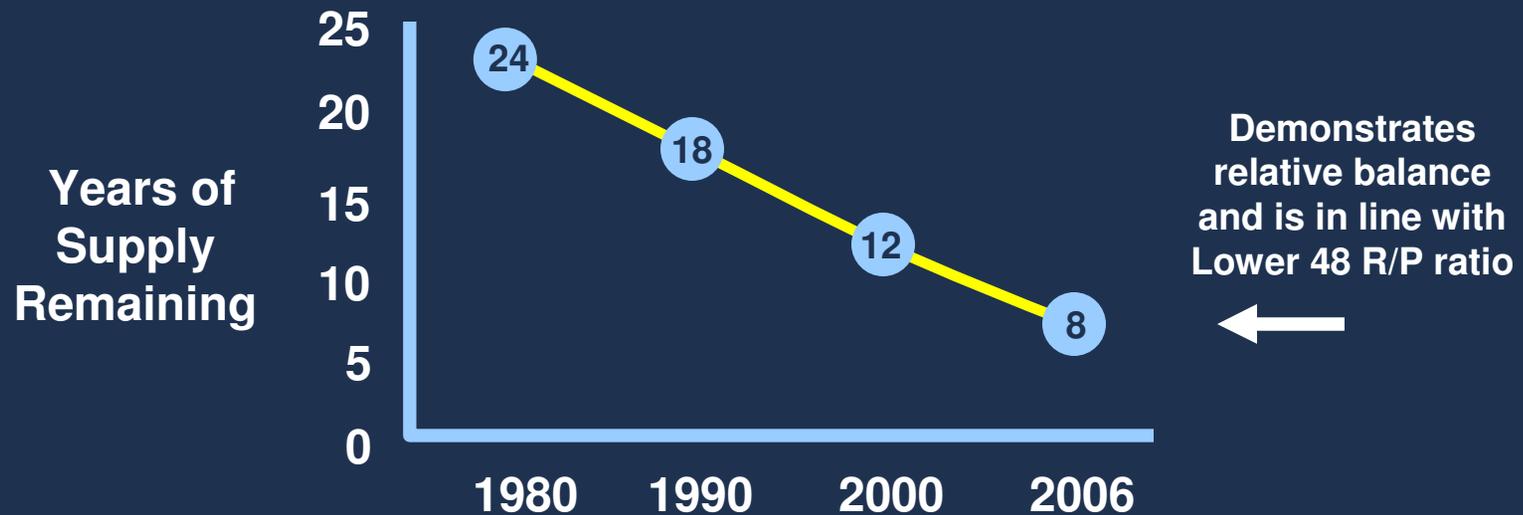
# Annual Cook Inlet Natural Gas Usage (2005)

**Annual Demand  
Total: 207 BCF**



# Reserves/Production Ratio

## Steady Decline for 25 Years



**1,700 BCF of reserves**

**~ 207 BCF annual demand**

Annual demand assuming continued operation of the Ammonia-Urea and LNG facilities.

**= ~ 8 years of supply remaining**

# Alaska Gas Reserves, Production & Cost

Location	Cook Inlet	Cook Inlet	Cook Inlet	North Slope
Source	AK DNR 2006	DOE 2004	USGS 2005	USGS 2005
Volume	1.7 TCF	1.4 TCF	8.5 TCF	37.5 TCF
Cost to Produce	Requires little investment	\$500M	\$5B	\$???
Cost per mcf	Minimal	\$0.36/mcf	\$0.60/mcf	Not well known
Years of supply (at current rate of consumption)	8	7	41	181

# LNG Export License Issues

## Facility Background



### KENAI LNG FACILITY

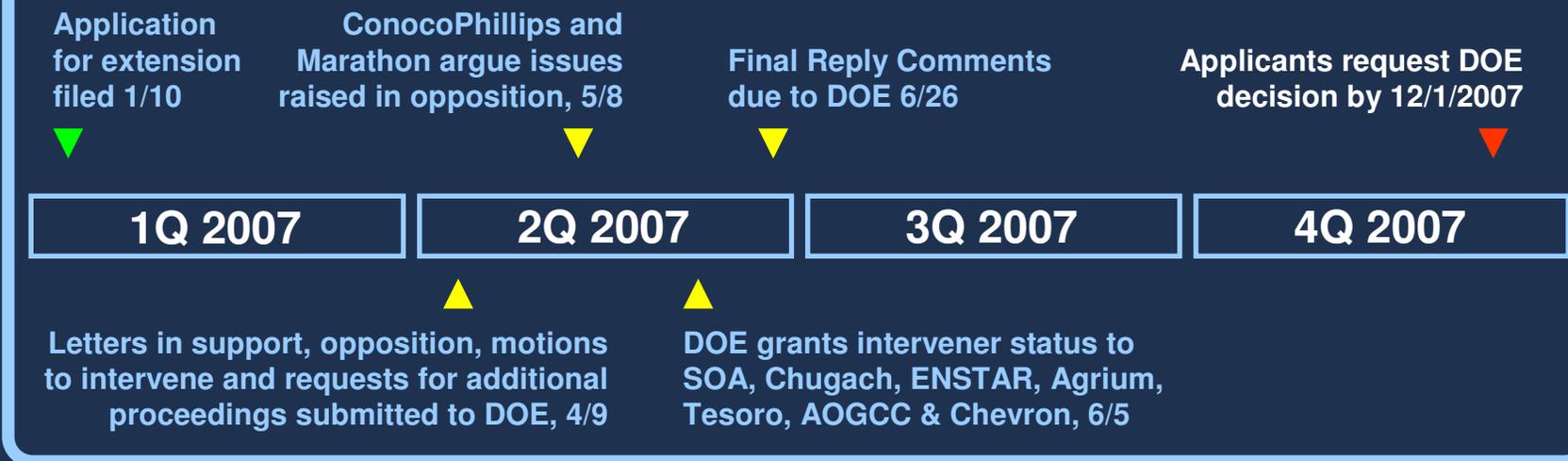
- Jointly owned by ConocoPhillips (70%) and Marathon Oil Company (30%)
- Continuous LNG shipments to Japanese utilities since 1969
- Multiple license extensions since first authorization in 1966, for increasingly shorter durations
- Current license expires April 30<sup>th</sup>, 2009

# LNG Export License Issues

## Application for Renewal

- Export authorization is governed by the US Dept. of Energy (DOE) – Office of Fossil Energy (FE).
- Current application requests 2-year blanket authorization for up to 127.7 BCF from May 1, 2009 through April 30, 2011.

### Application Process Timeline



# LNG Export License Issues

## Impact of DOE/FE Decision

**REDACTED**

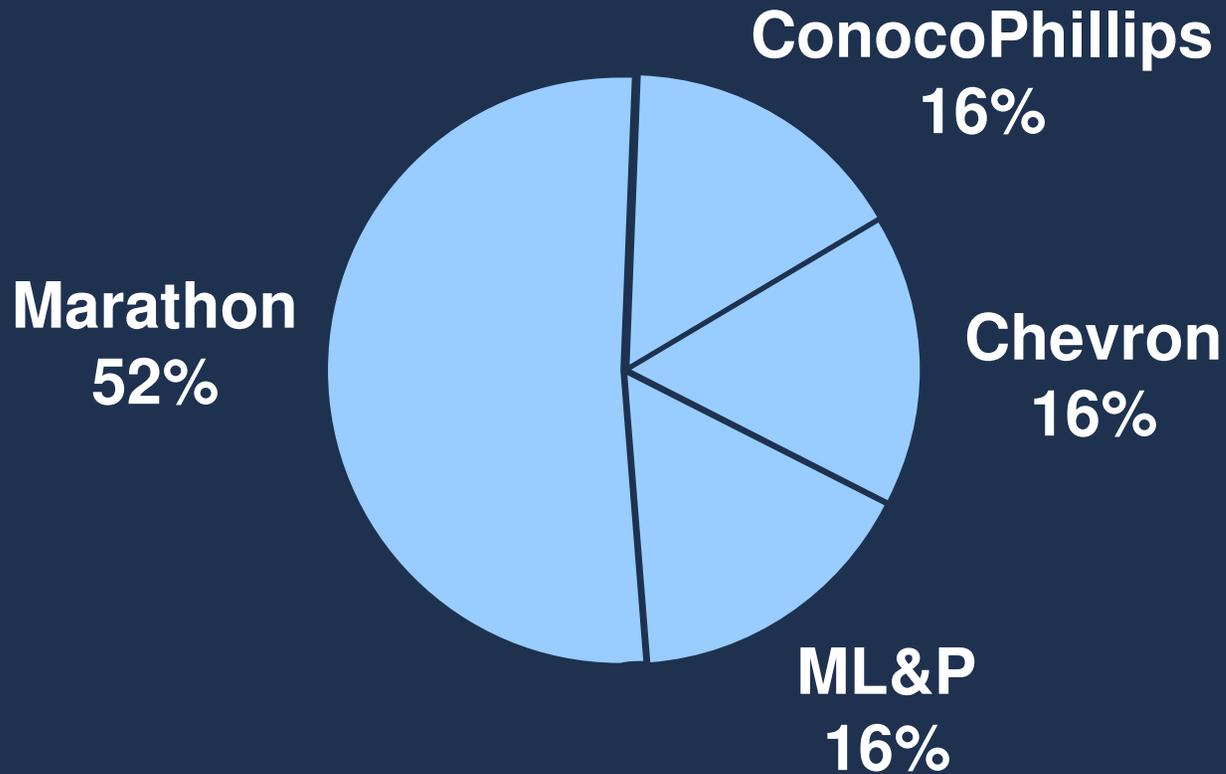


# Current Chugach Gas Contracts

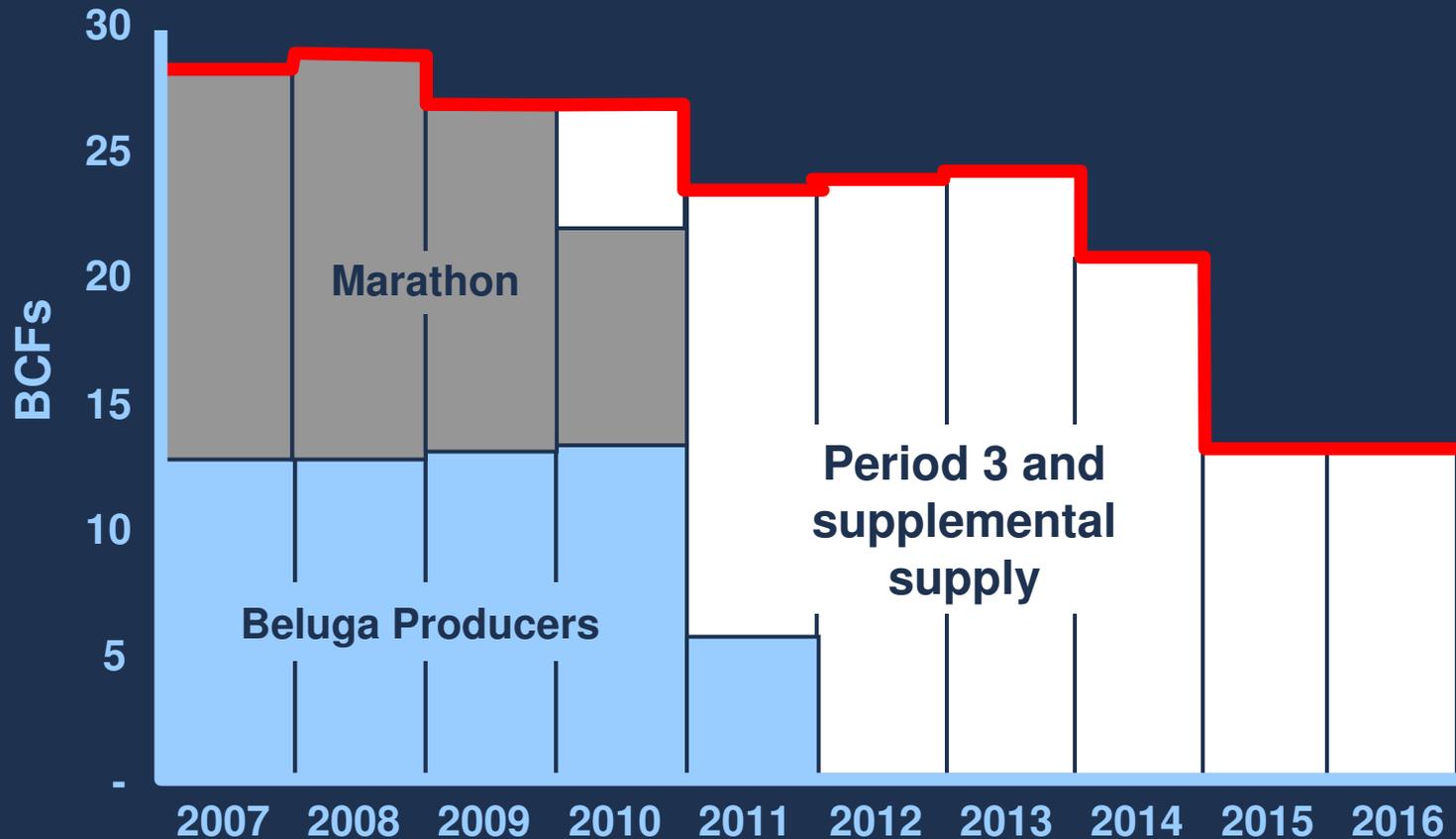
- **Beluga Producers: 180 BCF – forecasted to last until mid-2011**
  - **ConocoPhillips**
  - **Chevron**
  - **ML&P**
  
- **Marathon Oil Company: 215 BCF – forecasted to last until Q3 2010**

Note: Exhaustion of current gas contracts coincides with term of requested LNG export extension.

# 2006 Chugach Gas Allocation by Supplier



# Gas Volumes under Existing Contracts



# Option on Additional Gas Supply

<u>Producer</u>	<u>BCF</u>
Marathon	0
ConocoPhillips*	40
Chevron*	40
ML&P*	40
<u>Total</u>	<u>120</u>

**\*Subject to agreement on market sensitive pricing and contract terms**

# Natural Gas Prices

## Chugach, ENSTAR, LNG and Gas Futures

**REDACTED**



# Natural Gas Prices Past & Future

**REDACTED**



# Contract Structures

**REDACTED**



# Contract Structures

**REDACTED**



# Strategy

**REDACTED**



# Strategy

## Daily gas usage 2006

**REDACTED**



# Support & Resistance to New Contracts

**REDACTED**



# Searching for Common Ground

**REDACTED**



# Impact on Fuel Cost in 2011

**REDACTED**



# Current Focus

**REDACTED**





# Summary

**Presented by Bill Stewart**  
**Chief Executive Officer**

# Chugach Electric Association

## Chugach Mission

Through superior service, safely provide reliable and competitively priced energy.

## What our customers say

High marks on customer service, reliability and average marks on price.

# Chugach Electric Association

## What we are doing about price?

- Minimize the fuel cost increase with new generation that is 25% to 30% more efficient.
- Continue to benchmark operations and strive to improve efficiency through:
  - Adoption of best practices
  - Use of new technology & employee innovation
  - Communication with industry peers
- Correct inequities between G&T and distribution business.
- Pursue opportunities with other utilities to reduce cost.

# Chugach Electric Association

## *Powering Alaska's Future*





# Discussion



## **Electric Utility Performance Benchmarking**

Summary Findings, Recommendations  
& Action Plans

January 17, 2007



**Table of Contents**

<b><u>Section</u></b>	<b><u>Page</u></b>
<b>Introduction and Background</b>	<b>2</b>
<b>Generation and Transmission</b>	<b>4</b>
<b>Distribution and Customer Service</b>	<b>10</b>
<b>Information Technology</b>	<b>16</b>
<b>Purchasing Services</b>	<b>20</b>
<b>Accounting and Finance</b>	<b>24</b>
<b>Facilities Maintenance</b>	<b>29</b>
<b>Facilities Security</b>	<b>31</b>
<b>Fleet Maintenance</b>	<b>34</b>
<b>Environmental Services</b>	<b>37</b>
<b>Safety</b>	<b>40</b>

## Benchmarking: Introduction and Background

Chugach Electric Association is one of the nation's largest electric power cooperatives, providing generation, transmission, and distribution services to more than 69,000 metered locations in Alaska between Anchorage and Fairbanks.

In its effort to continuously improve, Chugach management began a series of benchmarking activities in 2005, comparing Chugach's operating performance with a group of industry peers.

The objectives of this ongoing benchmarking program are three-fold:

- To objectively identify Chugach's strengths as well as opportunities for improvement.
- To identify industry best practices so that efforts to improve can be based on strategies proven to be successful among similar utilities.
- To establish a baseline against which to measure improvement.

### Business Areas Benchmarked

The following business areas at Chugach were studied in 2005 and 2006. In most cases, the findings and recommendations resulting from these studies were presented at a high level to the Chugach Board of Directors. (Due to time constraints, Administrative Services benchmarking data has not yet been presented.)

- Generation & Transmission Substations
- Distribution & Customer Service
- Information Technology
- Purchasing
- Accounting & Finance
- Administrative Services
  - Fleet
  - Facilities
  - Safety
  - Environmental Services
  - Security

### Methods

For functions other than Generation & Transmission and Distribution & Customer Service, Chugach worked with Semeron Corporation to invite a pool of electric utilities to participate in a series of surveys. To date, 26 utilities have participated with Chugach in one or more benchmarking surveys; of those, two-thirds have participated in surveys of two or more business areas. These utilities are forming a *benchmarking community* within which all participants may share ongoing measurement and strategies for improvement.

These utilities were selected because they provide comparable services (in many cases, generation, transmission, and distribution) and because they are comparably sized. Of course, no utility mirrors Chugach in every respect; therefore, survey results have, where possible, been analyzed as percentages or ratios, rather than as absolute values. For example, in addition to measuring the number of staff assigned to Information Technology (IT), we analyzed IT staffing as a percentage of total utility staff.

The Distribution, Customer Service and Transmission Substations groups participated in an on-line survey conducted by e-Performance Group International (ePGI), a professional surveying company, as well as looked at data from industry groups and professional associations.

The Generation group developed its comparisons against published industry data.

While both Distribution & Customer Service and Generation & Transmission achieved benefit from their efforts, they have decided to participate in future surveys directed to comparable utilities in Chugach’s benchmarking community.

General Conclusions

Chugach’s expenses and its operating performance are within the “norm” of the range of other utilities benchmarked. As expected, however, Chugach performs better than others in specific aspects of its operations; likewise, there are areas in which Chugach could improve. All findings and improvement opportunities are addressed by business area in this report, with action plans and task completion schedules.

Future Activities

While the largest opportunities for cost reduction lie in the operational areas, Chugach will regularly benchmark all its activities in order to continuously improve performance across the Company.

<b>2007 + every two years</b>	<b>2008 + every two years</b>
Q1 – Human Resources / Safety	Q1 – Purchasing
Q1 – Design Engineering	Q1 – Fleet
Q2 – Distribution Operations	Q2 – Security
Q2 – Transmission & Distribution Substations	Q2 – Facilities
Q3 – Information Technology	Q3 - Accounting and Finance
Q3 – Generation	Q3 - Environmental Services
Q3 – Customer Service	

Chugach will also promote deeper relationships within its benchmarking community, establishing forums, shared data, and communication channels so that Chugach and its peers can easily learn and effectively deploy the successful best practices and methods of comparable utilities.

## Generation and Transmission

### Benchmarking Activities

Benchmarking activities for Generation and Transmission were limited, and the data available relative to this function at Chugach is therefore constrained.

The Technical Services group relied on data gathered electronically by e-PGI for its comparisons. This data represents an unknown number of utilities from around the world; because those utilities are not identified, there is no practical way of knowing similarities and differences between those utilities and Chugach. Interpreting results was challenging. In the future, the Transmission group will participate in future benchmarking with a community of compatible benchmarking partners. In addition, Distribution Substations will be added to the benchmarking activities with this new group.

The Generation group conducted its comparisons based on industry published data from the Operational Reliability Analysis Program (a plant equipment analytical service), FERC Form 1 and other sources. Generation too will participate in future benchmarking with Chugach's benchmarking community, with UMS Group in an operational benchmarking study, and with an outage duration best practices group.

### Findings

Chugach's performance is relatively strong. Based on published data, Chugach achieved:

- Lower System Average Interruption Duration Index (SAIDI) hours than the industry average.
- Significantly lower planned and unplanned equipment outages per circuit end than the industry average.
- Fewer forced outages than the industry average.
- Slightly lower level of availability than the industry average.

Chugach's costs are relatively low. Chugach achieved lower costs than average for:

- Generation total operating costs for gas and steam.
- Generation total operating costs for hydroelectric.
- Transmission total operating costs.

Chugach has some of the longest run gas turbines in operation and is beginning to encounter aging issues not widely prevalent in the gas turbine community.

### Conclusions

While the Generation and Transmission units operate well, Chugach should build on its success and push for continued improvement.

### Generation

- Chugach should benchmark its investment in generation infrastructure to ensure that it is adequately investing for future capacity and reliability. In particular, Management perceives that Chugach's generating equipment is not as fuel-efficient as that of utilities using newer generating units, thus driving up fuel and maintenance costs.
- Chugach should continue the projects that have incrementally improved system availability, including overhaul interval extensions and compression of its overhaul schedules on its baseload units.

- Chugach should ensure that it is providing adequate training for staff to effectively perform preventive and predictive maintenance activities, as they directly impact costs, availability, and reliability.

Transmission

- Chugach should continue to expand and refine its reliability centered and predictive maintenance programs in order to optimize O&M expenditures with respect to desired performance, and in addition reduce the backlog of substation maintenance work orders.
- Chugach should continue to optimize its substation related forced outages rate through its maintenance and replacement programs.
- Continue development of the journeyman upgrade program.

**Functional Area: Generation**  
**Action Plans**

Opportunity Name: <b>Generation Benchmarking</b>	
Executive Sponsor Accountable: Brad Evans	
Opportunity Description: Chugach is making good progress on implementing recommendations resulting from previous benchmarking efforts. Additional benchmarking will provide targets to improve system availability, maintenance programs and other operational practices.	
Business Benefits Expected: Continued low operating expenses and forced outage time as well as improved system availability.	Strategy to Achieve Benefits: Expand benchmarking to include site visits with recognized top performers and additional data surveys.
Action Steps	Quarter to Complete
1. Review quarterly ORAP reports to assess Chugach performance to industry	On going
1A. Identify and explore potential performance gaps	On going
1B. Implement improvement programs to close gaps	On going
2. Develop and administer custom benchmark study with existing benchmark community	Q3 2007
3. Visit top performers in outage management to learn best practices	Q4 2007
3A. Identify comparable programs and useful techniques	Q4 2007
3B. Develop improvement plans to leverage knowledge at Chugach	Q4 2007

**Functional Area: Generation**  
**Action Plans**

Opportunity Name: <b>Overhaul Projects – Extensions and Compressed Schedule</b>	
Executive Sponsor Accountable: Brad Evans	
Opportunity Description: An aging infrastructure that is not adequately maintained can reduce system reliability and cause operating costs to increase.	
Business Benefits Expected: Continued low operating expenses and reduced forced outage time.	Strategy to Achieve Benefits: Continue on going overhaul projects; identify and assess the impacts of aging issues.
Action Steps	Quarter to Complete
1. Continue multi-year overhaul extension for generation plant	
1A. Complete evaluation of hot gas path component performance	Q3 2007
1B. Complete first extension	Q3 2008
2. Implement compressed overhaul schedules for generation plant	
2A. Establish replacement/overhaul schedules	Q1 2007
2B. Review proposed schedules with benchmarking peers	Q2 2007
2C. Implement compressed schedule	Q3 2008
3. Complete technical inspection of steam plant	Q3 2007

**Functional Area: Generation  
Action Plans**

<b>Opportunity Name: Staff Training</b> Executive Sponsor Accountable: Brad Evans	
<b>Opportunity Description:</b> Chugach's ongoing training efforts should address skills needed to plan for maintenance of its generation plant.	
<b>Business Benefits Expected:</b> Optimum performance from the workforce.	<b>Strategy to Achieve Benefits:</b> Implement a maintenance planning training program to ensure that maintenance and operation processes are followed.
Action Steps	Quarter to Complete
1. Identify skills required for maintenance planning	Q1 2007
2. Assess gaps and prioritize	Q2 2007
3. Develop training programs to address high priority gaps	Q3 2007
4. Assess results and begin repeating cycle for new maintenance and overhaul program	Q4 2007
5. Reduce maintenance requirements through control upgrades	Q4 2007

**Functional Area: Technical Services  
Action Plans**

<p><b>Opportunity Name: Substation Reliability Centered Preventive and Predictive Maintenance Program Development for Transmission and Distribution Substations</b></p> <p>Executive Sponsor Accountable: Lee Thibert</p>	
<p><b>Opportunity Description:</b> The current backlog of transmission and distribution substation maintenance work orders is approximately 2400. Evaluating and reducing this backlog will assist us in achieving our desired reliability to cost profile and thereby aid us in optimizing system maintenance costs.</p>	
<p><b>Business Benefits Expected:</b> Limiting substation equipment failures will result in higher system reliability at a lower total cost of operation.</p>	<p><b>Strategy to Achieve Benefits:</b> Optimize maintenance procedures triggers and reduce backlog of substation maintenance work orders</p>
Action Steps	Quarter to Complete
1. Evaluate in-house vs. contractor labor staffing to determine appropriate mix. Fill vacant substation positions and maintain staffing at budgeted levels.	
1A. Plan projects and assign contract and available in-house labor for 2008 projects	Q3 2007
1B. Complete cable termination training program	Q1 2007
1C. Recruit positions	On-going
1D. Interview and make offers	On-going
1E. Complete journeyman upgrade matrix	Q3 2007
1F. Complete planned projects, including 35kV terminator replacements	On-going
1G. Evaluate success and plan staffing for 2008	Q3 2007
2. Tune maintenance procedure triggers to optimize maintenance intervals according to RCM principles	
2A. Catalog each system component by type and criticality	completed
2B. Evaluate Chugach's RCM procedures and triggers against similarly aligned industry partners	Q4 2007
2C. Review maintenance histories: Chugach and benchmarking partners	Q2 2007
2D. Revise maintenance triggers or predictors for each component by priority, based on failure history/cost profile. Optimize the period between maintenance activities; review and revise annually.	Q4 2007
3. Implement Maintenance Management Workstation to display strategic, tactical and operational dashboard identifying processes or components requiring immediate attention	Q3 2007

## Distribution and Customer Service

### Benchmarking Activities

The Distribution and Customer Service functions participated in a survey conducted by ePerformance Group International which included large utilities from around the world. The study also looked at one key measure, the Distribution Adder, in comparison with a variety of data sources, including MEA & HEA 2004 Form 7, the National Rural Utilities Cooperative Finance Corporation 2004 data, the American Public Power Association 2004 data, and data for municipal utilities for 2002. In addition to the Distribution Adder, Chugach also reviewed such factors as staffing allocations, cost components, and residential customer satisfaction.

### Findings

In general, Chugach achieves higher than average service levels (e.g., faster response times, higher customer satisfaction) at higher than average costs.

- Chugach's total Distribution Adder is higher than the industry average; when fixed costs (interest, depreciation, etc.) are factored out, Chugach is still slightly higher than average.
- Chugach's underground construction cost per mile is more than 50% higher than the average of other utilities reviewed, likely due in part to Alaska's difficult weather and terrain.
- Chugach uses a much higher percentage of contractors than most peers for underground construction. The majority of its underground construction work is performed in the summer months and seasonal contractors are needed to supplement in house staff.
- Other utilities use a higher percentage of contractors for line maintenance. Similar to the above point, Chugach has chosen to use contractors for seasonal construction and in house staff for non-seasonal line maintenance.
- Chugach's total cost per mile for both overhead and underground O&M are relatively high.
- Chugach's SAIDI is about 30% higher than the average of utilities surveyed.
- Chugach's cost per payment is more than twice the survey average, likely due to its relatively high number of credit card payments.
- Chugach's time to respond to an outage, and the cost per customer and event, are low.
- Chugach's use of automated meter reading (AMR) is extremely high, with 94% of meters read through AMR. Alaska's higher than average labor costs and accessibility problems make AMR pay for itself sooner than Lower-48 peers.
- Chugach's overall customer satisfaction rating is quite high.

### Conclusions

Chugach should review the factors that contribute to its relatively high Distribution Adder and develop strategies to drive down distribution infrastructure O&M costs:

- Evaluate and improve the efficiency of loop wagon operations
- Reduce the cost of outsourced underground locating
- Evaluate in-house vs. contract labor productivity to determine appropriate mix of labor
- Identify areas on the system where consistent O&M costs occur, and, and if appropriate, prioritize undergrounding backlog to target those areas

In addition, Chugach should evaluate and improve its Design Engineering and Construction work flows in order to reduce capital construction costs.

Finally, Chugach should review best practices of top performers to find ways to reduce Member Services costs without significantly compromising service levels. In order to slow the growth of card fees, Chugach should promote adoption of automated bank withdrawals for customer bill payments.

**Functional Area: Distribution**  
**Action Plans**

<p><b>Opportunity Name: Improve Design Engineering and Construction Processes</b> Executive Sponsor Accountable: Lee Thibert</p>	
<p><b>Opportunity Description:</b> Improve the efficiency of the Design Engineering and Construction processes for undergrounding and other construction in order to reduce costs and improve service to customers.</p>	
<p><b>Business Benefits Expected:</b> Higher overall customer satisfaction will result from a careful balance of reduced Design Engineering and Construction costs and service enhancements.</p>	<p><b>Strategy to Achieve Benefits:</b> Evaluate the current Design Engineering and Construction processes and benchmark other utilities to determine best practices. Identify and implement process improvements.</p>
Action Steps	Quarter to Complete
1. Develop matrices	Q1 2007
2. Test matrices with benchmark partners	Q2 2007
3. Collect benchmark data	Q2 2007
4. Establish goals for 2008 implementation	Q2 2007
5. Assess current Design Engineering and Construction practices, including use of contractors, and identify opportunities for improvements	Q2 2007
6. Plan and implement process improvements	Q3 & Q4 2007

**Functional Area: Distribution  
Action Plans**

<b>Opportunity Name: Improve Loop Wagon Operations</b> Executive Sponsor Accountable: Lee Thibert	
<b>Opportunity Description:</b> Improve the efficiency of the loop wagon processes in order to reduce overall O&M costs and improve service to customers.	
<b>Business Benefits Expected:</b> Higher efficiency of loop wagon operations will reduce O&M costs.	<b>Strategy to Achieve Benefits:</b> Evaluate the current loop wagon processes and benchmark other utilities to determine best practices. Identify and implement process improvements.
Action Steps	Quarter to Complete
1. Develop service crew matrices	Q1 2007
2. Review matrices with benchmark partners	Q2 2007
3. Collect benchmark data	Q3 2007
4. Establish goals for 2008 implementation	Q4 2007
5. Assess current Loop Wagon practices and identify opportunities for improvements	Q4 2007
6. Evaluate mobile GIS technology	Q4 2007
7. Plan and implement process and technology improvements	2008

**Functional Area: Distribution  
Action Plans**

Opportunity Name: <b>Improve Outsourced Underground Locating Contract</b>	
Executive Sponsor Accountable: Lee Thibert	
Opportunity Description: Reduce the cost of outsourced underground locating in order to reduce overall O&M costs and improve service to customers.	
Business Benefits Expected: Lowering cost of outsourced underground locating will reduce O&M costs overall.	Strategy to Achieve Benefits: Establish locator classification that is substantially less than journeyman rate.
Action Steps	Quarter to Complete
1. Meet with ACS to establish strategy	Q1 2007
2. Present plan to NECA	Q2 2007
3. Negotiate lower classification with IBEW	Q3 2007
4. Contract joint locates for 2008	Q4 2007

**Functional Area: Distribution  
Action Plans**

<b>Opportunity Name: Cable Injections</b> Executive Sponsor Accountable: Lee Thibert	
<b>Opportunity Description:</b> Cable injection is a special process that reinvigorates the insulation on underground cables, extending the life by 20 years at a fraction of the cost to replace the lines. Chugach needs to assure that resources are available to complete cable injection projects outlined in 2007 budget.	
<b>Business Benefits Expected:</b> Completing approximately 45,000 feet of cable injection will result in greater reliability of the distribution system.	<b>Strategy to Achieve Benefits:</b> Train resources and schedule injection work prior to construction season.
<b>Action Steps</b>	<b>Quarter to Complete</b>
1. Provide training to regular employees	Q1 2007
2. Submit schedule for approval before construction season begins	Q2 2007
3. Report progress	Q2 & Q3 2007

**Functional Area: Customer Service  
Action Plans**

<b>Opportunity Name: Payment Processing Cost Reduction</b> Executive Sponsor Accountable: Mike Cunningham	
<b>Opportunity Description:</b> Credit card payment processing is expensive and rises proportionately with increased rates. Automated bank withdrawals achieve the same benefits to Chugach without excess charges. Chugach should promote automated bank withdrawals in the future.	
<b>Business Benefits Expected:</b> Lower administrative costs without reductions in customer convenience or security.	<b>Strategy to Achieve Benefits:</b> Explore alternate methods for capturing customer payments.
<b>Action Steps</b>	<b>Quarter to Complete</b>
1. Promote automatic bank withdrawals and other less expensive alternatives to credit card payments (via bill inserts, web site announcements, etc.)	Ongoing

## Information Technology Services

### Benchmarking Activities

Ten utilities (in addition to Chugach) participated in the Chugach sponsored survey. In addition, we incorporated data from eight electric utilities which had participated in a previous study early in 2005, received via one of our participants, United Cooperative Services. We also included the results of Gartner's 2004 IT Benchmarking report for Electric Utilities.

Utilities were asked a series of questions about staffing for IT services, IT capital and operating expenditures, IT hardware and software purchases, and outcomes achieved, including system reliability and customer satisfaction with IT.

### Findings

- Chugach spends slightly less than the benchmarking average for IT operations as a percent of total utility operations.
- Chugach's spending on IT capital projects was at the lowest end of the benchmarking survey when presented as a percent of total utility capital expenditures.
- Chugach's total spending on IT per utility employee was significantly less than the benchmarking survey average.
- Chugach spends a relatively small percentage of its total IT dollars on new development and enhancements compared with benchmark peers. Most IT spending at Chugach is for operations and maintenance of existing systems.
- Software purchases and software maintenance account for a higher percentage of IT expenditures at Chugach than at most other utilities surveyed.
- Chugach has slightly more IT staff per utility employee than the survey average, and far fewer contract staff working in IT than the average utility surveyed.

### Conclusions

Chugach must adequately invest in the upgrade and replacement of its current IT systems, as well as in new systems, in order to maintain service efficiency and to avoid rising operations and maintenance costs as aging systems begin to fail. To ensure a balanced, business-based approach for its IT investments, Chugach should:

- establish a Technology Committee of business managers and executives;
- implement a structured planning and evaluation process for IT investments; and
- better understand and control the direction of its expenditures by categorizing them as New Development, Enhancements, and O&M.

Chugach should drive down the number of software products it supports and reduce its software support costs by:

- requiring a clearly documented business case for each major upgrade or new acquisition and
- evaluating alternative methods for delivering application services, including the strategic use of external application service providers.

Chugach should endeavor to expand its flexibility and hold down costs by exploring a more blended balance of full time, permanent staff augmented by temporary contract staff to support IT "overflow" work.

Action Steps

**Functional Area: Information Technology**  
**Action Plans**

Opportunity Name: <b>IT Capital Spending</b>	
Executive Sponsor Accountable: Dave Smith	
Opportunity Description: Chugach invests significantly less in new systems and system upgrades than do benchmarking peers. Continued underinvestment over time will ultimately drive up O&M costs and will reduce overall utility efficiency and utility employee satisfaction with IT services.	
Business Benefits Expected: Invest adequately in IT to provide continued system reliability and to drive down O&M costs.	Strategy to Achieve Benefits: Gradually bring IT capital investment into better alignment with IT O&M spending.
<b>Action Steps</b>	<b>Quarter to Complete</b>
1. Establish business-based Technology Committee to prioritize new projects as well as upgrades and replacements.	
1A. Charter Technology Committee and assign members	Q1 2007
1B. Review, prioritize investments for 3 <sup>rd</sup> and 4 <sup>th</sup> Quarters	Q2 2007
1C. Monitor progress	Q3, Q4 2007
2. Establish structured process for IT investments	
2A. Develop baseline of current applications and infrastructure	Q1 2007
2B. Establish prioritization process	Q2 2007
2C. Develop recommendations for 2008 – 2010	Q3 2007
2D. Review with Technology Committee; budget in CIP	Q4 2007
3. Categorize IT budget and IT expenditures according to role: Operations & Maintenance; Enhancements; New Development	
3A. Track IT expenditures by category	Q1 – Q4 2007
3B. Prepare categorized 2008 budget	Q4 2007

**Functional Area: Information Technology**  
**Action Plans**

Opportunity Name: <b>Spending for Software</b>	
Executive Sponsor Accountable: Dave Smith	
Opportunity Description: Chugach spends a disproportionately large share of its IT procurement budget on software, and a large share of its O&M budget on software maintenance. Reducing the number of software products supported can drive down purchase and O&M costs.	
Business Benefits Expected: Acquire and maintain a minimum number of software products at the lowest price necessary to provide acceptable performance	Strategy to Achieve Benefits: Reduce the number and price of software products supported while maintaining sufficient business automation to make the utility efficient.
Action Steps	Quarter to Complete
1. Develop a business case prior to the acquisition of new software or major upgrades of existing products. Explore the lifecycle costs and benefits of all reasonable options before making a purchase decision.	
1A. Establish business case format and financial analysis methodologies	Q1 2007
1B. Review with Technology Committee	Q2 2007
1C. Apply methodology	Q3 2007
1D. Apply methodology; provide Board with at least one case study	Q4 2007
2. Evaluate alternative methods for delivering application services, including the use of Application Service Providers (ASP's.)	
2A. Include ASP option in the business case for software replacement or upgrade projects	Q2 2007
2B. Select at least one ASP option if supported by business case.	Q4 2007

**Functional Area: Information Technology  
Action Plans**

<p><b>Opportunity Name: Workload Allocation</b> Executive Sponsor Accountable: Dave Smith</p>	
<p><b>Opportunity Description:</b> Chugach relies on permanent utility employees for IT work at a much higher proportion than benchmark peers. Contract staff can augment utility staff for project or other peak load work without permanently raising overall staffing levels.</p>	
<p><b>Business Benefits Expected:</b> Achieve work objectives, including high quality at lowest cost, while retaining core expertise and knowledge base.</p>	<p><b>Strategy to Achieve Benefits:</b> Develop a more blended balance of full time staff for regular, ongoing work, while diversifying options for overflow and project work.</p>
Action Steps	Quarter to Complete
1. Collaborate with labor unions to identify opportunities for spreading the burden of short-term, highly technical work.	
1A. Identify work opportunities which could be supported by non-utility staff	Q1 2007
1B. Evaluate potential costs and service issues	Q1 2007
1C. Select best opportunities and match with staffing options	Q2 2007
1D. Establish evaluation criteria	Q2 2007
1E. Select vendor or vendors	Q2 2007
1F. Test as pilot	Q3 2007
1G. Evaluate and report results	Q4 2007

## Purchasing Services

### Benchmarking Activities

Eleven utilities (in addition to Chugach) participated in the Chugach sponsored Purchasing survey. In addition, we incorporated 2005 benchmark data developed by CAPS: Center for Strategic Supply Research, a national research entity, and the International Association of Commercial Contracting Management (IACCM), an international contracting entity.

Utilities were asked a series of questions about staffing for Purchasing services, costs, levels of effort, strategies, and value added benefits of Purchasing activities. In cases where responses were illogically high or low for a particular question, the “extreme outliers” were not included in our analysis.

### Findings

- Chugach centrally controls a much higher percentage of controllable expenditures (about 95%) than the survey average of 64%.
- Because of its remote location, Chugach spends almost twice the average on freight and delivery costs, as well as devoting significantly more staff time to managing logistics.
- Chugach’s staffing for Purchasing as a percentage of total utility staffing is slightly higher than the average reported by the survey and slightly lower than the national average reported by CAPS. Chugach reported all clerical and courier services in its staffing figures.
- Chugach is on par with the survey average in Purchasing staffing costs as a percentage of total controllable expenditures.
- Chugach achieves the highest annual savings of all utilities surveyed through its negotiated discounts in purchase orders and contract bid processes. Its strategic alliances also result in value-added services and more efficient supply chain management.
- Chugach performs at the top level in terms of time to process informal bids and formal requests for bids; Chugach takes longer than the majority of survey participants to process formal requests for proposals.
- Chugach performs in the middle tier for number of purchase orders processed by Purchasing staff per week, but it is at the very highest performance level for number and complexity of contracts managed.
- While Chugach makes good use of strategic alliances and procurement cards, it has not deployed an e-procurement strategy, which is a strategy used by most other utilities surveyed.

### Conclusions

Overall, Chugach is performing its Purchasing functions very well. There are three areas where Chugach should focus its attention for continued improvement:

- Telecommunications and professional services account for 33% of Chugach’s purchases; therefore, they offer significant opportunities for further cost savings. Chugach should conduct a spend analysis for each of these two commodities.
- While Chugach’s Purchasing staff function efficiently, Chugach should study its Request for Proposal activities to identify and evaluate opportunities to reduce time spent in developing and issuing an RFP, weighing the benefits and costs against potential time reduction.
- Chugach should continue to stress and build upon its strategy for strategic alliances and should examine e-procurement options as one way to better interact with strategic partners. In addition, Chugach should evaluate whether other technology options could streamline some of its processes.

**Functional Area: Purchasing  
Action Plans**

<p><b>Opportunity Name: Telecommunications and Professional Services Spend Analysis</b> Executive Sponsor Accountable: Dan Knecht</p>	
<p><b>Opportunity Description:</b> Chugach spends one third of its controllable expenditures on telecommunications and professional services, two areas that IACMM identifies as significant targets for cost savings.</p>	
<p><b>Business Benefits Expected:</b> Increased savings without reductions in the quality of services received.</p>	<p><b>Strategy to Achieve Benefits:</b> With the assistance of an independent consultant, focus on telecommunications and professional services purchases to identify opportunities to rationalize the supplier base, negotiate deeper discounts, and leverage a proactive strategic buying pattern.</p>
Action Steps	Quarter to Complete
1. Obtain consultant services to objectively perform spend analyses	Q1 2007
2. Conduct spend analysis of professional services purchases	
2A. Review existing contracts; identify spend trends and cycles, maverick spend (transactions off contract), and future forecasts	Q1 2007
2B. Identify and prioritize opportunities for increased savings	Q2 2007
2C. Implement highest priority opportunities in conjunction with contract award cycles	Q3 & Q4 2007
3. Conduct spend analysis of telecommunications purchases	
3A. Review existing contracts; identify spend trends and cycles, maverick spend (transactions off contract), and future forecasts	Q1 2007
3B. Identify and prioritize opportunities for increased savings	Q2 2007
3C. Implement highest priority opportunities in conjunction with contract award cycles	Q3 & Q4 2007

**Functional Area: Purchasing  
Action Plans**

<b>Opportunity Name: Purchasing Automation</b>	
Executive Sponsor Accountable: Dan Knecht	
<b>Opportunity Description:</b> While Chugach achieves a relatively high level of savings through its Purchasing programs, opportunities exist to leverage technology to improve staff utilization and vendor alliances.	
<b>Business Benefits Expected:</b> Maintain costs of Purchasing while continuing to expand the benefits achieved from centralized management of purchasing.	<b>Strategy to Achieve Benefits:</b> Pursue technology options as a means to offload transactional work to keep pace with increasing demands and contract complexity.
<b>Action Steps</b>	<b>Quarter to Complete</b>
1. Implement technology to streamline or automate additional processes	
1A. Review Purchasing functionality within existing software and impending upgrades (e.g., PeopleSoft and compatible interfaces)	Q2 2007
1B. Identify bottlenecks or labor intensive steps to be improved.	Q2 2007
1B. Modify business processes to use software for maximum efficiency gains.	Q3 2007
1C. Implement automation tools and change business processes to achieve the biggest identified productivity boosts	Q4 2007
2. Explore e-procurement options to enhance strategic alliances	
2A. Identify e-procurement options within the planned implementation of PeopleSoft	Q2 2007
2B. Study options	Q3 2007
2C. Select option or options and implement	Q4 2007
2D. Evaluate results	Q1 2008

**Functional Area: Purchasing  
Action Plans**

Opportunity Name: <b>RFP Process Evaluation</b>	
Executive Sponsor Accountable: Dan Knecht	
Opportunity Description: Chugach takes longer than many other utilities to process Requests for Proposals, but it achieves the greatest cost savings by soliciting competitive bids.	
Business Benefits Expected: Faster turn-around of RFPs without reducing cost reductions achieved through well managed procurement activities.	Strategy to Achieve Benefits: Analyze the steps in the RFP process and identify opportunities for shortening timeframes.
Action Steps	Quarter to Complete
1. Review the activities included in each step of the RFP process.	Q2 2007
2. Identify opportunities to shorten or eliminate steps.	Q2 2007
3. Analyze the impact on cost savings and quality control for each potential shortened or eliminated step.	Q3 2007
4. Revise the RFP process if cost savings and quality are not sacrificed.	Q3 2007

## Accounting and Finance

### Benchmarking Activities

Sixteen utilities selected for their comparability to Chugach participated in the Chugach sponsored Accounting and Finance survey. In addition, we incorporated data gathered by the Association for Productivity and Quality Control (APQC) to provide additional perspective.

Utilities were asked a series of questions about staffing, costs, and productivity. In cases where responses were illogically high or low for a particular question, the “extreme outliers” were not included in our analysis.

### Findings

- Chugach’s overall staffing for Accounting and Finance, and ratio of staff to managers, are similar to the benchmark community average. Chugach’s allocation of staff to specific Accounting and Finance functions differed from other utilities.
- Chugach’s reporting requirements are more complex; it was the only survey participant with SEC reporting requirements, and one of two requiring Sarbanes-Oxley compliance.
- Chugach’s number of General Ledger accounts is almost three times the survey average, likely due to the complexity inherent in reporting activity for its Generation, Transmission and Distribution business lines. Only two other utilities surveyed account for all three functions.
- Chugach processes 79% more invoices than the average, with the same level of AP staff.
- The number of Chugach’s scheduled check runs is consistent with other utilities, but the number of unscheduled check runs is much higher.
- Only one other utility surveyed processes payroll weekly. Chugach processes payroll both weekly and bi-weekly for different payroll groups. The majority of respondents only process payroll bi-weekly.
- Chugach’s staffing for Plant Accounting is significantly higher than the survey average and Chugach takes twice as long to transfer a completed capital project to the continuing property records. Without further data, it’s difficult to determine if Chugach’s staffing is representative of other vertically integrated utilities.
- Chugach is one of the few utilities surveyed that does not use integrated automation systems for Plant Accounting.
- Chugach processes 16 to 30 budget revisions per year, the most of all utilities surveyed.
- Chugach pays far less in bank fees than its peers, and it earns one of the highest rates of return on its overnight funds of any utility surveyed.

### Conclusions

Overall, Accounting and Finance processes function well at Chugach. There are opportunities for continued improvement, however. We recommend that Chugach:

- Reengineer its Work Order business processes, designing efficient work flows between Engineering and Accounting; define work flow prior to implementing any new technologies.
- Define requirements for automated work order closing and fixed asset systems.
- Analyze its General Ledger accounts for redundancy and lack of use in order to reduce the number of accounts it must support.
- Establish and articulate clear policies for budget revisions, especially regarding the threshold required to accept a revision to the budget.
- Analyze its check runs to reduce the number of unscheduled runs; log and report all unscheduled checks.
- Investigate its volume of invoices to reduce, if possible, the total number of invoices paid.
- Evaluate the need for continued weekly payroll processing for the next cycle of labor negotiations (2009.)

**Functional Area: Accounting & Finance**  
**Action Plans**

Opportunity Name: <b>Work Order Process Design and Automation</b>	
Executive Sponsor Accountable: Mike Cunningham	
Opportunity Description: Work flows and job responsibilities within the GL, Plant Accounting and Engineering functions need clarification and alignment to reduce the time needed to capitalize a completed project.	
Business Benefits Expected: Cross functional roles and responsibilities definitions; efficient workflows; improved timeliness and accuracy of Plant reporting and capitalization	Strategy to Achieve Benefits: Conduct a Work Order process improvement project to evaluate and recommend improvements to current workflows, systems, management skills, staff capabilities and performance metrics. Once the process is accepted and documented, define requirements for supporting technology.
Action Steps	Quarter to Complete
1. Gather Industry Best Practices	Q1 2007
2. Gather Performance Expectations	Q1 2007
3. Document AS IS Work Order close out process	
3A. Process map current workflows and obtain feedback	Q2 2007
3B. Document current staff functions and map to work flow	Q2 2007
3C. Document reporting relationships and evaluate effectiveness	Q2 2007
3D. Invite feedback and prioritize findings	Q2 2007
4. Design TO BE work order close out process	
4A. Design and validate improvements to workflows and management structures	Q3 2007
4B. Document roles and responsibilities	Q3 2007
4C. Create management and performance reporting tools	Q3 2007
4D. Define functional requirements for Work Order and Fixed Asset software	Q3 2007
4E. Develop business case for improvements	Q3 2007
4F. Develop implementation plan	Q3 2007
5. Kick Off Implementation	
5A. Establish project management of implementation activities	Q4 2007
5B. Develop action plans to implement Work Order Management and Fixed Asset software	Q4 2007

**Functional Area: Accounting & Finance**  
**Action Plans**

<b>Opportunity Name: General Ledger Account Consolidation</b>	
Executive Sponsor Accountable: Mike Cunningham	
<b>Opportunity Description:</b> Chugach currently has over 3,200 general ledger accounts, well above the benchmark study average of 1,100. While Chugach needs more accounts to report Generation, Transmission and Distribution functions, there may be opportunity to consolidate accounts.	
<b>Business Benefits Expected:</b> Reducing the number of accounts will streamline account management and simplify the reporting process.	<b>Strategy to Achieve Benefits:</b> Analyze general ledger accounts for redundancy, lack of use and consolidation opportunities.
Action Steps	Quarter to Complete
1. Analyze General Ledger	
1A. Look for unused, infrequently used and redundant accounts	Q2 2007
1B. Analyze roll ups to assess consolidation potential	Q2 2007
1C. Propose new GL chart of accounts	Q2 2007
2. Consolidate and eliminate unnecessary accounts	
2A. Map all existing accounts to proposed GL	Q2 2007
2B. Revise report roll ups	Q2 2007
2C. Test new reports	Q2 2007
2D. Revise all forms and documentation to reflect new chart of accounts	Q3 2007

**Functional Area: Accounting & Finance**  
**Action Plans**

<b>Opportunity Name: Communicate Budget Revision Threshold</b>	
Executive Sponsor Accountable: Mike Cunningham	
<b>Opportunity Description:</b> There is no standard threshold for a budget revision. \$1,000 revisions have been processed in the past. While Chugach has an approval policy for budget revisions, it lacks a policy for the submission and processing of budget revisions; for example, it is unclear how many, for what dollar amount and when budget revisions may be accepted. Budget revisions are generally processed throughout the year depending on their level of materiality to individual budget line items	
<b>Business Benefits Expected:</b> Establishing and communicating the budget revision threshold will minimize immaterial budget revisions and reduce Accounting work load.	<b>Strategy to Achieve Benefits:</b> Establish and communicate budget revision policies, including a minimum threshold and acceptable time frames.
Action Steps	Quarter to Complete
1. Develop and document budget revision policies	Q2 2007
1A. Minimum threshold to process	Q2 2007
1B. Processing windows	Q2 2007
1C. Drivers (acceptable reasons for budget revisions)	
2. Communicate budget revision policies	Q3 2007

**Functional Area: Accounting & Finance**  
**Action Plans**

<p><b>Opportunity Name: Reduce Unscheduled Check Runs</b> Executive Sponsor Accountable: Mike Cunningham</p>	
<p><b>Opportunity Description:</b> Chugach processes 3.5 times the number of unscheduled check runs (six per month) compared to its benchmark peers. Unscheduled check runs often occur to meet payment deadlines which do not coincide with scheduled Friday check runs.</p>	
<p><b>Business Benefits Expected:</b> Minimizing unscheduled check runs will improve cash management, internal controls and process efficiency.</p>	<p><b>Strategy to Achieve Benefits:</b> Adjust payment workflow to align payment due dates with scheduled check runs; log and report unscheduled checks</p>
Action Steps	Quarter to Complete
1. Analyze history of unscheduled check runs	
1A. Identify vendors and explain need for unscheduled check runs	Q4 2006
2. Document standard vendor payment due dates	Q4 2006
3. Develop work flow that identifies due dates and matches payment date with preceding scheduled check run.	Q1 2007
4. Communicate check run schedule and invoice processing requirements to AP staff and internal customers who receive invoices.	Q1 2007
5. Develop log to track who requested an unscheduled check and why. Report unscheduled checks quarterly to CFO.	Q1 2007 and Ongoing

## Facilities Maintenance

### Benchmarking Activities

Twelve utilities selected for their comparability to Chugach participated with Chugach in the Facilities Maintenance survey.

Utilities were asked a series of questions about staffing, maintenance costs, number and size of facilities, and productivity, including backlogs. In cases where responses were illogically high or low for a particular question, the “extreme outliers” were not included in our analysis.

### Findings

- Chugach’s Facilities Maintenance staffing, as a percentage of total utility staffing, is less than half the survey average and the lowest of any survey participant.
- The total square footage of facility space maintained by Chugach was just slightly higher than the survey average of 170,275 square feet.
- It takes Chugach 3-4 days to complete a facility maintenance or repair work order, which is very close to the 3 day survey average.
- Chugach’s work order backlog of 3-4 days is higher than the survey average backlog of 2.5 days.
- Chugach surpasses the survey average of 82% of performing preventive maintenance services in accordance with preventative maintenance cycles with its 95% success rate.
- Chugach, like most survey respondents, outsources a large share of its Facilities Maintenance work (75%).
- Chugach employees rate their satisfaction with Chugach’s Facilities Maintenance services as “High,” giving it a 4 out of possible 5 points, the same rating 77% of survey participants report receiving from their employees.

### Conclusions

Chugach devotes far fewer staff resources to Facilities Maintenance than other utilities surveyed, yet outsources a similar amount of services as other survey respondents. This raises the question whether any useful maintenance services are not being performed.

- Chugach should review its maintenance requests, resources, work practices, and infrastructure status in each of the eight facilities maintenance functional areas: plumbing, electrical, HVAC, elevator, custodial, roofing, preventive maintenance, and grounds. Chugach should conduct a cost benefit analysis to determine the potential benefit of increased internal or external staffing support for each of the eight facilities maintenance functional areas.
- Facilities Maintenance should implement and use a formal tracking system to prioritize and manage maintenance requests.

**Functional Area: Facilities Maintenance  
Action Plans**

<p><b>Opportunity Name: Assess Need to Add Maintenance Work/Staffing</b> Executive Sponsor Accountable: Dan Knecht</p>	
<p><b>Opportunity Description:</b> Chugach has far fewer staff resources dedicated to facilities maintenance than other utilities surveyed, and might be able to extend the useful life of capital infrastructure and reduce repair backlog if resource levels and maintenance work are increased.</p>	
<p><b>Business Benefits Expected:</b> Chugach can improve the usability and longevity of its facility assets by keeping them in good repair and reduce its repair backlog.</p>	<p><b>Strategy to Achieve Benefits:</b> With the assistance of an independent consultant, assess potential gaps in service for facilities maintenance functional areas</p>
Action Steps	Quarter to Complete
1. Implement Maintenance Request Tracking system to track and report maintenance requests by type (project, repair, safety) and priority to verify performance and backlogs.	Q1 2007
2. Obtain consultant services to objectively assess maintenance resources.	Q1 2007
3. Assess infrastructure status and analyze facility maintenance services for levels of support, turnaround times, PM needs, and repair trends.	
3A. Electrical, plumbing, HVAC, elevator	Q1 2007
3B. Custodial, roofing, grounds, other facilities maintenance services	Q2 2007
4. Conduct cost/benefit study on benefits of increased facilities maintenance staffing support	
4A. Identify and analyze impacts of increased support in each of the eight functional areas	Q3 2007
4B. Incorporate operational changes into 2008 budget	Q4 2007

## Facilities Security

### Benchmarking Activities

Ten utilities selected for their comparability to Chugach participated with Chugach in the facilities security survey.

Utilities were asked a series of questions about staffing and outsourcing, number of facilities, and centralization of security monitoring. In cases where responses were illogically high or low for a particular question, the “extreme outliers” were not included in our analysis.

### Findings

- Chugach outsources approximately 2/3 of its facilities security staffing and uses utility staff for the remaining 1/3 of the work. 30% of utilities surveyed outsource all of their security function.
- Chugach’s level of staffing for facilities security was at the low end of utilities which perform part or all this function with in-house staff.
- Chugach, like nearly half of survey participants, manually monitors its facilities 24/365 from a centralized location. About a third of respondents deployed a higher level of technology to centrally monitor, analyze, and report security incidents.

### Conclusions

Chugach has not suffered any recent problems of significance due to security breaches. Therefore, in terms of past outcomes, its security systems are functioning adequately.

However, because security threats and challenges are constantly evolving, Chugach must remain vigilant toward future risks and must take reasonable precautions to mitigate those risks. Chugach’s current system for monitoring intrusions and assessing incidents, while effective to date, is dependent on manual labor and is not as efficient as those of most survey participants.

- Chugach should deploy improved video technology to better monitor its facilities.
- To ensure its low staffing level does not expose any security risk, Chugach should also conduct a cost benefit analysis to determine an optimum balance of use of technology, in-house staff, and outsourced support for their facility security systems.

**Functional Area: Facilities Security  
Action Plans**

Opportunity Name: <b>Further Update Security Monitoring and Control</b>	
Executive Sponsor Accountable: Dan Knecht	
Opportunity Description: Chugach is more heavily dependent on manual review and interpretation of security alarms and video data than most of its peers.	
Business Benefits Expected: Reduced risk of security breaches and improved utilization of staffing resources.	Strategy to Achieve Benefits: Implement the use of automated digital video systems to present and record security related data.
Action Steps	Quarter to Complete
1. Migrate from analog to digital video recording capabilities, including increased numbers and remote control capabilities of cameras.	
1A. Begin implementation of new technology	Q1 2007
1B. Complete implementation	Q3 2007

**Functional Area: Facilities Security**  
**Action Plans**

Opportunity Name: <b>Develop Optimum Balance of Use of Technology, In-House staff, and Outsourced Support</b>	
Executive Sponsor Accountable: Dan Knecht	
Opportunity Description: Chugach's low staffing level, combined with its labor-intensive control system operator requirements, raises questions about potential risk exposure for missed security events and/or late escalations.	
Business Benefits Expected: Reduced risk of security breaches and improved utilization of staffing resources.	Strategy to Achieve Benefits: Determine the optimum balance of technology, in-house staff and outsourced support
Action Steps	Quarter to Complete
1. Obtain consulting services to objectively evaluate security resources.	Q1 2007
2. Conduct cost/benefit analysis to determine an optimum balance of use of technology, in-house staff, and outsourced support.	
2A. Evaluate costs, benefits of improved technology, in-house staff, and outsourced services	Q1 2007
2B. Develop implementation plans as needed	Q2 2007
2C. Acquire/install equipment, hire staff, and contract for services accordingly	Q3 2007

## **Fleet Maintenance**

### Benchmarking Activities

Eight utilities, selected for their comparability to Chugach, participated with Chugach in the vehicle fleet survey. Utilities were asked a series of questions about staffing, fleet composition and costs, preventive maintenance schedules, replacement cycles, and availability rates. In cases where responses were illogically high or low for a particular question, the “extreme outliers” were not included in our analysis.

### Findings

- Chugach’s staffing for fleet maintenance as a percentage of total utility staffing is significantly below the survey average.
- Chugach complies with manufacturer-recommended preventive maintenance schedules approximately 80% of the time, higher than the survey average.
- Likewise, Chugach is able to complete 80% of repairs within scheduled timelines, again higher than the survey average.
- In spite of its relatively remote location, Chugach’s repair and maintenance activities are adversely impacted by parts delivery problems only 20% of the time, slightly less than the average for all utilities surveyed.
- Chugach reported that users were able to obtain a vehicle 100% of the time they requested one; the survey average was 91%.
- Chugach’s replacement cycles for passenger vehicles and heavy equipment are at the high end of the range of peers benchmarked; Chugach keeps vehicles and equipment in service longer than any other utility surveyed.
- 30% of Chugach’s fleet exceeds the established replacement cycle. The survey average was 25% exceeding replacement cycles.
- Chugach’s replacement cycle for tools is at the low end of the survey group.

### Conclusions

Although Chugach’s staffing for fleet maintenance is relatively light, Chugach performs better than average in terms of preventive maintenance requirements and scheduled repair rates.

- Nonetheless, Chugach should build on this success by assessing current practices and looking for opportunities for continued incremental improvement in vehicle and equipment maintenance. By identifying and resolving problems in a planned, scheduled manner, they can minimize unscheduled and costly vehicle and equipment breakdowns.
- Chugach’s availability rate of 100% is both a signal of success and a potential sign of over-capacity—too many vehicles awaiting a potential driver. Chugach should review its fleet size to confirm that it has the minimum number of vehicles needed to adequately provide for its crews and staff.
- Likewise, Chugach should review its replacement cycles to ensure that it is not keeping vehicles and equipment in service longer than its useful life would dictate, and thus driving up maintenance and repair costs. During this review, Chugach should evaluate the reasons that a large percentage of its fleet exceeds its already long replacement cycle.

**Functional Area: Fleets  
 Action Plans**

Opportunity Name: <b>Improve Maintenance</b> Executive Sponsor Accountable: Lee Thibert	
Opportunity Description: Chugach does a good job of following preventive maintenance schedules and completing repairs. Continued incremental improvement will yield even better results and minimize unscheduled and costly repairs for vehicles and equipment..	
Business Benefits Expected: Reduced repair and replacement expenditures.	Strategy to Achieve Benefits: Drive preventive maintenance and repair completion percentages to 85% or more.
Action Steps	Quarter to Complete
1. Review maintenance and repair scheduling and processes to identify opportunities for improvement.	
1A. Identify maintenance and repair processes which frequently are performed outside of manufacturer's recommended guidelines	Q1 2007
1B. Develop and implement corrective actions	Q2 2007
1C. Monitor and report improvement	Q3 2007

**Functional Area: Fleets**  
**Action Plans**

Opportunity Name: <b>Fleet Size and Age</b>	
Executive Sponsor Accountable: Lee Thibert	
Opportunity Description: Chugach can minimize vehicle costs by optimizing the size and age of its fleet.	
Business Benefits Expected: Reduced repair and replacement expenditures and unnecessary investment in vehicle fleet.	Strategy to Achieve Benefits: Minimize the number of vehicles and ensure replacement at the most cost effective age point.
Action Steps	Quarter to Complete
1. For passenger vehicles, forecast anticipated usage and excess vehicles sales	
1A. Forecast usage and sales	Q1 2007
1B. Adopt replacement cycle that allows replacement of vehicles before they require extensive repairs or lose value; evaluate impact of reducing replacement cycle to 8 years.	Q2 2007
1C. Implement plans	Q3 2007
2. For heavy equipment vehicles, determine an operational strategy for adopting new fuel regulations and schedule the phase out of non-compliant vehicles	
2A. Assess and incorporate upcoming changes to diesel fuel regulations	Q1 2007
2B. Develop plan to phase out non-compliant vehicles	Q2 2007
2C. Forecast replacement cycles and budget accordingly.	Q3 2007

## **Environmental Services**

### Benchmarking Activities

Nine utilities, selected for their comparability to Chugach, participated with Chugach in the Environmental Services survey.

Utilities were asked a series of questions about staffing, training, planning, and outcomes. In cases where responses were illogically high or low for a particular question, the “extreme outliers” were not included in our analysis.

### Findings

- Chugach’s staffing for Environmental Services as a percentage of total utility staffing was below the survey average and has since been further reduced.
- Chugach, along with only 30% of all benchmark survey participants, has completed and adopted all five components of a documented Environmental Management System.
- Chugach, like the majority of survey participants, outsources some of its Environmental Service functions. These include some plan development and regulatory analysis functions. Some project management support may be outsourced in 2007.

### Conclusions

With completion and adoption of a formal Environmental Management System (EMS), Chugach is well positioned to strategically manage environmental issues.

- Chugach should update its EMS annually, setting appropriate targets for performance and monitoring that performance.
- With the recent reduction of one position, Chugach’s environmental staffing levels are quite low. Chugach should assess its environmental management program to ensure that it is adequately addressing all necessary functions and services, and evaluate the costs and benefits of strategically outsourcing additional functions or restoring staff for increased effectiveness.

**Functional Area: Environmental Services**  
**Action Plans**

Opportunity Name: <b>Update EMS</b>	
Executive Sponsor Accountable: Mike Cunningham	
Opportunity Description: Chugach can continue to provide sound environmental services by updating its environmental management system.	
Business Benefits Expected: Recognized leadership in environmental stewardship; no fines.	Strategy to Achieve Benefits: Leverage existing EMS by updating it annually.
Action Steps	Quarter to Complete
1. Update EMS	
1A. Establish performance targets	Q1 2007
1B. Review and update EMS	Q2 2007
1C. Monitor and report performance against targets	Q4 2007

**Functional Area: Environmental Services**  
**Action Plans**

Opportunity Name: <b>Assess Resourcing Options</b>	
Executive Sponsor Accountable: Mike Cunningham	
Opportunity Description: Chugach may find opportunities to increase the effectiveness of its environmental programs through the outsourcing of some additional functions or through additional staff support.	
Business Benefits Expected: Improved environmental stewardship and effective utilization of staffing resources.	Strategy to Achieve Benefits: Compare the costs and effectiveness of different resource strategies for environmental functions.
Action Steps	Quarter to Complete
1. Conduct cost benefit and process improvement analyses to determine the best mix of outsourcing and staffing to meet core requirements.	
1A. Identify additional environmental services functions which could be outsourced.	Q1 2007
1B. Evaluate costs and effectiveness of outsourced services: <ul style="list-style-type: none"> <li>○ Plan development</li> <li>○ Regulatory analysis</li> <li>○ Project management</li> </ul>	Q3 2007
1C. Develop cost/benefit analysis for 2008 budget	Q3 2007

## Safety

### Benchmarking Activities

Eleven utilities of the benchmarking peer community participated with Chugach in the Safety benchmarking survey.

Utilities were asked a series of questions about staffing, training, and outcomes, including injury incident rates. In cases where responses were illogically high or low for a particular question, the “extreme outliers” were not included in our analysis.

### Findings

- Chugach’s staffing for Safety related services as a percentage of total utility staffing is almost identical to the benchmarking average.
- The number of OSHA-recordable, lost time injury incidents reported by Chugach for 2004 was 4.0 per 100 employees, above the average of 1.7 and second to the highest rate of 5.3 incidents. (Relating number of incidents per every 100 employees provides a normalized comparison between varying sizes of utilities. 2004 data was utilized as the most recent annual reporting cycle available when the survey was distributed to respondents.)
- Chugach identified 13 critical risk areas for its employees, well above the survey average of 10. That means the nature and location of the work at Chugach has more risk factors than for the average benchmarking peer.
- Chugach conducted the most safety meetings of any utility surveyed, and their average attendance rate of 90% was higher than the survey average.
- Chugach conducted the most safety training classes of any utility surveyed; their percent of staff completing critical risk exposure training in 2004 was near but slightly below the survey average. (2004 data was utilized as the most recent annual reporting cycle available when the survey was distribute4d to respondents.)
- Only three utilities, including Chugach, have achieved formal accreditation from a recognized safety association. Chugach received accreditation from the National Rural Electric Cooperative Association.

### Conclusions

While Chugach is devoting staff time to safety programs, their injury incident rate remains higher than average. The number of risk factors inherent in Chugach’s work locations and work types likely account in part for this disparity. For 2006, 32% of all safety incidents were slips, trips and falls; 27% were strains. Chugach recorded no hazardous incidents resulting from electrical operations.

Chugach should develop a preventative action plan to address primary areas of risk exposure. In order to develop this plan, Chugach should:

- Continue to analyze its injury incident trends (i.e. cause, physical location, functional entity, and level of seriousness).
- Include additional questions about Safety in the upcoming Human Resources Benchmarking survey to better understand trends in comparable utilities and to learn from top performers.
- Conduct an employee safety survey to better understand employee awareness and attitudes about safety.
- Increase safety awareness among employees by expanding the Safety Advisory Group.

**Functional Area: Safety**  
**Action Plans**

Opportunity Name: <b>Reduce Injury Rates</b> Executive Sponsor Accountable: Mary Tesch	
Opportunity Description: Chugach experiences a relatively high level of work-related injuries.	
Business Benefits Expected: Increased employee health and safety; reduced time lost.	Strategy to Achieve Benefits: Drive injury rate down to below benchmark community average.
<b>Action Steps</b>	<b>Quarter to Complete</b>
1. Continue to analyze injury trends and highest risks	On going quarterly
2. Conduct HR benchmarking, and collect additional Safety comparisons	Q1 2007
3. Leverage knowledge from best performers in Safety	Q2 2007
4. Conduct employee Safety survey and compile results	Q1 2007
5. Expand employee participation on Safety Advisory Group	Q1 2007
6. Develop injury prevention action plans	
6A. Involve employees in developing prevention programs	Q3 2007
6B. Train supervisors on safety responsibilities	Q3 2007
6C. Implement programs	Q3 2007