1. Call to Order/Roll Call

2. Pledge of Allegiance to the US Flag
   National Anthem sung by NPMS Choir-

3. Invocation

4. Approval of the Agenda

5. Approval of the Minutes

6. Communications from the Mayor
   • Bill of Rights – Mr. Wade’s 5th grade class

7. Council Member Questions of the Mayor

8. Communications from Department Heads, Borough Representative and the City Clerk

9. Ongoing Projects Report
10. Citizens Comments (Limited to Five (5) minutes per Citizen)

11. Old Business

12. New Business
   a. Ordinance 14-29, An ordinance amending Title 8 – Health & Safety, Section 04.160 – Disturbing the Peace
   b. Resolution 14-21, A Resolution establishing the 2015 City of North Pole Bed Tax grant distribution
   c. Resolution 14-22, A Resolution affirming the priorities of the Interior Gas Utility that looks to the Governor and State Legislator to provide the leadership and necessary financial assistance to achieve the goals of $15 mcf gas to North Pole and the Interior of Alaska

13. Executive Session
   a. To discuss payroll issues in Administration

14. Council Comments

15. Adjournment

The City of North Pole will provide an interpreter at City Council meetings for hearing impaired individuals. The City does require at least 48 hours’ notice to arrange for this service. All such requests are subject to the availability of an interpreter. All City Council meetings are recorded on CD. These CD’s are available for listening or duplication at the City Clerk’s Office during regular business hours, Monday through Friday, 8:00 a.m. to 5:00 p.m. or can be purchased for $5.00 per CD. The City Clerk’s Office is located in City Hall at, 125 Snowman Lane, North Pole, Alaska.
Committee of the Whole – 6:30 P.M.
Regular City Council Meeting – 7:00 P.M.

A regular meeting of the North Pole City Council was held on Monday, November 24, 2014 in the Council Chambers of City Hall, 125 Snowman Lane, North Pole, Alaska.

CALL TO ORDER/ROLL CALL
Mayor Ward called the regular City Council meeting of Monday, November 24, 2014 to order at 7:00 p.m.

There were present: Absent/Excused
Ms. Holm
Ms. Hunter
Mr. McCarthy
Mr. McGhee
Mr. Smith
Mr. Welch
Mayor Ward

PLEDGE OF ALLEGIANCE TO THE U.S. FLAG
Led by Mayor Ward
National Anthem sung by NPMS Choir members –

INVOCATION
Invocation was given by Councilman McGhee

APPROVAL OF AGENDA
Mr. McGhee moved to Approve the Agenda of November 24, 2014

Seconded by Mr. Welch

Discussion
None

Mr. McGhee moved to amend to postpone item b. under Executive Session to the meeting of December 1, 2014.

Seconded by Mr. Welch

Discussion
Mr. Welch felt the council did not have enough information.
FAILED
Yes: 3 - Holm, McGhee, Welch
No: 4- McCarthy, Smith, Hunter, Ward
Absent: 0

On the main Motion

PASSED
Yes: 7- McGhee, Holm, Welch, McCarthy, Smith, Hunter, Ward
No: 0
Absent: 0

APPROVAL OF MINUTES
Mr. Welch moved to Approve the minutes of November 4, 2014

Seconded by Mr. McGhee

Discussion
None

PASSED
YES – 7– McCarthy, Smith, Hunter, McGhee, Welch, Holm, Ward
NO – 0
Absent – 0 -

COMMUNICATIONS FROM THE MAYOR
Bed Tax Grant applications were due in October and we have received 6 applications. The Council presentations are scheduled for Wednesday Dec 3rd and will begin promptly at 6:30 pm. All applicants have been informed. The council will approve allocations on the next scheduled council meeting (Dec 15th).

On November 12th I walked through the Flint Hills Refinery with the Fairbanks North Star Borough Assessors. The Assessors are the ones who determine the value of the refinery property for the 2015 tax year. Determination is not expected until late December and final determination may not be until end of February however, indications from those present lead me to believe we could see as much as a 50% reduction in the value of the Refinery. I have adjustments for the council to consider later in the meeting.
As for determining the value of the property we are subject to the determination made by the FNSB assessing department. The formula for calculating a refinery is apparently complicated and I do not understand the method that is used, it is different than calculating the value of a home or structure. I will keep the council updated as I know more.

On Veterans Day I was honored to help read the three mayor’s proclamation at the ceremony put on by Festival Fairbanks at the Westmark Hotel. It was also wonderful to see all of the people who came out for the dedication of the Trooper Gabe Rich and Scott Johnson Memorial Park. The dedication took place at the property in the Morning Star Subdivision; we installed a sign letting people know of the plans for the property. Special thanks to Chief Dutra for his efforts to help this become a success.

Alaska Municipal League was last week in Anchorage. It was a productive session, some of the items of interest to Alaska’s Municipalities include, state revenue sharing, PERS contribution by municipalities, Senior Citizens-disabled veterans property tax exemptions, Gas line construction and local planning authority for DOT projects.

If you are interested in more information about AML (Alaska Municipal League) and the resolutions that were passes this last session please visit http://www.akml.org/

Last week I was elected the Chair of the FMATS policy committee. FMATS is the local Metropolitan Planning Organization (MPO) and is one of two in the entire state of Alaska. FMATS is in charge of all of the road infrastructure planning for a large portion of the FNSB. I look forward to serving the Interior as the Policy Committee Chair.

While I was in Anchorage last week for AML I was also able to attend a Policy Meeting of the local MPO in Anchorage, AMATS. They are a different type of organization as they only have one municipal member (anchorage) vs us in the interior where we have three Municipal members: North Pole, Fairbanks, and The Fairbanks North Star Borough. It was an educating experience and gives me new appreciation for how we operate in the interior.

Tomorrow I am meeting with Senator John Coghill, Representative Tammie Wilson, Jeff Cook from Flint Hills Resources and Doug Chapados from Petro Star to address some of the issues plaguing the refining industry in Alaska. The plan is to identify the issues that are legislative and work on addressing them.

COUNCIL MEMBER QUESTIONS OF THE MAYOR
None

COMMUNICATIONS FROM DEPARTMENT HEADS, BOROUGH REPRESENTATIVE AND THE CITY CLERK
**Director of City Services, Bill Butler**

**Building Department**
- No new building permits issued since November 3
- McDonalds had its final inspection today—waiting for our inspector’s report to learn status and projected opening date

**Public Works**
- Soil & Water Conservation District submitted a grant for interpretive sign and facility upgrades on Beaver Springs trail
  - Little or no costs to the City, includes funding request to offset staff salary
  - Soil & Water would provide cash match

**Utility Department**
- Sewer outfall
  - Requesting an extension of response to Notice of Violation to February 20, 2015
  - Original submission date was December 15
  - ADEC is requesting permitting and regulations that could affect solution to sewer outfall
  - Based upon results of City’s submission to ADEC will then move to negotiation of Compliance Order by Consent (COBC) to resolve sewer outfall problem
- Wastewater treatment plant rehabilitation project
  - Project is scheduled for substantial completion inspection on November 24
  - Still waiting on delivery of new emergency generator; expected delivery is mid-December
  - Installation of generator will conclude this phase of rehabilitation work at WWTP

**Natural Gas Utility Board**
- Gas project’s success is at a precarious point
- How the state, through AIDEA, handles future financing will determine the project’s viability
- If the cost of gas to the customer is in the $17 to $20 or higher, the project could falters because models suggest insufficient numbers of people would choose to convert.
City Accountant, Lisa Vaughn
  • None

Police Department, Lt. Dutra
  • Thanked the council for passing the ordinance at the last meeting. They have been able to retain an employee that was thinking of leaving

Fire Department, Chief Lane
  • None

Borough Representative
  • Nothing to report at this time.

City Clerk, Kathy Weber
  • Bed Tax Distribution meeting will be held on December 3rd. Your packets with applicants are before you for your consideration.

  • December 2, 2014 - Local Intergovernmental Work Session between the FNSB Assembly City of Fairbanks and City of North Pole Councils regarding the passage of state of Alaska ballot measure No.2 an act to Tax and Regulate the Production, Sale, and Use of Marijuana. December 2, 2014 at 6:00 p.m. at Pioneer Park Civic Center.

ONGOING PROJECTS
  • None

CITIZENS COMMENTS
  • None

OLD BUSINESS

ORDINANCE 14-25, AN ORDINANCE ESTABLISHING THE 2015 BUDGET AND LEVYING THE MILL RATE, SECOND READING
Mayor Ward stated that this was the second reading of the ordinance.
Public Comment
None

Mr. McGhee moved to Advance Ordinance 14-25, An Ordinance Establishing the 2015 Budget and Levying the Mill Rate, Second Reading

Seconded by Mr. McCarthy

Discussion

Ms. Holm moved to amend as follows:

<table>
<thead>
<tr>
<th>Dept</th>
<th>Acct #</th>
<th>Category</th>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof Svs</td>
<td>01-02-00-7004</td>
<td>EXP</td>
<td>Fees: Audit &amp; Accounting</td>
<td>5,500</td>
<td></td>
</tr>
<tr>
<td>Prof Svs</td>
<td>01-02-00-7025</td>
<td>EXP</td>
<td>Dispatch Services</td>
<td>26,000</td>
<td></td>
</tr>
<tr>
<td>Utility - Water</td>
<td>02-10-00-7004</td>
<td>EXP</td>
<td>Audit &amp; Accounting Fees</td>
<td>3,750</td>
<td></td>
</tr>
<tr>
<td>Utility Sewer</td>
<td>02-12-00-7004</td>
<td>EXP</td>
<td>Audit &amp; Accounting Fees</td>
<td>3,750</td>
<td></td>
</tr>
<tr>
<td>Utility –Water</td>
<td>02-10-00-XXXX</td>
<td>REV</td>
<td>Water Reserves</td>
<td>3,750</td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>01-00-00-4002</td>
<td>REV</td>
<td>Taxes: Property</td>
<td>180,000</td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>01-00-00-4164</td>
<td>REV</td>
<td>Pers Relief</td>
<td>11,900</td>
<td></td>
</tr>
</tbody>
</table>

Seconded by Mr. McGhee

Discussion
None

On the motion to amend:

Yes: 7 – Hunter, Welch, McGhee, McCarthy, Smith, Holm, Ward
No: - 0
Absent: 0
Mr. McGhee moved to amend the agenda as follows:

<table>
<thead>
<tr>
<th>Dept</th>
<th>Acct #</th>
<th>Category</th>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin</td>
<td>01-01-00-6000</td>
<td>EXP</td>
<td>Admin (wages: full time)</td>
<td>40,000</td>
<td></td>
</tr>
<tr>
<td>Admin</td>
<td>01-01-00-6097</td>
<td>EXP</td>
<td>Workmens Comp</td>
<td></td>
<td>256</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dept</th>
<th>Acct #</th>
<th>Category</th>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin</td>
<td>01-01-00-6099</td>
<td>EXP</td>
<td>Medicare</td>
<td></td>
<td>580</td>
</tr>
<tr>
<td>Admin</td>
<td>01-01-00-6100</td>
<td>EXP</td>
<td>PERS</td>
<td></td>
<td>8,800</td>
</tr>
<tr>
<td>Admin</td>
<td>01-01-00-6102</td>
<td>EXP</td>
<td>Health &amp; Disability Ins</td>
<td></td>
<td>18,330</td>
</tr>
<tr>
<td>Admin</td>
<td>01-01-00-6100</td>
<td>EXP</td>
<td>PERS Relief</td>
<td></td>
<td>5,600</td>
</tr>
<tr>
<td>Revenue</td>
<td>01-00-00-5900</td>
<td>REV</td>
<td>Transfer in Forfeitures</td>
<td></td>
<td>20,000</td>
</tr>
<tr>
<td>Public Works</td>
<td>01-08-00-6000</td>
<td>EXP</td>
<td>PW (Wages: full time)</td>
<td></td>
<td>45,000</td>
</tr>
<tr>
<td>Public Works</td>
<td>01-08-00-6097</td>
<td>EXP</td>
<td>Workmens Comp</td>
<td></td>
<td>3,204</td>
</tr>
<tr>
<td>Public Works</td>
<td>01-08-00-6099</td>
<td>EXP</td>
<td>Medicare</td>
<td></td>
<td>653</td>
</tr>
<tr>
<td>Public Works</td>
<td>01-08-00-6100</td>
<td>EXP</td>
<td>PERS</td>
<td></td>
<td>9,900</td>
</tr>
<tr>
<td>Public Works</td>
<td>01-08-00-6102</td>
<td>EXP</td>
<td>Health &amp; Disability Ins</td>
<td></td>
<td>18,330</td>
</tr>
<tr>
<td>Public Works</td>
<td>01-08-00-6100</td>
<td>EXP</td>
<td>Pers Relief</td>
<td></td>
<td>6,300</td>
</tr>
<tr>
<td>Public Works</td>
<td>01-08-00-6098</td>
<td>EXP</td>
<td>FICA</td>
<td></td>
<td>2,500</td>
</tr>
<tr>
<td>Public Works</td>
<td>01-08-00-7000</td>
<td>EXP</td>
<td>Summer Hire</td>
<td></td>
<td>43,000</td>
</tr>
</tbody>
</table>

Seconded by Mr. Welch

Discussion
Council discussed the declining revenues and were concerned with the position the state budget is in. There was also discussion on the impact that it would have in the City to put off funding for the Parks in the City until 2016. Mayor Ward clarified how the City had established Funds and how that worked.

On the motion to amend

PASSED

Yes: 7 – McGhee, Welch, Holm, Smith, Hunter, McCarthy, Ward
No: 0
Absent: 0
On the main motion as amended:

**PASSED**
Yes: 7 – McGhee, Welch, Holm, Smith, Hunter, McCarthy, Ward
No: 0
Absent: 0

**NEW BUSINESS**

**ORDINANCE 14-26, AN ORDINANCE AMENDING TITLE 4, CHAPTER 4.08, SALES TAX**
Mayor Ward said that the council had several work sessions and this ordinance is a result of those meetings.

**Public Comment**
Mike Gendreau, 1105 St. Nicholas Drive
Mr. Gendreau said that the vast majority of the residents are not in favor of a sales tax increase. He was not in favor of the ordinance.

Tammy Randolph, 653 Blanket Blvd
Ms. Randolph was not in favor of the ordinance and spoke against raising the sales tax.

Rep. Tammy Wilson, 571 Canoro
Rep. Wilson spoke against the sales tax ordinance.

Jeff Howe, 632 Holiday
Mr. Howe said he doesn’t buy anything in North Pole, i.e.; buys gas, groceries, and eats in Fairbanks. He stated the price of water and sewer is rising and putting a big strain on his budget. He spoke against the ordinance.

Tim Devito, 1050 Refinery Loop
Mr. Devito spoke to the sales tax and said that this is going to choke the public. He spoke against the ordinance.

Sharon Beeman, 2540 Honey Bee Lane
Ms. Beeman doesn’t understand why the City can’t have volunteers for upkeep and why they have to hire 3 people for summer help. She spoke to the hotel/motel tax and against the ordinance.
Jerry Lymburner, 3100 Pewter Ct.  
Mr. Lymburner spoke against the ordinance.

Mr. McGhee moved to Introduce and Advance Ordinance 14-26, An Ordinance Amending Title 4, Chapter 4.08, Sales Tax  
Seconded by Ms. Hunter

Discussion  
Mr. McGhee spoke to the ordinance and said that he didn’t see anyone here for the budget sessions. He said they have made very painstaking decisions regarding the budget and employee pay increases and commented that a large percentage of businesses in North Pole charge 30% more. Mr. McGhee stated that they wanted to decrease the property tax and increase the sales tax to take the burden off the property owner. He said he just came back from trip and there was an 8.5% sales tax. He’s glad he lives in North Pole and doesn’t believe anyone is going to lose their home. He said he is going to support the ordinance.

Mr. McGhee moved to amend to decrease the sales tax cap from $10 to $8.  
Seconded by Ms. Holm

Discussion  
Mr. McGhee said that he feels that $8 cap is fine but feels if the cap was raised it could hurt those who buy fuel.

Mr. Welch said that the council felt that on October 23 they were hit by the following:  
1. Greater expense to dispatch fees  
2. Increase to audit  
3. Re-evaluation of refinery  
He agrees with Mr. McGhee.

Ms. Hunter said that she is inclined that the $2 difference is not a big difference. Overall she doesn’t want to increase the tax at all but because the council has done a thorough job with the budget, they are in a place of necessity. Raising the cap will help spread out the cost among the payers.

Ms. Holm says she heard people say they felt choked and doesn’t know how else to take this. She knows many people who fell their tanks with fuel jugs multiple times a week and are actually paying $100’s of dollars a month and this is a survival thing. She said this is not a time to pay $2 more a month. Those are words that we need to heed by.
Mr. Welch said that when they talked about the cap he used something that Rep Wilson said, that those that can afford to go out and spend $200 only pay $8. He asked how they defined what is fair and equitable. He asked if they could have an exemption for fuel oil.

**On the amendment**

**PASSED**
Yes – 6 - McGhee, Welch, Holm, Hunter, Smith, McCarthy, Ward
No – 1 - Hunter
Absent – 0

Mr. McGhee moved to amend line 140, 142 and 145, 426 as follows:

140 - If any person, firm, co-partnership, corporation, director or agent imposes collects taxes listed under this section on behalf of The City of North Pole and the transaction is clearly not taxable under this section, they shall refund all improperly paid taxes immediately or remit all unlawfully collected taxes to the City of North Pole immediately. Disregard for this section is a violation of code and offenders may be guilty of a Class A misdemeanor violation.

Line 426
chapter is guilty of a Class A misdemeanor violation. (Ord. 99-29 §2(part), 1999)

Seconded by Mr. Welch

**Discussion**
Mr. McGhee said that this is a recommendation from the City Attorney.

**PASSED**
Yes: 7 – McGhee, Welch, Holm, Smith, Hunter, McCarthy, Ward
No: 0
Absent: 0

**On the main motion as amended**

**Discussion**
Mr. McGhee spoke to the value of increasing the alcohol and tobacco tax.

Mr. McGhee moved to amend to equalize the tobacco and alcohol at Line 108 5 – 8% and line 111 to leave at 8% and strike 10% increase.
Seconded by Mr. McCarthy

Discussion
Mr. Welch said that the idea was the tobacco tax goes to 10 vs $2.  State of Alaska gets $2 a pack and to help do medical research.  City of Juneau has just increased the tax from $1 a pack to $3 a pack and his idea was to be at 25 cents a pack and realize shortfalls.  Doesn’t believe people will quit buying cigarettes in North Pole.

Council had more discussion on the alcohol and tobacco tax.

On main motion as amended

FAILED
Yes: 3 - McGhee, McCarthy, Smith
No: 4 – Hunter, Welch, Holm, Ward
Absent: 0

Ms. Hunter said that they are not creating any extra jobs and are reducing and the increase in wages was a cost of living that they have not given to the employees over an extended period of time because their wages were so low that we were spending $40,000 over a years period, in training, and then leaving and going to FPD and our costs were tremendous.  What the council looked at was an increase in the cost of living. We don’t want to raise taxes and think we are being responsible by providing services for residents.

Mr. Welch clarified what Ms. Hunter said by stating it was costing the City $50,000 a year to train new employees with the police department.

Mr. McCarthy said that one thing the public hasn’t realized is that this is the first time he’s been able to speak on this ordinance.  He is unhappy about the sales tax.

Mr. McCarthy moved to amend as follows:
Line 103 to reduce from 4.5% to 4%

Seconded by Mr. Welch

Discussion
Mr. McCarthy said that he doesn’t want to see North Pole become another place like Mass.  He doesn’t feel the ½ percent is in the best interest.

There was more discussion with council on this subject
PASSED
Yes: 4 - Welch, McCarthy, Smith, Holm
No: 3 - McGhee, Hunter, Ward
Absent: 0

On the main motion as amended

PASSED
Yes: 6 – McCarthy, Smith, Holm, Hunter, Welch, Ward
No: 1 - McGhee
Absent: 0

ORDINANCE 14-27, AN ORDINANCE OF THE CITY OF NORTH POLE, ALASKA
AMENDING TITLE 4, CHAPTER 4.10.010, USER FEES
Mayor Ward explained the changes in the User Fees.

Public Comment
Tammie Wilson, 574 Canoro
Ms. Wilson asked for clarification on the ambulance fee and that the FNSB taxes should be paying those taxes.

There was discussion between Representative Wilson and the Council.

Mr. McGhee moved to suspend the rules to 11:00 pm

Seconded by Mr. Welch

PASSED Unanimously

Mr. Smith moved to

Mr. McCarthy moved to Introduce and Advance Ordinance 14-27, An Ordinance Of The City Of North Pole, Alaska Amending Title 4, Chapter 4.10.010, User Fees Schedule

Seconded by Mr. Welch

Discussion
Mr. McGhee said that here we are taxing the 2200 residents when we could have taxed the 15,000 that come through the City. He doesn’t see justification in these user fees.
There was more discussion among council on the user fees

**Mr. Smith moved to reduce the ambulance fee for residents from $900 to $450**

**Seconded by Mr. Welch**

**Discussion**
Council discussed the amendment.

**FAILED**
Yes – 2 – McGhee, Smith
No – 5 – Welch, McCarthy, Holm, Hunter, Ward
Absent – 0

**On the main motion**
PASSED
Yes: 6 – McCarthy, Smith, Holm, Hunter, Welch, Ward
No: 1 - McGhee
Absent: 0

**ORDINANCE 14-28, AN ORDINANCE OF THE CITY OF NORTH POLE, ALASKA TO AMEND TITLE 5, CHAPTER 5.02 BUSINESS LICENSES, TAXES AND REGULATIONS**
Mayor Ward said that this is brought before the council to bring clarity to the ordinance.

**Public Comment**
None

**Mr. McGhee moved to Introduce and Advance Ordinance 14-28, An Ordinance of the City of North Pole, Alaska to Amend Title 5, Chapter 5.02 Business Licenses, Taxes and Regulations**

**Seconded by Mr. Welch**

**Discussion**

**Mr. McGhee moved to amend line 35 by inserting the word “perform” between engage, or complete.**

**Seconded by Mr. McCarthy**
**Discussion**

**PASSED**
Yes – 7 – McGhee, Hunter, Smith, McCarthy, Welch, Holm, Ward  
No – 0  
Absent – 0

**RESOLUTION 14-20, A RESOLUTION ESTABLISHING THE 2015 LEGISLATIVE CAPITAL PROJECTS REQUEST OF THE CITY OF NORTH POLE**
Mayor Ward said that he requested from the council that they only approve the capital projects that they could match.

**Public Comment**
None

Mr. McGhee *moved to Introduce and Advance Resolution 14-20, A Resolution Establishing the 2015 Legislative Capital Projects Request of the City of North Pole*

Seconded by Mr. Welch

**Discussion**
Mr. McGhee said he was embarrassed when he saw the requests and that the only one he could justify is the one for the NPPD. With all due respect we don’t need to fund the park in Morning Star. He was told tonight that there is no money in the legislature. This is not legitimate and cannot support it. He wants to see it go back to the drawing board.

Ms. Holm *moved to postpone this to the December 1, 2014*

Seconded by Mr. McCarthy

**Discussion**
Mr. Welch was against postponing

Mr. McGhee was against postponing
On the motion to postpone

**PASSED**
Yes: 5 – McCarthy, Smith, Holm, Hunter, Ward
No: 2 – Welch, McGhee
Absent: 0

**EXECUTIVE SESSION**
10:32 p.m.
Mr. McGhee moved to enter into Executive Session to discuss:
   a. Legal issues pertaining to sulfolane contamination
   b. Personnel issues relating to Administration personnel matters

Seconded by Mr. Welch

Passed Unanimously

The regular meeting was reconvened at 11:56 p.m.

Mr. Welch moved to reconvene the Executive Session on personnel issues relating to Administration personnel matters to Monday, December 1, 2014 at 5:00 p.m.

Seconded by Ms. Hunter

Passed Unanimously

**COUNCIL COMMENTS**
None

**ADJOURNMENT**

Mr. McGhee adjourned the meeting at 11:58 p.m.

Seconded by Ms. Hunter

The regular meeting of November 24, 2014 adjourned at 11:58 p.m.
These minutes passed and approved by a duly constituted quorum of the North Pole City Council on Monday, December 15, 2014.

____________________________________

Bryce J. Ward, Mayor

ATTEST:

_________________________________________
Kathryn M. Weber, MMC
North Pole City Clerk
Regular City Council Meeting
December 1, 2014
7:00 p.m.

Committee of the Whole – 6:30 P.M.
Regular City Council Meeting – 7:00 P.M.

A regular meeting of the North Pole City Council was held on Monday, December 1, 2014 in the Council Chambers of City Hall, 125 Snowman Lane, North Pole, Alaska.

CALL TO ORDER/ROLL CALL
Mayor Ward called the Executive Session to order at Monday, December 1, 2014 to order at 5:09 p.m.

There were present:  Absent/Excused
Ms. Holm
Ms. Hunter
Mr. McCarthy
Mr. McGhee
Mr. Smith
Mr. Welch
Mayor Ward

EXECUTIVE SESSION
Mr. McGhee moved to adjourn into executive session to discuss personnel issues relating to Administration personnel matters.

Seconded by Mr. Welch

Approved unanimously

Mr. McGhee moved to ratify the Mayor’s request relating to Administration personnel matters.

Seconded by Ms. Holm

PASSED Unanimously

CALL TO ORDER/ROLL CALL
Mayor Ward called the regularly scheduled meeting of the North Pole City Council to order on Monday, December 1, 2014 at 7:00 p.m.

PLEDGE OF ALLEGIANCE TO THE U.S. FLAG
Led by Mayor Ward
National Anthem sung by NPMS Choir members –

**INVOCATION**
Invocation was given by Councilman McGhee

**APPROVAL OF AGENDA**
Mr. McGhee moved to Approve the Agenda of December 1, 2014

Seconded by Mr. Welch

Discussion
None

Mr. McGhee moved to consent the following item:
c. Ordinance 14-28, An Ordinance Of The City Of North Pole, Alaska To Amend Title 5, Chapter 5.02 Business Licenses, Taxes And Regulations

Seconded by Mr. Welch

Discussion
None

On the Amendment
Yes: 7 - Holm, McGhee, Welch, McCarthy, Smith, Hunter, Ward
No: 0
Absent: 0

On the main motion as amended

PASSED
Yes: 7 - McGhee, Holm, Welch, McCarthy, Smith, Hunter, Ward
No: 0
Absent: 0

**APPROVAL OF MINUTES**
Mr. Welch moved that the minutes from 11-24-14 will be available at the meeting of 12-15-14

Seconded by Mr. McCarthy
Discussion

None

PASSED

Yes: 7 – McGhee, Welch, Holm, Smith, Hunter, McCarthy, Ward
No: 0
Absent: 0

COMMUNICATIONS FROM THE MAYOR

Bed Tax Grant applications were due in October and we have received 6 applications. The Council presentations are scheduled for Wednesday Dec 3rd and will begin promptly at 6:30 pm. All applicants have been informed. The council will approve allocations on the next scheduled council meeting (Dec 15th).

Last week I met with Senator John Coghill, Senator Pete Kelly Representative Tammie Wilson, Representative Doug Isaacson, Jeff Cook from Flint Hills Resources and Doug Chapados from Petro Star to address some of the issues plaguing the refining industry in Alaska. Interior refineries are concerned about the quality bank (penalty paid for reinjection of heavier oil back into the pipeline), and the high cost of crude (open market) compared to other crudes, high cost to use State of Alaska Royalty Oil and the high cost of energy (by comparison). It is my hope that legislators can devise a way to address the issues regarding the refining industry before we lose another refinery.

I had the opportunity to meet Secretary of the Air force Mrs. Debora Lee James at Eielson AFB. It was a small meeting and the Secretary expressed her concerns with the upcoming budget (or lack thereof) and the need for a actual budget not a continuing resolution. She also touted the F-35 and discussed what will need to happen before 2019, when the planes are projected to arrive.

Friday I was able to read the kettle cup proclamation from the three mayors at the new Walgreens over by the airport. The kettle cup bell ringers are out in force and the director commented on how generous the interior is when it means ensuring no one goes hungry.

Reminder that Tomorrow is the Joint work session with the City of Fairbanks and the Fairbanks North Star Borough on Marijuana. The meeting will be held at the Civic Center at Pioneer Park and will begin promptly at 6:00pm.

Reminder that Wednesday we have the Bed Tax Workshop at 6:30pm. Please show up a little early as we have a tight schedule to keep at will begin promptly at 6:30. Submitted packets have been given to the council and we do not have copies (make sure to bring your copies).

This Weekend is the North Pole Winterfest. The North Pole Chamber of Commerce is hosting a Christmas Bazaar at the North Pole Mall beginning Saturday Morning and concluding at 6pm.
with Fireworks in the Parking lot. Sunday 2pm at the North Pole High School Auditorium will be the Candle lighting Ceremony with talents from the North Pole community afterword’s we will have the tree lighting here at City Hall at 4pm. We will have hot coco, marshmallows and sing Christmas carols. We will have small warming fires to keep folks warm and to roast our marshmallows. Make room on your calendars for these special events.

Reminder that Christmas in Ice opened this last weekend and they are always in need of volunteers. The ice park will be open until January 8th this year.

COUNCIL MEMBER QUESTIONS OF THE MAYOR
Mr. Smith asked if anyone has come in to city hall about the air quality in North Pole.

Ms. Hunter asked if there is a meeting coming up about air quality in the near future.

COMMUNICATIONS FROM DEPARTMENT HEADS, BOROUGH REPRESENTATIVE AND THE CITY CLERK

Police Department, Lt. Dutra
- We received two additional checks from asset forfeiture. One for $32,723.10 and one for $3,388.80. Both from Detective Stewart’s involvement in DEA IRS cases. $36,111.90 total.
- We had a successful holiday blitz enforcement effort. We had 15 hours worked. We have another one coming December 13 – 31st.
- I will be out of town with Lt. Rathbun attending Executive development in Anchorage till Friday.
- Statistical data – couple data points of concern.
- Update on building heating project. Finally have the correct controllers installed and building is running well.
- Dedication ceremony for the Trooper Gabe Rich and Trooper Scott Johnson memorial park was very well attended and received great coverage.

Director of City Services, Bill Butler
- None
Fire Department, Chief Lane
- Dec 13, dedication for new platform. If you would like to be on agenda let the Chief Lane know and he can schedule you to speak.
- Dec 15\textsuperscript{th} the squad will start making their Christmas rounds.

Borough Representative
- Nothing to report at this time.

City Clerk, Kathy Weber
- Tuesday, December 2, 2014 - Local Intergovernmental Work Session between the FNSB Assembly City of Fairbanks and City of North Pole Councils regarding the passage of state of Alaska ballot measure No.2 an act to Tax and Regulate the Production, Sale, and Use of Marijuana. December 2, 2014 at 6:00 p.m. at Pioneer Park Civic Center.
- Bed Tax Distribution meeting will be held on Wednesday, December 3\textsuperscript{rd}. Be sure to bring your packets with you for review.
- Kudo’s to the students from NPMS who come out every meeting to sing for us. We must always do everything in our power to encourage our youth to be involved in their community.
- Sharon and Joe Geese have been chosen as the 2015 North Pole King & Queen
- 24 days until Christmas.

Mr. McGhee moved to suspend the rules for 5 minutes.
Seconded by Mr. Welch
Approved Unanimously

ONGOING PROJECTS
- None

CITIZENS COMMENTS
- Phil Zastrow, 2255 Peridot
Mr. Zastrow said that Christmas in Ice is coming along nicely. Candlelighting is set for Sunday, December 7\textsuperscript{th} at 2:00 p.m. They are looking for an MC for the Candlelighting.
Mr. McGhee said that he would officiate for the Chamber.

OLD BUSINESS

ORDINANCE 14-26, AN ORDINANCE AMENDING TITLE 4, CHAPTER 4.08, SALES TAX
Mayor Ward said that the council had several work sessions this ordinance is a result of those meetings. He did a recap of the ordinance.

Public Comment
Carey Spohn, 2628 Tenakee Way
Ms. Spohn said that she works at Refinery Lounge and said that she doesn’t know how much longer businesses can stay in business. She spoke against the ordinance.

Steven Hunter, 1292 Still Valley Rd
Mr. Hunter reiterated what Ms. Spohn said. He stated in the bar industry that there is an illusion that everything is going up. He is in favor of tobacco tax, against alcohol tax. He also spoke against the marijuana issue.

Mr. McGhee moved to Approve Ordinance 14-26, An Ordinance Amending Title 4, Chapter 4.08, Sales Tax

Seconded by Mr. Welch

Mr. McGhee moved to amend as follows:
Line 103 - Sales tax, increase from 4% - 5%
Line 108 - decrease proposed alcohol tax efrom 6% - 5%
Line 111 decrease proposed tobacco tax from 10% - 8%

Seconded by Mr. McCarthy

Discussion
Mr. McGhee said that said that he didn’t feel it was right to tax alcohol as it would be as if we are isolating one group of people. By increasing the sales tax, taxing 15,000 people outside the City limits, to share in the burden to the cost of the City instead of the property owner. He is against the mill levy. He said this is fair and equitable.
Ms. Holm said that the City is only $43,000 short. She was surprised that Mr. McCarthy seconded the motion as he voted against an increase at the last meeting. Ms. Holm went updated council on how she has voted on things since she was elected.

Mr. Welch said he is always worried about opening Pandora’s box. The City went from 3% to 4% sales tax. He said we need to be able to justify this to our citizens and not sure we need to go to 5%. He will not vote for it tonight and is watching foreclosures in the 99705 area and City of North Pole. He spoke to the alcohol and tobacco tax.

**Mr. McGhee moved to amend from 5% - 4.5%**

**Seconded by Mr. McCarthy**

**Discussion**

Mr. McGhee spoke about the NPPD employee spouses who came forward with stories about how difficult it was to maintain the integrity of the department and their own families. He remembers changing the fire department staff from 2 – 4 man shifts.

Ms. Hunter said she had people who came and talked with her about the council turning down the 4.5% and need to have 20,000 people contributing because they are getting services for free. She said ½ cent is a minute amount of money and need to look at the larger picture instead of the 5 or 6 people that came forward. It’s a lot of info that we are basing the decision on. We would prefer to have more public input and hard decisions to make and .5% is a reasonable amount.

Mr. Welch said that we are keeping the cap at $200 and the maximum tax would be $9. He said they usually don’t have a cap on sales tax.

Mr. Smith said the residents came before council and didn’t want the sales tax increase and feels that they should be able to see more adjustments in the budget.

Mr. McGhee said that less than 1% spoke against it at the last meeting and leaving it as it is you’re only taxing a handful of people. Coming up in the future they are going to want to tax the property owner and duly respect the people who came out, but one doesn’t even pay sales tax. It’s not the residents that are against it.

Mayor Ward appreciated the work of the council and stated that it is important for citizens to come forward. It is also important that the council makes good decisions and when ordinances came forward. He increased the sales tax and decreased the mill rate and increase of the alcohol and tobacco tax. His concern now is that we took it out at the last meeting and it is important that we have that trust from the citizens. He agreed that sales tax is a fair way of taxing but the folks that come in and use our services are the ones that help
pay for it. If you want services you need to pay for them. He has concerns with the ordinance. He said we are only $39,000 out of a balanced budget.

Mr. Welch briefly stated that at 4% we reach the $8 maximum.

Ms. Holm pointed out that Ms. Hunter stated when people come to the city they are getting services for free. She said that each time they buy a coffee or meal they are paying for services. When they use our police, fire, they are paying for those services. People that live outside the city limits pay property tax. Pharmaceuticals are exempt but the projection is that they do charge sales tax and that hurts business. When the people bought the Refinery Lounge they bought into the community and invested in the community. She wants to encourage people to come to North Pole and intrigue them to come here. We want to make it more attractive to come here. She discouraged the council from passing this.

On the motion to amend from 5% to 4.5%

**FAILED**
Yes – 7 - McGhee, Hunter, Welch, McCarthy, Smith, Holm, Ward
No – 0
Absent – 0

On the motion as amended:

Sales Tax 4.5
Alcohol at 5%
Wholesale tobacco at 8%

**Discussion**

Mayor Ward said council had several workshops on this. Council needs to make decisions on the best interests of the City. He recapped what the alcohol and tobacco were in the FNSB and City of Fairbanks and that we all pay the same amount.

Mr. McGhee said that 5 of the 7 people were at the last meeting, loss of FHR, dispatch and that we left meeting with the understanding that we would bring forward and include tobacco and alcohol to a percentage. Council discussed that the same people will come out and speak to raising the sales tax and we need to accept it and stand up and realize this is our only avenue and doesn’t understand why council wouldn’t want to not unfairly burden the tax payer. He doesn’t want to tax a few.

Mr. Welch said that in the workshop he stated that he is for the tobacco and alcohol tax. He would like to see it go back to 6% alcohol and 10% tobacco.
Ms. Holm said that they already lost those customer away that don’t want to pay sales tax. She wanted to have Chief Dutra come forward to and testify for DUI’s.

Ms. Hunter wondered if the increase from sales tax makes it necessary to raise tobacco and alcohol.

Mayor Ward said that it leaves $132,447 shortfall in the budget and with changes to the fee schedule, 4.5% in sales tax, and leaving alcohol and tobacco as it is, it creates a $214,553 increase in revenue.

Ms. Hunter said that would be her justification for not raising the tobacco and alcohol tax.

**On the amendment**

**FAILED**
Yes: 3 - Hunter, McGhee, Ward
No: 4 - Smith, holm welch, McCarthy
Absent: 0

**On the main motion**
Sales tax 4%
Alcohol tax 6%
Tobacco tax 10%

Ms. Holm spoke on the alcohol and tobacco tax and how it would affect the budget.

Mayor Ward said that the shortfall on the budget it $132,447.

**Ms. Holm moved to amend line 108- alcohol tax to 5% and line 111- tobacco tax to 8%**

**Seconded by Mr. McGhee**

**Discussion**
Ms. Holm said that we need to move forward to achieve a sustainable budget and cut $100,000.

Mr. McGhee said that removing the alcohol and tobacco tax it would increase the budget shortfall to $110,000. This is asking council to go back into the budget and adjust to compensate. This puts the City back into square one. A little bit of fine print on the mill levy.
Ms. Hunter said they have already gone through the budget and department chairs did make cuts. It has brought us to the process of raising taxes and she was the only one that voted for the raise in sales tax. She hates to see us go backwards and cutting services to the city and essential services.

Ms. Holm said this is extremely difficult will need to cut in the departments. This will hurt their businesses

Mayor Ward said you have to pay for it somehow. He is hesitant to vote for it.

**FAILED**
Yes: 2 - McGhee, Holm
No: 5 – Welch, McCarthy, Smith, Hunter, Ward
Absent: 0

On the main motion as proposed

**PASSED**
Yes: 5 - McCarthy, Smith, Hunter, Welch, Ward
No: 2 - McGhee, Holm
Absent: 0

**ORDINANCE 14-27, AN ORDINANCE OF THE CITY OF NORTH POLE, ALASKA AMENDING TITLE 4, CHAPTER 4.10.010, USER FEES**
Mayor Ward explained the changes in the User Fees. This was the 2nd reading.

**Public Comment**
None

Mr. Welch moved to Approve Ordinance 14-27, An Ordinance of The City of North Pole, Alaska Amending Title 4, Chapter 4.10.010, User Fees

Seconded by Mr. McCarthy

**Discussion**
Mr. McGhee said that council is in favor of raising the cost for a few. He is against the increases. The City residents are paying for everything they have.

**PASSED**
Yes – 6 –Hunter, Smith, McCarthy, Holm, Welch, Ward
No – 1 - McGhee
Absent – 0

ORDINANCE 14-28, AN ORDINANCE OF THE CITY OF NORTH POLE, ALASKA TO AMEND TITLE 5, CHAPTER 5.02 BUSINESS LICENSES, TAXES AND REGULATIONS
Mayor Ward said that this is brought before the council to bring clarity to the

Public Comment
None

Mr. Welch moved to Introduce and Advance Ordinance 14-28, An Ordinance of the City of North Pole, Alaska to Amend Title 5, Chapter 5.02 Business Licenses, Taxes and Regulations

Seconded by Mr. McCarthy

Discussion
None

PASSED
Yes – 7 – McGhee, Hunter, Smith, McCarthy, Welch, Holm, Ward
No – 0 -
Absent – 0

ORDINANCE 14-25, AN ORDINANCE ESTABLISHING THE 2015 BUDGET AND LEVYING THE MILL RATE, SECOND READING
Mayor Ward stated that this was the third reading of the ordinance.

Public Comment
None

Mr. McGhee moved to Advance Ordinance 14-25, An Ordinance Establishing the 2015 Budget and Levying the Mill Rate, Second Reading

Seconded by Mr. McCarthy

Discussion
None
Mr. McGhee moved to amend as follows:

<table>
<thead>
<tr>
<th>Account #</th>
<th>Category</th>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>X</td>
<td>Existing Shortfall from amendments</td>
<td>132,447</td>
<td></td>
</tr>
<tr>
<td>01-00-00-4005</td>
<td>REV</td>
<td>Fire: Ambulance Fees</td>
<td>21,000</td>
<td></td>
</tr>
<tr>
<td>01-00-00-5802</td>
<td>REV</td>
<td>Alcohol Tax (increase)</td>
<td>43,000</td>
<td></td>
</tr>
<tr>
<td>01-00-00-5818</td>
<td>REV</td>
<td>Tobacco Tax (increase)</td>
<td>27,500</td>
<td></td>
</tr>
<tr>
<td>01-00-00-4018</td>
<td>REV</td>
<td>Finger Printing</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Difference revenue over expenditure</td>
<td>132,447</td>
<td>92,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-39,947</td>
</tr>
</tbody>
</table>

Seconded by Mr. McCarthy

PASSED
Yes: 7 – Hunter, Welch, McGhee, McCarthy, Smith, Holm, Ward
No: 0
Absent: 0

On the main motion as amended

Discussion
None

Mr. McCarthy moved to transfer from fund balance 01-00-00-5900 $39,947

Seconded by Ms. Hunter

Discussion
Mr. McCarthy said he didn’t want to kill the summer hire. He wanted to wait and see what FHR does.

On the amendment

PASSED
Yes: 7 – Welch, McGhee, McCarthy, Smith, Holm, Hunter, Ward
No: 0
Absent: 0

On the main motion as amended

PASSED
Yes: 7 – Welch, McGhee, McCarthy, Smith, Holm, Hunter, Ward
No: 0
Absent: 0
NEW BUSINESS

RESOLUTION 14-20, A RESOLUTION ESTABLISHING THE 2015 LEGISLATIVE CAPITAL PROJECTS REQUEST OF THE CITY OF NORTH POLE
Mayor Ward explained that this Resolution had been postponed from the last meeting. He has brought forward a substitute Resolution for this item.

Public Comment
None

Mr. Welch moved to Introduce and Advance Resolution 14-20, A Resolution Establishing the 2015 Legislative Capital Projects Request of the City of North Pole

Seconded by Mr. McCarthy

Discussion
Ms. Hunter asked why a project she thought was prudent was eliminated.

Mayor Ward said that it didn’t meet the 10% match.

Ms. Hunter said that she thought the memorial park would be done with private donations and wants to substitute the solar panels for the fire department.

Mr. McGhee moved to amend by removing everything from line 26 – 53.

Discussion
Mr. McGhee said that he is embarrassed by these requests. He said we took money from others and these need to be removed.

Mr. McCarthy said he is in the same boat and has no problem putting the solar panels back on for the fire department. He is fine with cooling system and would like to see the solar panels.

Mayor Ward said that with a request from the legislature we decided to match 10% and pay for it. By code we have set aside funds, and that what we are proposing. He feels it is important to pay for at least 10% of it. He went through the list and proposed that amount and is not in favor of removing all those items.

Mr. Welch spoke on the Trooper Gabe Rich and Trooper Scott Johnson Park and thought we could do that project for less.

Mayor Ward said he thought they could do it for half of the cost.
Mr. Welch said that it would be approximately $130,000 and our match would be $13,000.

Ms. Holm agreed with Mr. McGhee and with amendment. She said this was spending money we didn’t have and it looks like North Pole is outrageously spending.

Ms. Hunter said that we can find a way to cut our costs in half and raise more money for the Trooper Rich/Trooper Johnson park.

**Ms. Hunter moved to amend by adding the solar panels to NPFD**

Seconded by Mr. McCarthy

**Discussion**

Ms. Hunter said this was an important project.

Mr. Smith asked if they could have Chief Lane to speak with other departments.

Chief Lane said the University station is successful in lowering electricity bill and pay back is 7 years.

Mr. McCarthy said that they are making more money selling it back to GVEA and a minimum of 19 – 20 panels.

Mr. McGhee asked what the price was for panels.

Mr. McCarthy said that they are up to $250 per panel.

Mr. McGhee said that he has spoken to different companies and that there is a problem with selling it back. We are back to living frugal and turning off switches and City of North Pole needs to reduce costs by changing a few lights and save some money. Testimony from Tammy Wilson says that the state doesn’t have the money.

Ms. Holm said she doesn’t know anything about solar panels and asked if helps with heat.

Mr. McCarthy said that it does help a little bit.

Ms. Holm asked about the savings and if there would be more savings with LNG.

**PASSED**

Yes: 5 - McCarthy, Smith, Hunter, Ward

No: 2 – McGhee, Holm, Welch

Absent: 0
On the main motion as amended
PASSED
Yes: 5 – Hunter, Welch, McCarthy, Smith, Ward
No: 2 – McGhee, Holm
Absent: 0

COUNCIL COMMENTS

Mr. McCarthy thanked everyone for all their hard work on the budget. Commended everyone for working well together

Mr. Smith thanked everyone for coming out tonight and they have done a fantastic job on the future projections. Looking forward to the Christmas truck.

Ms. Hunter said that the grand opening for the library 2 weeks ago was a great success. With the snow warning please drive safe

Ms. Holm thanked Ms. Hunter for all her hard work on library. Congratulations to the new governor.

Mr. Welch said tough times make tough decisions. May not always agree but we need to have a majority. He believes with Mr. McCarthy that we need to find a way to grow our community and expand the households and activities here. He hopes to have workshops in upcoming year.

Mr. McGhee said that with statistics we have lost 6 people in 6 weeks and need to be more defensive drivers. If you don’t have anything nice to say, say nothing at all.

Mayor Ward wished everyone a good evening.

ADJOURNMENT

Mr. McGhee adjourned the meeting at 9:45 p.m.

Seconded by Mr. McCarthy

The regular meeting of December 1, 2014 adjourned at 9:45 p.m.

These minutes passed and approved by a duly constituted quorum of the North Pole City Council on Monday, December 15, 2014.
Minutes
December 1, 2014

Bryce J. Ward, Mayor

ATTEST:

Kathryn M. Weber, MMC
North Pole City Clerk
**2015 Regular Scheduled Council Meetings**

<table>
<thead>
<tr>
<th>Month</th>
<th>Date</th>
<th>Month</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>* January 5</td>
<td>* January 20</td>
<td>* July 6</td>
<td>* July 20</td>
</tr>
<tr>
<td>* January 20</td>
<td>* February 2</td>
<td>* July 20</td>
<td>* August 3</td>
</tr>
<tr>
<td>* February 2</td>
<td>* February 17</td>
<td>* August 3</td>
<td>* August 17</td>
</tr>
<tr>
<td>* February 17</td>
<td>* March 2</td>
<td>* August 17</td>
<td>* September 8</td>
</tr>
<tr>
<td>* March 2</td>
<td>* March 16</td>
<td>* September 8</td>
<td>* September 21</td>
</tr>
<tr>
<td>* March 16</td>
<td>* April 6</td>
<td>* September 21</td>
<td>* October 5</td>
</tr>
<tr>
<td>* April 6</td>
<td>* April 20</td>
<td>* October 5</td>
<td>* October 19</td>
</tr>
<tr>
<td>* April 20</td>
<td>* May 4</td>
<td>* October 19</td>
<td>* November 2</td>
</tr>
<tr>
<td>* May 4</td>
<td>* May 18</td>
<td>* November 2</td>
<td>* November 16</td>
</tr>
<tr>
<td>* May 18</td>
<td>* June 1</td>
<td>* November 16</td>
<td>* December 7</td>
</tr>
<tr>
<td>* June 1</td>
<td>* June 15</td>
<td>* December 7</td>
<td>* December 21</td>
</tr>
</tbody>
</table>

**2015 City Holidays- Offices Closed**

<table>
<thead>
<tr>
<th>Holiday</th>
<th>Day</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Year’s Day</td>
<td>Thursday</td>
<td>January 1</td>
</tr>
<tr>
<td>Martin Luther King Jr. Day</td>
<td>Monday</td>
<td>January 19</td>
</tr>
<tr>
<td>President’s Day</td>
<td>Monday</td>
<td>February 16</td>
</tr>
<tr>
<td>Memorial Day</td>
<td>Monday</td>
<td>May 25</td>
</tr>
<tr>
<td>Independence Day</td>
<td>Friday</td>
<td>July 3</td>
</tr>
<tr>
<td>Labor Day</td>
<td>Monday</td>
<td>September 7</td>
</tr>
<tr>
<td>Veterans Day</td>
<td>Wednesday</td>
<td>November 11</td>
</tr>
<tr>
<td>Thanksgiving Day</td>
<td>Thursday</td>
<td>November 26</td>
</tr>
<tr>
<td>Christmas Day</td>
<td>Friday</td>
<td>December 25</td>
</tr>
<tr>
<td>Personal Holiday</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

“Where the Spirit of Christmas Lives Year Round”
125 Snowman Lane
North Pole, Alaska 99705
Tel:(907)488-2281 Fax:(907)488-3002
[www.northpolealaska.com](http://www.northpolealaska.com)
North Pole
Employee Christmas
Pot Luck

When: Friday December 19th
11:30am-1:30pm

Where: North Pole City Hall

Please bring your favorite side.

Questions call Mayor Ward
488-8584
# CITY OF NORTH POLE

## MAYOR & COUNCIL MEMBERS

<table>
<thead>
<tr>
<th>Council Member</th>
<th>Mailing Address</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mayor</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bryce Ward</td>
<td>606 E 5th Ave</td>
<td>(H)488-7314</td>
</tr>
<tr>
<td>Term 10/12-10/15</td>
<td>North Pole, AK 99705</td>
<td>(C)388-4830</td>
</tr>
<tr>
<td>email: <a href="mailto:bryce.ward@northpolealaska.org">bryce.ward@northpolealaska.org</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Council Members</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elizabeth Holm</td>
<td>2454 San Augustine Dr.</td>
<td>(H)488-6125</td>
</tr>
<tr>
<td>Term: 10/13-10/16</td>
<td>North Pole, AK 99705</td>
<td>(C)347-3797</td>
</tr>
<tr>
<td>Email: <a href="mailto:elizabeth.holm@northpolealaska.org">elizabeth.holm@northpolealaska.org</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharron Hunter,</td>
<td>322 Crossway</td>
<td>(C)978-5591</td>
</tr>
<tr>
<td>Term: 10/12 – 10/15</td>
<td>North Pole, AK 99705</td>
<td></td>
</tr>
<tr>
<td>email: <a href="mailto:sharron.hunter@northpolealaska.org">sharron.hunter@northpolealaska.org</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kevin McCarthy</td>
<td>1051 Refinery Loop</td>
<td>(H)590-0800</td>
</tr>
<tr>
<td>Term: 10/13 – 10/17</td>
<td>North Pole, AK 99705</td>
<td>(W)377-2678</td>
</tr>
<tr>
<td>Email: <a href="mailto:kevin.mccarthy@northpolealaska.org">kevin.mccarthy@northpolealaska.org</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thomas R. McGhee</td>
<td>1155 North Star Dr.</td>
<td>(W)455-0010</td>
</tr>
<tr>
<td><em>Dep Mayor Pro Tem</em></td>
<td>North Pole, Alaska 99705</td>
<td></td>
</tr>
<tr>
<td>Term: 10/13 – 10/17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>email: <a href="mailto:thomas.mcghee@northpolealaska.org">thomas.mcghee@northpolealaska.org</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preston Smith-</td>
<td>PO Box 60882</td>
<td>(H)488-8824</td>
</tr>
<tr>
<td><em>Alt Dep Mayor Pro Tem</em></td>
<td>Fairbanks, AK 99706</td>
<td></td>
</tr>
<tr>
<td>Term: 10/13 – 10/16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email: <a href="mailto:preston.smith@northpolealaska.org">preston.smith@northpolealaska.org</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Michael Welch –</td>
<td>934 Les Rogers Turnaround</td>
<td>(H)488-5834</td>
</tr>
<tr>
<td><em>Mayor Pro Tem</em></td>
<td>North Pole, AK 99705</td>
<td></td>
</tr>
<tr>
<td>Term: 10/13 – 10/15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email: <a href="mailto:mike.welch@northpolealaska.org">mike.welch@northpolealaska.org</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>City Clerk/HR Manager</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kathy Weber, MMC</td>
<td>125 Snowman Lane</td>
<td>(W)488-8583</td>
</tr>
<tr>
<td></td>
<td>North Pole, AK 99705</td>
<td>(C)388-2728</td>
</tr>
<tr>
<td>email: <a href="mailto:kathy.weber@northpolealaska.org">kathy.weber@northpolealaska.org</a></td>
<td></td>
<td>(F)488-3002</td>
</tr>
<tr>
<td>City of North Pole Web Site is located at: <a href="http://www.northpolealaska.com">www.northpolealaska.com</a></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Revised: October 30, 2014
You are cordially invited to the 
North Pole Fire Department 
New Platform Truck Dedication 

Saturday, December 13, 2014 
2:00PM 

North Pole Fire Department 
110 Lewis Street 

RSVP ~ 488-2232
City of North Pole

CERTIFICATE OF APPRECIATION

AWARDED TO

Paul Trissel

For 15 years of outstanding service to the City of North Pole!

ATTEST:

Bryce J. Ward, Mayor

December 15, 2014

Kathryn M. Weber, MMC
City of North Pole

CERTIFICATE OF APPRECIATION

AWARDED TO

Randy Binkley

For 5 years of outstanding service to the City of North Pole!

ATTEST:

Kathryn M. Weber, MMC

December 15, 2014

Bryce J. Ward, Mayor
City of North Pole

CERTIFICATE OF APPRECIATION

AWARDED TO

Steve Dutra

For 15 years of outstanding service to the City of North Pole!

ATTEST:

Bryce J. Ward, Mayor

Kathryn M. Weber, MMC

December 15, 2014
City of North Pole

CERTIFICATE OF APPRECIATION

AWARDED TO

Billy Bellant

For 15 years of outstanding service to the City of North Pole!

ATTEST:

Bryce J. Ward, Mayor

Kathryn M. Weber, MMC

December 15, 2014
Bill of Rights

Amendment I

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the government for a redress of grievances.

Amendment II

A well regulated militia, being necessary to the security of a free state, the right of the people to keep and bear arms, shall not be infringed.

Amendment III

No soldier shall, in time of peace be quartered in any house, without the consent of the owner, nor in time of war, but in a manner to be prescribed by law.

Amendment IV

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

Amendment V

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a grand jury, except in cases arising in the land or naval forces, or in the militia, when in actual service in time of war or public danger; nor shall any person be subject for the same offense to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

Amendment VI

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the state and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the assistance of counsel for his defense.

Amendment VII

In suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be
otherwise reexamined in any court of the United States, than according to the rules of the common law.

**Amendment VIII**

Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.

**Amendment IX**

The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.

**Amendment X**

The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people.
ORDINANCE 14-29

ORDINANCE 14-29, AN ORDINANCE AMENDING TITLE 8 – HEALTH & SAFETY, SECTION 04.160 – DISTURBING THE PEACE

WHEREAS, changes to the North Pole Municipal Code is a continually changing requirement; and

WHEREAS, the City of North Pole Municipal Code should be amended to conform to the requirements of the City; and

WHEREAS, the City of North Pole desires to give clarity to North Pole Municipal Code;

NOW, THEREFORE, BE IT ORDAINED by the Council of the City of North Pole:

Section 1. This ordinance is of a general and permanent nature and shall be codified.

Section 2. Title 8, Health and Safety, Nuisances, Chapter 8.04.160 disturbing the peace is hereby amended as follows [new text in italicized red font; deleted text in strikethrough font]:

8.04.160 Disturbing the peace.

A. A person commits the offense of disturbing the peace if he:

1. In a public place, repeatedly or continuously shouts, blows a horn, plays a musical or recording or amplifying instrument, or otherwise generates loud sound or noise with the intent to disturb or in reckless disregard of the peace and privacy of others. With intent to disturb the peace and privacy of another not physically on the same premises or with reckless disregard that the conduct is having that effect after being informed that it is having that effect, the person makes unreasonably loud noise.

2. In a private place, engages in the conduct described in subsection (A)(1) of this section, with the same intent or reckless disregard, after having been informed by another that the conduct is disturbing the peace and privacy of others not in the same place. In a public place or in a private place of another without consent, and with intent to disturb the peace and privacy of another or with reckless disregard that the conduct is having that effect after being informed that it is having that effect, the person makes unreasonable loud noise.

3. Between the hours of 11:00 p.m. and 7:00 a.m., operates or uses a pile driver, pneumatic hammer, bulldozer, road grader, loader, power shovel, derrick, backhoe, power saw, manual hammer, motorcycle, snow machine or other instrument, appliance or vehicle which generates loud sounds or noise, after having been informed by another that such operations or use is disturbing the peace and privacy of others.
4. Keeps any dog or other animal which is allowed to engage in frequent or prolonged barking or other loud noise-producing activity, after having been informed by another that such frequent or prolonged barking or noise-producing activity is disturbing the peace and privacy of others.

5. Repeatedly or continuously sounds any horn or other sound-producing warning device on a motor vehicle when such repeated or continued sounding is not necessary to warn of any danger.

6. After being informed by a police officer that his conduct is in violation of this subsection (A), refuses to abate the prohibited activity.

B. As used in subsections (A)(1) and (2) of this section: As used in this section, “noise” is “unreasonably loud” if, considering the nature and purpose of the defendant’s conduct and the circumstances known to the defendant, including the nature of the location and the time of day or night, the conduct involves a gross deviation from the standard of conduct that a reasonable person would follow in the same situation. “Noise” does not include speech that is constitutionally protected.

1. “Loud sound” in a public place means sound which is loud enough to inhibit the ability of a not unduly sensitive person in the same place to speak freely without leaving the same place.

2. “Loud sound” in a private place means sound which is loud enough to awaken a not unduly sensitive person in another private place.

3. The inside and outside of buildings and separate residences within an apartment house, and separate rooms within a hotel, are different places.

C. As used in subsections (A)(3) and (4) of this section, loud sound or loud noise is sound or noise which would awaken, or cause difficulty in sleeping for, the average, not unduly sensitive individual attempting to sleep in any house, apartment, hotel, motel or other residence in the vicinity of the sound or noise-producing activity.

D. The following sound or noise is not prohibited by this section:

1. Noise of safety signals, warning devices and emergency pressure relief valves when used for their warning or emergency purposes.

2. Noise produced by any authorized emergency vehicle when responding to an emergency call or when otherwise authorized by law or ordinance to activate its sirens or other warning devices.

3. Noises necessarily produced in the course of work required to protect persons or property from imminent peril.

4. Noise produced by any activity for which a permit has been issued pursuant to subsection (E) of this section.
E. Applications for a permit for relief from the application of this section to any activity on the basis of undue hardship may be made to the Mayor or his duly authorized representative. A nonrefundable application fee and a permit fee, as set forth in the City’s schedule of fees and charges for services, will be charged for the City’s processing of an application. Any permit granted by the Mayor under this subsection shall contain all conditions upon which such permit has been granted and shall specify a reasonable time that the permit shall be effective. The Mayor or duly authorized representative may grant the relief as applied for if he finds that:

1. Additional time is necessary for the applicant to alter or modify his activity or operation to comply with this section; or

2. The activity, operation or noise source will be of a temporary duration and cannot be done in a manner that would comply with other subsections of this section; and

3. No other reasonable alternative is available to the applicant.

However, the Mayor may prescribe any conditions or requirements he deems necessary to minimize adverse effects upon the community or the surrounding neighborhood. (Ord. 13-07 § 2, 2013)

Section 3. Effective date This ordinance shall be effective at 5:00 p.m. on the first City business day following its adoption.

PASSED AND APPROVED by a duly constituted quorum of the North Pole City Council this 21st day of July, 2014.

_________________________________
Bryce J. Ward, Mayor

ATTEST:

_______________________________
Kathryn M. Weber, MMC
North Pole City Clerk
CITY OF NORTH POLE

RESOLUTION 14-21

A RESOLUTION ESTABLISHING THE 2015 CITY OF NORTH POLE BED TAX GRANT DISTRIBUTION

WHEREAS, the North Pole City Council through Ordinance 14-14 changed how bed tax is distributed; and
WHEREAS, applicants have requested $227,761 in disbursements; and
WHEREAS, the 2015 allocation for disbursement is $41,455; and
WHEREAS, all organizations presented to the North Pole City Council on December 3, 2014 and individual allocations were averaged against the whole to derive the 2015 award; and
WHEREAS, the applicants have been awarded the following amounts for 2015:

North Pole Economic Development: $2,586.46
North Pole Chamber of Commerce: $5,832.25
Explore Fairbanks: $8,882.25
North Pole Christmas in Ice: $14,911.55
North Pole City Services: $9,242.50

NOW THEREFORE BE IT RESOLVED, that the North Pole City Council allocates the 2015 bed tax funding as appropriated for disbursement through ordinance 14-21.

PASSED AND APPROVED by a duly constituted quorum of the North Pole City Council this 15th day of December, 2014.

______________________________
Bryce J. Ward, Mayor

ATTEST:

______________________________
Kathryn M. Weber, MMC
North Pole City Clerk

PASSED/FAILED

Yes:
No:
Absent:
CITY OF NORTH POLE

RESOLUTION 14-22

A RESOLUTION AFFIRMING THE PRIORITIES OF THE INTERIOR GAS UTILITY THAT LOOKS TO THE GOVERNOR AND STATE LEGISLATURE TO PROVIDE THE LEADERSHIP AND NECESSARY FINANCIAL ASSISTANCE TO ACHIEVE THE GOALS OF $15 MCF GAS TO NORTH POLE AND THE INTERIOR OF ALASKA

WHEREAS, the high cost of energy is driving people and business out of Interior Alaska; and

WHEREAS, businesses need a stable, reliable, and affordable supply of gas to justify the capital expenses of switching from other fuels; and

WHEREAS, The Fairbanks North Star Borough has been designated a PM 2.5 non-attainment area due to wintertime pollution from heating homes. Natural gas has the potential to solve our air quality and energy issues; and

WHEREAS, one of the keys to achieving annual PM 2.5 attainment is switching solid fuel (coal/wood) heating systems to natural gas. This requires a cost of service for natural gas near $15/mcf. In order for Interior Alaska to benefit from lower utility costs and better air quality, the gas trucking project must be delivered in the range of $15 per thousand cubic feet (mcf); and

WHEREAS, the City of North Pole and the City of Fairbanks transferred utility authority to the Fairbanks North Star Borough who created the Interior Gas Utility to bring gas to the Interior at $15 per mcf; and

WHEREAS, the Interior Gas Utility’s mission is to provide low cost, clean burning, natural gas to the most people in the Fairbanks North Star Borough as quickly as possible, as cheaply as possible. The proposed cost for gas is in excess of $20 per mcf, jeopardizes the project; and

WHEREAS, the Interior Gas Utility six year plan, dated May 20, 2014 states “estimated costs indicate a state partnership organization – one with the support of grants or loan guarantee arrangements from AIDEA – could substantially improve project returns and end-user affordability. This economic structure benefits end-user costs near the $15/mcf target to promote switching from solid fuel to natural gas. With the monetary backing and financial support of the State, the partnership is likely to achieve community goals of low cost gas to the broadest service area, within 5 years or less (NEI, 2012)”; and

WHEREAS, the Interior Gas Utility six year plan, dated May 20, 2014 also states, “Meeting the goal of a $15/mcf rate is a key success factor”.

NOW THEREFORE BE IT RESOLVED, that the North Pole City Council affirms the priorities of the Interior Gas Utility to achieve the goal of $15 MCF gas to the burner tip in North Pole and the Interior of Alaska.
PASSED AND APPROVED by a duly constituted quorum of the North Pole City Council this 15th day of December, 2014.

_______________________________
Bryce J. Ward, Mayor

ATTEST:

_______________________________
Kathryn M. Weber, MMC
North Pole City Clerk

PASSED/FAILED
Yes: 
No: 
Absent
# TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS ........................................................................................................ iv  
EXECUTIVE SUMMARY ....................................................................................................................... ES-1  

## 1.0 INTRODUCTION ...................................................................................................................... 1-1  
1.1 Purpose ..................................................................................................................................... 1-1  
1.2 Six-Year Plan Organization ........................................................................................................ 1-1  

## 2.0 IGU STRUCTURE ...................................................................................................................... 2-1  

## 3.0 GENERAL OVERVIEW .......................................................................................................... 3-1  
3.1 Background ............................................................................................................................... 3-1  
3.2 State and Federal Legislative History, Past and Current .......................................................... 3-1  
3.2.1 Senate Bill 23 – The Interior Energy Plan ............................................................................. 3-1  
3.2.2 Alaska Legislature .................................................................................................................. 3-7  
3.2.3 U.S. Federal Government ...................................................................................................... 3-7  
3.3 RCA Process .............................................................................................................................. 3-7  
3.4 Serving Areas and Construction Timeline ............................................................................... 3-8  
3.5 Financial Requirements of IGU and Rate Structure ................................................................. 3-15  
3.6 Current Status of IGU ............................................................................................................... 3-15  
3.6.1 Project Kickoff ...................................................................................................................... 3-16  
3.6.2 Task Scoping and Project Management .............................................................................. 3-16  
3.6.3 Financing ............................................................................................................................. 3-16  
3.6.4 Keys to Implementation ...................................................................................................... 3-17  

## 4.0 PREVIOUS STUDIES ............................................................................................................... 4-1  
4.1 Study Matrix ............................................................................................................................. 4-1  
4.1.1 Northern Economics Inc. ..................................................................................................... 4-1  
4.1.2 CardnoENTRIX IEP Natural Gas Conversion Analysis ..................................................... 4-4  
4.1.3 CardnoENTRIX IEP Economic Impact Analysis ............................................................... 4-4  
4.1.4 Agnew::Beck ...................................................................................................................... 4-4  

## 5.0 FNSB BENEFITS ..................................................................................................................... 5-1  
5.1 Environmental ......................................................................................................................... 5-1  
5.2 Economic ................................................................................................................................. 5-5  

## 6.0 COMMUNITY INVOLVEMENT ............................................................................................. 6-1  
6.1 Communication Plan ............................................................................................................... 6-1  
6.2 Toolbox ..................................................................................................................................... 6-2  

## 7.0 STRATEGIC PARTNERSHIPS AND WORKING RELATIONSHIPS .................................... 7-1  
7.1 Strategic Partnerships – Supply Chain ..................................................................................... 7-1  
7.2 Working Relationships ............................................................................................................. 7-2
8.0 SYSTEM DESIGN AND CONSTRUCTION ................................................................. 8-1
  8.1 Design Process .................................................................................................. 8-1
  8.2 Technical and Safety Standards ....................................................................... 8-1
  8.3 Gas Distribution ............................................................................................... 8-1
    8.3.1 Distribution System Build-out .................................................................... 8-1
    8.3.2 Demand Analysis ........................................................................................ 8-2
    8.3.3 Prioritization of Construction Areas for Demand ....................................... 8-4
    8.3.4 Relationship to Storage and Interties .......................................................... 8-4
    8.3.5 Cost Assumptions ....................................................................................... 8-4
  8.4 Permitting/Right-of-Way .................................................................................. 8-5
  8.5 Construction Schedule ..................................................................................... 8-6

9.0 OPERATIONS ...................................................................................................... 9-1

10.0 CONVERSION ................................................................................................... 10-1
  10.1 Conversion Requirements ............................................................................... 10-1
  10.2 Efficiency ........................................................................................................ 10-1
  10.3 Cost Analysis of Conversions ......................................................................... 10-1
  10.4 Consumer Participation ................................................................................... 10-2

11.0 FINANCIAL ANALYSIS .................................................................................. 11-1
  11.1 Current Sources and Use of Funding .............................................................. 11-1
    11.1.1 FEDC Funding ......................................................................................... 11-1
    11.1.2 FNSB Firm Fixed Price Contract ............................................................... 11-2
    11.1.3 FNSB Letter of Credit .............................................................................. 11-2
    11.1.4 AIDEA Development Loan ....................................................................... 11-2
  11.2 Potential Sources of Future Funding ............................................................... 11-3
    11.2.1 SB 23 through AIDEA ............................................................................. 11-3
    11.2.2 Revenue Bonds ....................................................................................... 11-3
    11.2.3 General Obligation Bonds ......................................................................... 11-4
  11.3 Financial Modeling .......................................................................................... 11-4

12.0 PATH FORWARD ............................................................................................... 12-1

13.0 REFERENCES .................................................................................................... 13-1

LIST OF TABLES

Table 4-1 IGU Studies ............................................................................................... 4-2
Table 8-1 IGU Area Customer and Gas Demand/Growth ....................................... 8-3
Table 8-2 Final Cost Estimate Summary – Pipeline Layout Network .................... 8-4
LIST OF FIGURES

Figure ES-1  IGU Customer Projection (2016-2027) ................................................................. ES-4
Figure 3-1   IEP Project Overview .......................................................................................... 3-3
Figure 3-2   IEP Financing ..................................................................................................... 3-5
Figure 3-3   FNSB Natural Gas Service Areas ....................................................................... 3-9
Figure 3-4   Proposed IGU Transmission Lines through the FNG Service Area .......... 3-11
Figure 3-5   IGU Service Area by Construction Phase ......................................................... 3-13
Figure 5-1   FNSB PM 2.5 Non-Attainment Area ................................................................. 5-3
Figure 5-2   Winter Comparison of PM 2.5 Exceedances in Fairbanks ................................. 5-5
Figure 7-1   IGU Project Supply Chain ............................................................................... 7-1
Figure 8-1   IGU Service Area Natural Gas Demand ............................................................. 8-2
Figure 8-2   Proposed IGU Project Schedule ....................................................................... 8-7

LIST OF APPENDICES

Appendix A  IGU Project Phases 1 through 6
Appendix B  IGU Project Class 4 (+50%/-30%) Cost Estimate
## LIST OF ACRONYMS AND ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>percent</td>
</tr>
<tr>
<td>AEA</td>
<td>Alaska Energy Authority</td>
</tr>
<tr>
<td>ADOT&amp;PF</td>
<td>Alaska Department of Transportation and Public Facilities</td>
</tr>
<tr>
<td>AHFC</td>
<td>Alaska Housing and Financing Corporation</td>
</tr>
<tr>
<td>AIDEA</td>
<td>Alaska Industrial Development and Export Authority</td>
</tr>
<tr>
<td>BIA</td>
<td>Bureau of Indian Affairs</td>
</tr>
<tr>
<td>BLM</td>
<td>Bureau of Land Management</td>
</tr>
<tr>
<td>COF</td>
<td>City of Fairbanks</td>
</tr>
<tr>
<td>CONP</td>
<td>City of North Pole</td>
</tr>
<tr>
<td>CPCN</td>
<td>Certification of Public Convenience and Need</td>
</tr>
<tr>
<td>EPA</td>
<td>U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>FEDC</td>
<td>Fairbanks Economic Development Corporation</td>
</tr>
<tr>
<td>FNG</td>
<td>Fairbanks Natural Gas</td>
</tr>
<tr>
<td>FNSB</td>
<td>Fairbanks North Star Borough</td>
</tr>
<tr>
<td>FOB</td>
<td>Free on Board</td>
</tr>
<tr>
<td>GVEA</td>
<td>Golden Valley Electric Association</td>
</tr>
<tr>
<td>IEP</td>
<td>Interior Energy Project</td>
</tr>
<tr>
<td>IGU</td>
<td>Interior Gas Utility</td>
</tr>
<tr>
<td>IMPLAN</td>
<td>Impact Analysis for Planning</td>
</tr>
<tr>
<td>LNG</td>
<td>liquefied natural gas</td>
</tr>
<tr>
<td>M</td>
<td>million (dollars)</td>
</tr>
<tr>
<td>MBJ</td>
<td>Michael Baker, Jr., Inc.</td>
</tr>
<tr>
<td>mcf</td>
<td>thousand cubic feet</td>
</tr>
<tr>
<td>MG</td>
<td>million gallon(s)</td>
</tr>
<tr>
<td>MWH</td>
<td>MWH Americas, Inc.</td>
</tr>
<tr>
<td>NEI</td>
<td>Northern Economics, Inc.</td>
</tr>
<tr>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
</tr>
<tr>
<td>NGSP</td>
<td>Northern Gas Supply Plant</td>
</tr>
<tr>
<td>OBF</td>
<td>on-bill financing</td>
</tr>
<tr>
<td>PHMSA</td>
<td>Pipeline and Hazardous Materials Safety Administration</td>
</tr>
<tr>
<td>RCA</td>
<td>Regulatory Commission of Alaska</td>
</tr>
<tr>
<td>RFP</td>
<td>Request for Proposal</td>
</tr>
<tr>
<td>ROW</td>
<td>Right-of-Way</td>
</tr>
<tr>
<td>SB</td>
<td>Senate Bill</td>
</tr>
<tr>
<td>SETS</td>
<td>Sustainable Energy Transmission and Supply</td>
</tr>
<tr>
<td>SIP</td>
<td>State Implementation Plan</td>
</tr>
<tr>
<td>SWOT</td>
<td>Strengths, Weaknesses, Opportunities, and Threats</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

The Interior Gas Utility (IGU) was formed late in 2012 in response to a community need to lower energy costs by bringing natural gas to Interior Alaska with a goal to deliver gas to the customers’ meter in the range of $15/thousand cubic feet (mcf). On December 20, the IGU was awarded a Certificate of Public Convenience and Need (CPCN) determining a service area within the Fairbanks North Star Borough (FNSB).

Currently, the IGU is building the framework for which the utility will operate, securing funding, developing a capital program to build out the necessary infrastructure, and establishing public outreach protocol to assist homeowners in converting to natural gas. IGU has contracted with MWH Americas, Inc. (MWH) to provide Project Management services for the startup of IGU.

IGU has secured sources of funding for 2014 operations and pre construction activities from the Fairbanks North Star Borough (FNSB) and the Alaska Industrial Development and Export Authority (AIDEA). In April 2014, the IGU secured a line of credit up to $7.5 million (M) from the FNSB to serve as bridge loan funding for the project and IGU was also authorized, in April 2014 an $8.1 million through AIDEA from the Sustainable Energy Transmission and Supply (SETS) Loans, available through Senate Bill (SB) 23.

This Six-Year work plan identifies the following major activities:

- **2014 – Utility Set Up**: Locate and set up an office, hire a General Manager and Chief Financial Officer, select a Gas Distribution Operator, develop a Business Plan, and develop a Conversions Initiative.
  
  Design Activities: Permitting and Right-of-Way (ROW) coordination, including federal, state and local; develop hydraulic modeling; develop design standards; select consultant design team (Phase 1); host “Industry Day”, community outreach, and identify permanent and temporary LNG storage requirements; and initiate design of Phase 2.

- **2015 – Initial Construction in North Pole**: Construct distribution system and gas storage (Phase 1); finalize design, ROW, permitting, and engineering for LNG gas storage and order long lead items; and initiate design of Phase 3.

- **2016 – First gas delivered to customers**: Continue construction of distribution through North Pole/Badger Road (Phase 2); finalize design, ROW, permitting, and engineering for distribution and begin construction of LNG gas storage (Phase 3); and initiate design Phase 4.

- **2017 – Complete construction of natural gas distribution system in Badger Road**: Move North and West from North Pole to complete construction of a permanent LNG storage facility (Phase 3); finalize design, ROW, permitting, and engineering for distribution (Phase 4); and initiate design Phase 5.

- **2018 – North of Fairbanks**: Complete construction of Chena Hot Springs Road (Phase 4); finalize design, ROW, permitting, and engineering for distribution (Phase 5); and initiate design Phase 6.
• 2019 – Complete construction of Farmer’s Loop and Goldstream areas to University of Alaska, Fairbanks (Phase 5), and finalize design, ROW, permitting, and engineering for distribution (Phase 6).

• 2020 – Complete Chena Ridge and West of Fairbanks (Phase 6).

• 2021 – Ongoing service line construction.

2014 Work Plan

The 2014 Work Plan includes:

• **Initiate Phase 1** of the gas distribution system:
  - Contract for gas distribution system design consultants.
  - Identify and acquire gas distribution pipe and system material necessary for Phase 1.
  - Identify and acquire ROWs and easements, where appropriate.
  - Acquire associated permits.

• Utility Set Up: locate and set up office, hire General Manager and Chief Financial Officer, develop Business Plan.

• Develop conversion initiatives and community support.

• Develop standards for a gas distribution network and hire an engineering firm to design the gas distribution system.

• Begin hydraulic modeling of the gas system for optimization and future planning, establishing the criteria necessary for design and construction.

• Select an operation contractor and develop operational scenarios and operational standards for the day-to-day operations of the gas distribution system.

• Develop a Scope of Work and hire engineering services for temporary and permanent liquefied natural gas (LNG) storage and a regasification facility (Contractor to be hired).

• **Initiate Phase 2** of the gas distribution system:
  - Gas distribution system design.
  - Initiate permitting process.
  - Initiate ROWs and easement requirements.
  - Continue Community Outreach, conversion initiative, and government relations.

The IGU will continue to develop the scope of work and refine the needs of the project by working directly with AIDEA and strategic partners of the Interior Energy Project (IEP) to keep the project on schedule and within budget, while demonstrating the feasibility of the project through thorough analysis of the cost models and financial analysis, and devising an implementation structure to meet the needs of the Certification of Public Convenience and Need (CPCN) that will optimize the entire IEP.
Financing

Overall project financing will be a mix of the aforementioned FNSB Interfund loans, funding available through SB 23 (State of Alaska loans via AIDEA SETS Loan Funds, and revenue bonds).

The IGU estimates costs for gas distribution lines and storage for Phases 1 through 6 will require $287 million.

The first customers are currently planned to come on line in the heating season of 2016/2017. With secured funding, anticipated detailed costs of the project can be further developed, such that IGU can work with AIDEA to negotiate the long-term financing for terms and conditions that will allow the price of gas to approach an approximate cost of $15/mcf at the customer’s meter – the IEP target price structure.

Environment

In December 2009, the U.S. Environmental Protection Agency (EPA) formally designated the FNSB as a non-attainment area for federal fine particulate matter (PM 2.5) air quality standards, and set a deadline of December 2014 for the FNSB to comply with these regulations (Clean Air Act Sections 110 and 172). Accomplishing conversions from wood to natural gas, which is expected to reduce PM 2.5 emissions by 32 percent, will require natural gas to be priced competitively with wood as a fuel source (CE, 2014a).

Poor air quality has led to a proven increase of adverse health effects, particularly in children, the elderly, and vulnerable adults. Health savings and benefits, including a decrease in mortality rates, could benefit the community by $64 million to $200 million by 2020, based on various sources (CE, 2014a).

Economic Impacts

Initial economic impacts show that, depending on the construction year, total jobs related to the project are estimated between 250 and 840 – accounting for between $16.5 million and $55.2 million of total income in the FNSB. An average of 440 direct and indirect induced jobs over the construction period is predicted, with an average labor income of $29.1 million between the years of 2014 and 2021 (CE, 2014b).

Long term operations analyses are predicted from 2014 to 2028 and conclude an average of 580 local jobs, with an average labor income of $23.4 million. The study predicts an indirect economic impact from other FNSB businesses to equate to approximately 520 jobs and $10.9 million (CE, 2014b).

Design

At least three consultants are expected to be hired for work pertaining to the design and layout (Phase 1), engineering (Phase 2), and storage development. Design consultants are expected to be hired in the second quarter or early third quarter of 2014. These consultants will be contracted through IGU and managed by MWH. The consultants will begin work on design,
environmental documentation, ROW acquisition, and permitting for the distribution system, and will stay with the phase of the project for which they are hired until its completion.

**Operations**

IGU intends to contract the operations portion of the system. A Statement of Qualification will be developed to select qualified companies who will be requested to submit and respond to a Request for Proposal (RFP). It is expected that the service provided will include, at a minimum: operations and maintenance of the system, Pipeline and Hazardous Material Safety Administration (PHMSA) response, the customer service components of responding to requests for new connections, billing, and collections.

IGU currently anticipates maintaining an initial staff consisting of a General Manager and Chief Financial Officer to be hired in 2014, and a single support staff, as direct employees.

**Conversions**

It is estimated that 4,974 customers will connect by 2019, with a potential customer base of 11,920 by 2027, as shown on Figure ES-1. The IGU will work with the legislature, community members, and local businesses to determine an appropriate solution for conversion assistance. At this time, an on-bill payment plan allowing conversion costs to be rolled into a customer’s monthly bill is thought to be the most favorable solution to overcome conversion costs averaging thousands of dollars (CE, 2014a). This solution expects homeowners to pay off the conversion price within 3 to 5 years, while immediately lowering their monthly heating bill. The IGU anticipates converting up to 77 percent of the service area population by 2027.

![IGU Customer Projection (2016-2027)](image-url)

**Figure ES-1  IGU Customer Projection (2016-2027)**
1.0 INTRODUCTION

1.1 Purpose

This document presents Interior Gas Utility’s (IGU’s) Six-Year Plan for building and operating a natural gas distribution system to serve the Interior communities of Alaska. The plan calls for liquefied natural gas (LNG) supply from the North Slope, transportation, storage (including gas transmission), distribution, and customer gas conversion in the areas of the Fairbanks North Star Borough (FNSB) that are not currently served by Fairbanks Natural Gas (FNG).

This Six-Year Plan is meant to be a roadmap to achieve the desired outcomes, perceived challenges, and attainable solutions to meet the IGU mission / vision:

“The IGU’s mission is to provide low cost, clean burning, natural gas to the most people in the Fairbanks North Star Borough as soon as possible.

As a public utility, the IGU is focused on lowering energy costs, improving the quality of life for all those who live here and visit here and bringing both economic and environmental relief to the residents of the Interior to keep our community vibrant.”

In January 2014, MWH Americas, Inc. (MWH) was retained by IGU to assist with management of the project and to develop an initial plan for the utility. A Six-Year Plan has been developed to reflect the nature of the project, which has a tentative 6-year build-out. The following drivers and benefits have been identified for the IGU project:

- Interior Alaska has the highest utility costs in the nation, according to the Council for Community and Economic Research in 2012 (Juneau Empire, 2012). Bringing LNG to Interior residents will significantly reduce their home heating bills, making life in the Interior more affordable and enjoyable.

- Interior Alaska has suffered from hazardous fine particulate matter (PM 2.5) air quality conditions, in part due to solid fuel heating system emissions. This Six-Year Plan reviews environmental conditions and demonstrates the benefits that converting to a natural gas distribution system will assist in addressing federal and local air quality attainment goals and providing economic benefits to the area. The evidence suggests significant reductions in harmful air particles and community health costs may be achievable through the operation of a natural gas system.

- In order for Interior Alaska to benefit from lower utility costs and better air quality, this project must be delivered in the range of $15 per thousand cubic feet (mcf). Financial modeling is based on this price point. Alaska Senate Bill (SB) 23 allows for financial terms and conditions flexibility to reach this goal.

1.2 Six-Year Plan Organization

This Six-Year Plan is organized into 13 sections and two appendices, as follows:

- Section 1.0, Introduction – Introduces the purpose of the Six-Year Plan and provides the organization of the plan.
Section 2.0, IGU Structure – Describes the structure of the IGU and how the gas distribution utility was created to achieve the mission and vision described in Section 1.0.

Section 3.0, General Overview – Describes the legislative history, the Regulatory Commission of Alaska (RCA) process, service areas, and timeline for the project, and provides an overview of the current status of IGU.

Section 4.0, Previous Studies – Presents a cumulative list of previous studies that were used for the Six-Year Plan to incorporate the work on demand analysis, conversion, build-outs, economic and environmental impacts, storage, trucking, distribution, and financing that has been done by other consultants and agencies since 2012.

Section 5.0, FNSB Benefits – Discusses the benefits, both environmental and economic, for implementing the IGU project.

Section 6.0, Community Involvement – Discusses public involvement and how IGU will communicate to create a “Community Plan”, incorporate implementation strategies for communications and examine the use of a wide range of outreach tools for stakeholders in the community.

Section 7.0, Strategic Partnerships and Working Relationships – Addresses the strategic partnerships that are needed for the project to succeed and the working relationships required for the successful completion of a 6-year build out.

Section 8.0, System Design and Construction – Describes the approach to the gas distribution system design, including technical and safety standards. This will include mapping, natural gas demand analysis, construction prioritization, storage and interties, cost estimating, permitting, Right-of-Ways (ROWs), and operations.

Section 9.0, Operations – Describes the services to be provided and IGU’s intent to contract out the operation of the system.

Section 10.0, Conversion – Reviews the natural gas demand and customer conversions using information available through existing studies and offers several solutions to engage and assist potential customers in cost effective conversions.

Section 11.0, Financial Analysis – Provides descriptions and analysis of the project feasibility and costs using the most current available data and financing options. Projections are provided by using assumed permitting and ROW issues, design considerations, construction estimates, price of natural gas Free on Board (FOB) Fairbanks, and operational assumptions.

Section 12.0, Path Forward – Presents a recommended path for the next 6 years to deliver natural gas to IGU customers.

Section 13.0, References – Provides a list of the references used in this Six-Year Plan.

Appendix A, IGU Project Phases 1 through 6 – Presents figures showing each phase of the project.

Appendix B, IGU Project Class 4 (+50%/-30%) Cost Estimate – Presents the cost details.
2.0 IGU STRUCTURE

In 2012, the movement to create a public natural gas utility for Interior Alaska gained momentum when the City of Fairbanks (COF), City of North Pole (CONP), and FNSB recognized the need to explore economic energy relief by way of a natural gas project. In order to create a borough-wide utility, it was necessary for both cities to authorize a transfer of their utility powers to the FNSB by ordinance. On September 10, 2012, the COF passed Ordinance No. 5895 to transfer their utility powers to the FNSB, and on October 1, 2012, the CONP passed Ordinance 12-18 to transfer their utility powers to the FNSB. These acts allowed the FNSB to create the Interior Alaska Natural Gas Utility (IANGU) referred to as Interior Gas Utility (IGU), which was done on October 11, 2012 (FNSB Ordinance 2012-52).

The FNSB Assembly created and approved IGU as a public corporation, wholly-owned subsidiary of the FNSB. The IGU Board is authorized to manage and operate the utility in accordance with prevailing industry practices and general standards common to utilities providing the same service. The respective governing bodies appointed the following members for staggered terms as follows:

- Robert Shefchik, Chairman (FNSB) – Term expires on December 31, 2015
- Michael Meeks, Vice-Chair (Fairbanks) – Term expires on December 31, 2015
- Steve Haagenson, General Manager (FNSB) – Term expires on December 31, 2016
- Frank Abegg, Director (Fairbanks) – Term expires on December 31, 2016
- Jim Laiti, Director (FNSB) – Term expires on December 31, 2014
- Oran Paul, Director (FNSB) – Term expires on December 31, 2014
- William Butler, Director (North Pole) – Term expires on December 31, 2016

After the first four appointed terms in December 31, 2014 and 2015 have expired, their successors will be voted in by the voters of the FNSB. The Borough Clerk is currently working on an ordinance setting up this election. Upon the term expiration of the final three members in 2016, their successors will be appointed – one each by the COF, CONP, and FNSB Mayors.

In January and February 2013, the IGU bylaws were created and approved by the FNSB and a gas distribution plan was presented to the RCA.

On the first Tuesday of every month from 4:00 to 6:00 pm, the IGU Board meets in the Fairbanks City Hall for a Board meeting, and on the third Tuesday of every month, the Board meets for a work session at the Fairbanks Economic Development Corporation (FEDC). All IGU meetings where three or more board members are present are publically noticed 5 days prior to the event, and are open to the public, with exception of Executive Sessions.
(This page intentionally left blank.)
3.0 GENERAL OVERVIEW

This section provides a general overview of the IGU Six-Year Plan, including: the framework on which the IGU was created, how this project integrates with the Interior Energy Project (IEP), areas within the FNSB and timelines to be served, an overview of the financial projections, and the keys to successful implementation.

3.1 Background

The Alaska 28th Legislature passed SB 23 in 2013, which detailed a financing package of $332.5 million (M) for the advancement of the IEP, including the development of an LNG plant on the North Slope, trucking and storage options, and a gas distribution system in the Fairbanks area. A combination of appropriation and financing authority were provided to the Alaska Industrial Development and Export Authority (AIDA).

The IGU Board has been supported by the Fairbanks Economic Development Corporation (FEDC) with staff assistance and $9,500 in private equity. The FNSB has also supported IGU with staff assistance and delegated IGU to fulfill a 2012 state appropriation of $3 million awarded to the FNSB for natural gas distribution. These monies were granted for pre-construction activities that allowed IGU to determine the community need for such a project and apply to the RCA for a service area resulting in a Certification of Public Convenience and Need (CPCN).

On December 20, 2013, IGU was granted the CPCN to service the area outside of the existing Fairbanks Natural Gas (FNG) service area, located within the City of Fairbanks (RCA Order U-13-103(19)). The IGU has since hired MWH as staff to: conduct the day-to-day business needs of the utility, develop a Business Plan for the utility, assist in securing funding, develop a Request for Proposal (RFP) to hire a design firm(s) and an operational contractor, develop a capital program to build out the necessary infrastructure, and work on public outreach to assist homeowners in converting to natural gas.

Additionally, the FNSB has authorized a $7.5 million line of credit to IGU to be used as bridge loans for funding gaps.

3.2 State and Federal Legislative History, Past and Current

The passing of SB 23 is an initiative by the State of Alaska as a first step commitment to provide energy relief for the residents of Interior Alaska. The below sections outline the premise of SB 23 and the specific expectations of the IEP, as well as review state and federal legislation that could have an impact on the project, if passed.

3.2.1 Senate Bill 23 – The Interior Energy Plan

SB 23 is the enabling legislation for the IEP, and seeks to provide a reliable natural gas energy supply to Interior Alaska, which is currently suffering under extremely high energy prices, poor
air quality, and poor economic growth. On April 12, 2013, the legislature passed SB 23, which provides for partial financing of a LNG plant by AIDEA, trucking of LNG, and build-out of a natural gas distribution system to bring gas to the homes and businesses of most people in the FNSB.

As of April 3, 2014, AIDEA has authorized IGU $8.1 million for initial start-up costs and FNG $15 million for the expansion of their existing distribution system in Sustainable Energy Transmission and Supply (SETS) loan financing.

Developments are ongoing relating to the North Slope LNG Facility – commercial terms negotiations are underway, while permitting and construction procurement proposals are ongoing and under review (AIDEA, 2014). Additionally, AIDEA has hired a consulting firm to look at a total supply chain management analysis (gas production, trucking, storage, and regasification) to allow for the most efficient and lowest cost of gas FOB Fairbanks.

The goals of the IEP are to:
1. Bring relief in the form of reduced heating fuel costs and electricity prices to Interior Alaska.
2. Provide an abundant source of reliable natural gas at a reasonable cost within 3 years for residential, commercial, and industrial use.
3. Benefit residents in other parts of the state.

The IEP has the following components:
- Construct a gas conditioning and liquefaction plant on the North Slope.
- Establish a truck delivery system to Fairbanks.
- Construct a LNG storage and regasification facility in Fairbanks.
- Expand the gas distribution system in the FNG service area and develop the IGU service area, and provide for potential propane delivery system to the lower density areas in the Interior.

A graphic demonstrating the various components of the IEP is shown on Figure 3-1.

SB 23 provided the following financial packages:
- $125 million in Sustainable Energy Transmission and Supply (SETS) loans to provide optimal commercial structure at a rate not to exceed 3 percent (%) interest rate, and flexibility on length of loan.
- $150 million in AIDEA bonds at a 3% interest rate over a 30-year term (projected rate based on current market conditions).
- $57.5 million in capital appropriations, to be used within 5 years of appropriation.

The $332.5 million appropriation is shown on Figure 3-2.
$125 Million
SETS Financing

$57.5 Million
Capital Budget Appropriation

$150 Million
AIDEA Bonds

Private Sector

Municipal Utility

North Slope Liquefaction Plant

Gas Distribution System
Residential/Industrial

SOURCE: IEP, 2013 (SLIDE #4)
3.2.2 Alaska Legislature

IGU will need to work closely with the members of the Interior Delegation especially, and the Alaska Legislature at large, to educate, inform, and develop legislative action that can help communities benefit from a lower cost heating fuel option and applicable conversion programs. While several loans exist through AHFC, none of them specifically address heating system conversions (CE, 2014a).

One attempt (House Bill 35, 2013-2014) was offered in the 2013 Legislative session and could be used as a framework to create future legislation providing these outcomes. The IGU will continue to consider legislation that sets the framework for a conversion program such as an on-bill payment system, where the utility will assume the debt, while the homeowner enjoys lower energy bills. The homeowner could still typically see a return on this investment within 3 to 5 years (CE, 2014a).

Tax credits for LNG storage development are available within Alaska Statute (AS) Section 43.20.047 of at least $30 million. The tax credit for a storage tank may not exceed the lesser of $15 million or 50% of the costs incurred to establish or expand a LNG storage facility, and the facility must have a storage volume of not less than 25,000 gallons of natural gas. Estimates of the permanent storage tank needs are expected to surpass this volume.

3.2.3 U.S. Federal Government

On February 27, 2014, a bill was introduced in the Senate that would establish a federal loan program for utilities under the jurisdiction of a local government, serving a community no larger than 50,000 who experience energy costs 200% higher than the national average to build natural gas distribution infrastructure. Based on this definition, IGU would likely be eligible to participate in the “Fuel Grid Distribution Loan Pilot Program” and utilize legislation from the “Energy Efficient Heating and Cooling Tax Credit Act.” This bill awaits a hearing in the Agriculture, Nutrition, and Forestry Committees (Govtrack, 2014).

3.3 RCA Process

In March 2013, IGU began preparation of the CPCN application for a gas distribution system outside of the FNG service area, and on April 22, 2013, IGU filed a CPCN with the RCA.

In July 2013, the RCA scheduled public meetings in Fairbanks over 2 days where community members testified to the need and desire for energy relief. The RCA used these public meetings to receive public input on the granting of a CPCN, which had been requested by both IGU (a public utility) and FNG (a private corporation with an existing service area within the COF).

The RCA convened in September and October 2013 in Anchorage for a review of these two applications to determine the most “fit, willing, and able” entity to service the high and medium density areas of the FNSB outside the existing FNG service area.
On December 20, 2013, the RCA granted IGU the CPCN for the applied service area, with the condition of a minimum 5-day gas storage reserve based on the projected daily demand of non-interruptible customers to protect and promote public interest. This is the same condition imposed on the FNG service area by Order U-96-129(3). While the IGU did make great concessions to regulate the build-out, operations, security of supply, ownership, and enforcement of conditions, the RCA found these to be not necessary to apply as a condition of the certificate as the IGU is a wholly-owned subsidiary of the FNSB, subject to the FNSB Assembly, including rate regulation.

The RCA, therefore, concluded that IGU will not be economically regulated unless requested by the FNSB Assembly (RCA U-13-103).

### 3.4 Serving Areas and Construction Timeline

The FNG and IGU service areas are shown on Figure 3-3. Transmission lines for IGU that will be built through the FNG area are shown on Figure 3-4.

The IGU project follows an aggressive schedule, with construction work tentatively planned to begin in the downtown North Pole area in the summer of 2015. Currently, the IGU project is a six-phase build out, as shown on Figure 3-5. Details of each phase are provided in Appendix A. This schedule depends heavily on several variables, the largest of which is to secure funding at each stage of the project.

The proposed timeline for phased construction is:

- **2014** – Gas Distribution Phase 1: Design, ROW, permitting, and engineering for distribution and temporary LNG gas storage.
- **2015** – Initial Construction in North Pole: Construction of distribution system temporary LNG gas storage (Phase 1), including design, ROW, permitting, and engineering.
- **2016** – First gas is delivered to customers: continue through North Pole/Badger Road (Phase 2), including design, ROW, permitting, and engineering for distribution and LNG gas storage.
- **2017** – Complete Badger Road, move North and West from North Pole; complete construction of a permanent LNG storage facility (Phase 3), including design, ROW, permitting, and engineering for distribution and LNG gas storage.
- **2018** – North of Fairbanks: Chena Hot Springs Road (Phase 4) design, ROW, permitting, and engineering for distribution and LNG gas storage.
- **2019** – Farmer’s Loop and Goldstream areas to University of Alaska, Fairbanks (Phase 5) design, ROW, permitting, and engineering for distribution and LNG gas storage.
- **2020** – Chena Ridge and West of Fairbanks (Phase 6) design, ROW, permitting, and engineering for distribution and LNG gas storage.
- **2021** – Ongoing service line construction.

For a more detailed analysis and maps of the timeline and design, refer to Section 8, System Design and Construction.
FIGURE 3-3

SIX-YEAR PLAN
FNSB NATURAL GAS SERVICE AREAS

LEGEND:
- FNG SERVICE AREA
- IGU SERVICE AREA

SOURCE: IEP

S:\CAD\Proj\ANGU\10504203 IGU Six-Year Plan\final\Fig3-3
(This page intentionally left blank.)
SIX-YEAR PLAN
PROPOSED IGU TRANSMISSION LINES THROUGH FNG SERVICE AREA

PROPOSED PIPELINE LOCATIONS ARE APPROXIMATE ONLY, NOT INTENDED AS A SUBSTITUTE FOR OFFICIAL UTILITY LOCATES.
FIGURE 3-5

SIX-YEAR PLAN
IGU SERVICE AREA BY CONSTRUCTION PHASE

LEGEND:

IGU BOUNDARY
ROADS

PHASE 1
PHASE 2
PHASE 3

PROPOSED PIPELINE LOCATIONS ARE APPROXIMATE ONLY,
NOT INTENDED AS A SUBSTITUTE FOR OFFICIAL UTILITY LOCATES.
3.5 Financial Requirements of IGU and Rate Structure

A Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis was done in June 2012 by Northern Economics, Inc. (NEI) to assess the ability of IGU to meet the primary goal of achieving the lowest cost energy to the most people as soon as possible. The NEI study estimated the number of natural gas customers and the timing of gas conversion, as well as the affects, costs, and financial implications of a Fairbanks Gas Distribution System.

Some of the specific aspects considered in the SWOT analysis, based on preliminary system design and costs estimates, include (NEI, 2012):

- Meet a capital investment requirement in the range of $283 to $606 million to complete high and medium demand areas, with a median investment requirement of about $404 million.
- Determine the likelihood that PM 2.5 air quality reduction goals will be achieved. One of the keys to achieving annual PM 2.5 attainment is switching solid fuel (coal/wood) heating systems to natural gas. This requires a cost of service for natural gas near $15/mcf, depending on current market prices of heating fuel.

The SWOT and estimated costs indicate a state partnership organization – one with the support of grants or loan guarantee arrangements from AIDEA – could substantially improve project returns and end-user affordability. This economic structure benefits end-user costs near the $15/mcf target to promote switching from solid fuel to natural gas. With the monetary backing and financial support of the State, the partnership is likely to achieve community goals of low cost gas to the broadest service area, within 5 years or less (NEI, 2012).

MWH updated the Class 4 Total Installed Cost estimate provided by the NEI Gas Distribution Analysis (MBJ, 2012) to reflect the costs for the IGU project. A Class 4 estimate is defined, for accuracy and detail, by the Association for the Advancement of Cost Engineering (AACE) as a project where design is 1% to 15% complete, with an expected accuracy range of +50%/-30%. A detailed analysis of the updated IGU area cost estimate is provided in Appendix B.

Currently, funding scenarios are being driven based on a target cost to the consumer of near $15/mcf to meet the demand for lower-priced energy, making conversion attainable and the project economically feasible. Regardless of how the many financial scenarios are modeled, $15/mcf is the target price where the FNSB residents receive affordable gas that justifies the cost of conversions and provides reasonable space heating savings.

3.6 Current Status of IGU

The IGU initially began work on the following tasks with MWH:

1. Project Kickoff
2. Five-Year Plan (now called the Six-Year Plan) for Cost-Effective LNG Supply and Storage, including Gas Transmission, Distribution Customer Gas Conversion (this document)
3. Task Scoping and Project Management

4. AIDEA Financing

3.6.1 Project Kickoff

The Project Kickoff included a Kickoff Meeting with the IGU Board to ensure alignment between MWH and IGU on the scope of work, priorities, and other critical aspects of the project. A working methodology was developed for how the Project Team will function and communicate on a daily, monthly, and quarterly basis with the public, media, and IGU Board, and sets the stage to execute IGU’s major goals.

The Six-Year Plan incorporates existing studies using all available information on current cost estimates and schedules for the: LNG supply, trucking, and storage; gas transmission and distribution expansion; and customer gas conversion. These studies include those done by NEI, HDR Inc., and CardnoENTRIX, as well as supporting documents from the FNSB, RCA, AIDEA, and IGU to determine the scope and cost of the project.

The Six-Year Plan recommends a path forward based on these studies and current state of affairs. With IGU Board input, this plan was finalized in May 2014.

3.6.2 Task Scoping and Project Management

As the details of the IEP are evolving, the management of the IGU gas distribution project must respond accordingly. Controlled management of the project determines the success of IGU by meeting the deliverables outlined by the IGU Board and stakeholders.

3.6.3 Financing

The path of this project begins with secure financing. While long-term financing negotiations continue, short-term financing has been authorized by the FNSB and AIDEA.

The IGU Board has been supported by the FEDC with staff assistance and $9,500 in private equity. The FNSB has also supported IGU with staff assistance and delegated IGU to fulfill a 2012 state appropriation of $3 million awarded to the FNSB for natural gas distribution. These monies were granted for pre-construction activities that allowed IGU determine the community need for such a project and apply to the RCA for a service area resulting in a CPCN, and were based on tasks authorized by the FNSB under the capital appropriation. The IGU provides quarterly updates to the FNSB Assembly and quarterly written updates to the FNSB demonstrating work that has been done based on the task. These are capital appropriations - or grants - from the state and do not need to be paid back.

On March 27, 2014, the FNSB Assembly approved a $7.5 million line of credit for the IGU. These funds are intended to be used as bridge funding for anticipated gaps in the deposit of state funds. These funds must be approved by the FSNB Chief Financial Officer and paid back within 3 years of the withdrawal date, with fair market interest.
On April 3, 2014, AIDEA authorized $8.1 million from the SETS loan program for initial development work on the LNG gas distribution system. The loan terms allow a 0% interest for 20 months and set a term negotiation agreement deadline for December 20, 2015. If final terms are not agreed upon by this date, the loan terms change to 3% for 40 years.

The AIDEA financing component combines the financial strategies in the Six-Year Plan. This task initiates a process to prepare backup materials, and then discuss and negotiate with AIDEA the sources of funds and associated terms and conditions required for the various phases of the project. These tasks will be qualified by past reports and assumptions best known at the time of the request to show the capital outlay, debt service, and cash flow needed to execute IGU’s mission to provide low cost gas to the meter to as many people as possible, as quickly as possible within the IGU service area. The IGU finance team has produced a comprehensive cost model that will allow multiple scenarios to be evaluated, including loan terms and conditions. More detail on the cost model is provided in Section 11, Financial Analysis.

3.6.4 Keys to Implementation

The keys to implementing this complex Six-Year Plan is setting up clear communication tools that allow the team to constantly update, evaluate, and demonstrate the project details as they are moving forward. Project management and coordination with all stakeholders is essential to keep the project focused and on schedule. This includes setting up systems to manage risk, infrastructure build out, customer conversion, and finances.

The keys to a successful project are:

- Board involvement and direction.
- Available funding and associated terms and conditions.
- Stakeholder involvement.
- Supply chain liability.
- Project Manager responsiveness.
- Public acceptance.
(This page intentionally left blank.)
4.0 PREVIOUS STUDIES

Several studies have been done on a natural gas distribution project to the Interior and this section lists applicable studies in an easy-to-reference format. This includes work completed by NEI (Gas Distribution System Analysis, 2012, and Residential Household Survey) and CardnoENTRIX (Conversion Analysis), which were used extensively to provide the framework for which the Six-Year Plan was written. Costs on trucking were provided mainly from the Pro-log Trucking Analysis.

4.1 Study Matrix

The studies utilized for the development of the 6-year build out are provided in Table 4-1, and four of the main ones are discussed below.

4.1.1 Northern Economics Inc.

NEI delivered to FNSB and IGU work that analyzed various scenarios for an optimized, rapid build-out of a natural gas system to serve the FNSB. This work entailed developing gas demand, determining the potential impact to improving the air quality, and conducting a survey within the community to identify the cost and willingness to convert homes and businesses to natural gas.

NEI gas distribution studies in 2012 and 2013 looked at the development of a gas distribution network and an estimate of cost to build this network out. Assumptions were made for the number of homes and businesses that might convert to natural gas and what impact that would have on the air quality. Additionally, a study was completed on the cost that focused on initially building out the area from Badger Road south to North Pole.

Between August 24 and September 4, 2013, a Residential Household Survey was conducted by telephone to establish home heating systems and willingness to convert. This survey had a margin of error of +/-3.5% on yes/no questions. Twenty-one questions were asked of 800 households in the FNSB and included topics on: heating system type and fuel expenditure (primary and secondary), age of primary system, participation in AHFC loan programs, willingness to convert to natural gas, air quality, age and size of home, and respondent demographics (NEI, 2013).

The survey shows that FNSB homeowners are very interested in heating with natural gas, and this interest level runs across demographic and attitudinal factors. Generally, homeowners believe bringing natural gas to Fairbanks will help the economy, raise property values, and improve air quality; however, conversion costs pose a marked hesitancy to the benefits. The study finds that in order to generate conversion rates above 50%, residential conversion costs should be kept to below $6,000 per home (NEI, 2013).
<table>
<thead>
<tr>
<th>Study Name</th>
<th>Date</th>
<th>Done By</th>
<th>Other Name(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEP Economic Impact Analysis</td>
<td>4/1/14</td>
<td>CardnoENTRIX</td>
<td></td>
<td>Review of IMPLAN modeling data and analysis of the economic impacts of the IEP using assumptions provided in the CardnoENTRIX IEP Conversion Analysis.</td>
</tr>
<tr>
<td>LNG Transportation Analysis</td>
<td>2/20/14</td>
<td>Prolog Canada</td>
<td></td>
<td>Assesses the costs and logistics of trucking gas from the NS to FNSB.</td>
</tr>
<tr>
<td>Google Earth (GE) Map on Proposed IGU Distribution System</td>
<td>2/14/14</td>
<td>MWH</td>
<td></td>
<td>The GE map is found under 'Maps' on the IGU website: <a href="http://www.interiorgas.com">www.interiorgas.com</a> for download only. Must have GE to view. An interactive map using GE technology allowing a user to closely evaluate proposed transmission lines within each phase of the build-out.</td>
</tr>
<tr>
<td>AIDEA Project Schedule</td>
<td>1/23/14</td>
<td>AIDEA</td>
<td></td>
<td>Updated graph showing AIDEA's project schedule.</td>
</tr>
<tr>
<td>IEP Conversion Analysis</td>
<td>1/14/14</td>
<td>CardnoENTRIX</td>
<td>CardnoENTRIX</td>
<td>Fairbanks LNG Distribution System Conversion and Demand Analysis for residential and commercial customers.</td>
</tr>
<tr>
<td>IEP Distribution Map</td>
<td>12/20/13</td>
<td>AIDEA</td>
<td></td>
<td>Updated map of FNG and IGU service areas.</td>
</tr>
<tr>
<td>IEP Financial Model Analysis (updated)</td>
<td>12/9/13</td>
<td>AIDEA</td>
<td></td>
<td>Updated (from 11/18/13 version) comparison of overall project costs and projected annual residential savings between three bidders (Pentex, Spectrum, and MWH) based on term sheets.</td>
</tr>
<tr>
<td>IEP Commercial &amp; Finance Overview</td>
<td>11/19/13</td>
<td>Western Financial Group/ AIDEA Board</td>
<td>OVERVIEW_IEP Commercial Overview_11-18-13 v2</td>
<td>Update and review on IEP Project and Senate Bill 23.</td>
</tr>
<tr>
<td>IEP Financial Model Analysis</td>
<td>11/18/13</td>
<td>AIDEA</td>
<td></td>
<td>Compares overall project costs and projected annual residential savings between three bidders (Pentex, Spectrum, and MWH) based on term sheets.</td>
</tr>
<tr>
<td>Natural Gas in the FNSB: Results from a Residential Household Survey</td>
<td>11/1/13</td>
<td>NEI</td>
<td>IGU Residential Household Survey Report</td>
<td>An 800-person telephone survey done August/September 2013 conducted to evaluate energy use, customer conversion rates at various $/mcf, burner tip and hardware costs, and needed financial assistance rates and participation.</td>
</tr>
<tr>
<td>LNG Storage Tank Cost Analysis</td>
<td>7/19/13</td>
<td>Michael Baker Jr. Inc.</td>
<td>MBJ Storage Report</td>
<td>This analysis is a Basis of the Cost Estimate for LNG Storage for the IGU Fairbanks Gas Distribution Advancement Project.</td>
</tr>
</tbody>
</table>
Table 4-1 (Cont.) IGU Studies

<table>
<thead>
<tr>
<th>Study Name</th>
<th>Date</th>
<th>Done By</th>
<th>Other Name(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEP Feasibility Report</td>
<td>7/1/13</td>
<td>AIDEA</td>
<td>Feasibility Report</td>
<td>AIDEA’s analysis on the feasibility and technicality of the NS project in delivering gas to FNSB economically. The study finds that the NS plant can economically deliver LNG to the FNSB below the current heating fuel costs. The study does not include the costs of regasification, storage, or distribution costs from the NS to the FNSB.</td>
</tr>
<tr>
<td>Estimated Natural Gas Demand for North Slope LNG Project</td>
<td>6/21/13</td>
<td>NEI</td>
<td></td>
<td>Memo on residential/commercial demand and conversion estimates. Provided as an attachment to the FNSB modular.</td>
</tr>
<tr>
<td>Trucking Prolog</td>
<td>3/27/13</td>
<td>Prolog Canada</td>
<td>LNG Trucking Report; Pro-log study</td>
<td>Transportation costs and trucking needs.</td>
</tr>
<tr>
<td>Completed Natural Gas Demand Estimates by Phase</td>
<td>11/20/12</td>
<td>NEI</td>
<td>Estimated Natural Gas Demand</td>
<td>Memo on residential and commercial sectors natural gas demand estimates for the three phases of the initial development of the Fairbanks Natural Gas Distribution System in the FNSB.</td>
</tr>
<tr>
<td>Cost Estimate Phases I-III</td>
<td>11/15/12</td>
<td>Michael Baker Jr. Inc.</td>
<td>2 FNSB Gas Study Phase I-III</td>
<td>Cost estimates of entire project from Phases I through III.</td>
</tr>
<tr>
<td>Gas Distribution System Analysis</td>
<td>6/29/12</td>
<td>NEI</td>
<td>1. IGU Gas Distribution Study 2. GDSA 3. FNSB GDSA</td>
<td>First inclusive study done on the Gas Distribution System detailing the specifics of the project, outlining the feasibility, and reviewing the economic and environmental factors on its necessity.</td>
</tr>
</tbody>
</table>

Key:
- AIDEA – Alaska Industrial Development and Export Authority
- IMPLAN – Impact Analysis for Planning
- FNG – Fairbanks Natural Gas
- LNG – liquefied natural gas
- FNSB – Fairbanks North Star Borough
- mcf – thousand cubic feet
- GDSA – Gas Distribution System Analysis
- MWH – MWH Americas, Inc.
- IEP – Interior Energy Project
- NEI – Northern Economics, Inc.
- IGU – Interior Gas Utility
- NS – North Slope
4.1.2 CardnoENTRIX IEP Natural Gas Conversion Analysis

CardnoENTRIX was hired by AIDEA to provide a conversion analysis that looked at the various ownerships of the housing stock, as well as the gas demand. This study was used to determine the projected demand for gas annually in the IGU service area as the build out for the gas system is constructed.

The *IEP Natural Gas Conversion Analysis* (CE, 2014a) analyzed the need and economic impacts of natural gas conversion in the Fairbanks and North Pole areas. This study reviewed existing consumer heating systems, willingness to convert, demand of natural gas, economic benefits, and overall review of PM 2.5 emissions based on a mock 6-year build out developed by Alaska Energy Authority (AEA). Much of this study was derived from information and experience in the 2013 Homer, Alaska, natural gas conversion project. Although there are significant differences in these projects, the willingness to convert and the outreach mechanisms used to engage the public is able to be applied to this project with a high confidence of compatibility.

The CardnoENTRIX Study reviewed, in depth, conversion rates, heating systems, demographics based on 2010 Census data, air quality, and economics. This study provided much of the information included in this Six-Year Plan.

4.1.3 CardnoENTRIX IEP Economic Impact Analysis

The *IEP Economic Impact Analysis* (CE, 2014b), released in April 2014, reviews the estimated impacts of the IEP within the FNSB. However, the study mostly focuses on the natural gas distribution system build out from both IGU and FNG. This study is based on the assumptions of the CardnoENTRIX IEP Conversion Analysis, which does not account for any conversions from wood-only homes (roughly 5% of the FNSB population). In addition, this study accounts for IGU to begin construction in 2016, although current plans call for construction to begin in the summer of 2015 within Phase 1.

The *IEP Economic Impact Analysis* reviews the potential industries affected (positively or negatively), the methods and data used to derive the information, and the employment and income impacts within the FNSB – including disposable income estimates within the years of anticipated conversion using Impact Analysis for Planning (IMPLAN) software and 2012 IMPLAN data. For this study, those years are 2016 to 2028.

4.1.4 Agnew::Beck

Agnew::Beck conducted a focus group as part of the Fairbanks LNG Demand and Distribution Analysis in October 2013. Participants represented 41 households. The results were favorable to the project, with a high interest in conversion. Responses indicated that 95% of the participants would convert, and 62% said they would convert within 1 year. This number grew to 74% when incentives were discussed. The group provided relevant detail to what a successful conversion program would entail (ease of program, lower monthly bills immediately, and a reasonable payback period) and indicated they generally preferred to pay with cash, not using loans to
convert. This response could be related to the general older age and affluence of the group, all of whom were homeowners, and probably does not accurately reflect the situation of the average FNSB resident (CE, 2014a).

As wood is the second largest primary heating source in the area, it is important to note that this study does not include homes that use wood as their primary fuel source, equating to 11% of the possible conversion population. Residents heating with coal or other sources are nominal and included in the “other”, about 3% of the sample. This reduced the survey sample to 699 households (NEI, 2013).
(This page intentionally left blank.)
5.0 FNSB BENEFITS

The FNSB and community stand to benefit greatly from the completion of this project, environmentally and economically. The sections below address the December 2014 U.S. Environmental Protection Agency (EPA) deadline for PM 2.5 air quality attainment and the benefits to the community in terms of general health, health care costs, and quality of life.

5.1 Environmental

In December 2009, the EPA formally designated the FNSB as a non-attainment area for federal PM 2.5 air quality standards after exceeding the health-based, 24-hour exposure limit of 35 micrograms/cubic meter for fine particulate matter (ADEC, 2014), and set a deadline of December 31, 2014, for the FNSB to comply with these regulations (Clean Air Act [CAA] Section 110 and 172). Figure 5-1 shows the non-attainment area for the FNSB.

The atmospheric inversion, high heating costs (wood providing for cheap fuel), and extreme cold weather patterns increase the necessity for this area to be prioritized for PM 2.5 air quality control, most notably in the winter months. While the Interior is subject to poor air quality and PM 2.5 risk in the summer, these conditions are referred to as natural, uncontrollable, and exceptional events (ADEC, 2014).

Figure 5-2 shows a winter comparison of air quality exceeding the federal level based on the latest data from 2006. A monitor, located in downtown Fairbanks at the State Office Building, collects a 24-hour sample every third day (blue). For a sampling frequency of every third day, the measured concentration on the sampling day represents the 2 days without measurement (red). As a result, one exceedance counts as three for regulatory activities. The data used for this graph has been thoroughly reviewed and validated and, thus, is subject to regulatory activities (ADEC, 2014).

Because the FNSB was deemed a non-attainment area in 2009, the state, along with local governments, were required to submit a State Implementation Plan (SIP) by December 31, 2012, which outlines how attainment would be achieved by the deadline of December 31, 2014. An air quality plan continues to be developed that will improve air quality and address the high cost of space heating. A mix of programs is included, among them expanding natural gas availability within the FNSB. The SIP outlines the following actions to reach attainment by the end of 2014:

- Solid Fuel (Wood and Coal) Heating Device Change Outs, Removal, Repair Programs
- Expanded Solid Fuel Heating Device Change Out Program for Hot Spot Areas
- Expansion of Natural Gas Availability for Space Heating (InteriorEnergyProject.com)
- AHFC Home Energy Rebate and Weatherization Programs
- Expanded Transit and Vanpooling
- Expanded Parking Lot Plug-ins for Motor Vehicles
- Projects to Reduce Diesel Vehicle/Equipment Emissions
- Emission Reductions from Motor Vehicles through the Federal Emission Standards for New Vehicles
- Existing Stationary Source Permit Programs

In addition to the natural gas distribution, the plan is reviewing positive effects of the railbelt expansion, which have the potential to deliver other low-cost heating options. These projects include the Susitna-Watana Hydroelectric Project, Healy Power Plant Unit 2, Eva Creek Wind Project, and the development of additional gas from Cook Inlet (ADEC, 2013a).

Based on air quality data from the Alaska Department of Environmental Conservation (ADEC), and estimates of household conversion, providing a lower-cost heating option that would incentivize the use of natural gas could reduce the amount of wood smoke emissions by up to approximately 32%, which is estimated to reduce approximately 234 tons of PM 2.5 emissions (CE, 2014a). The *IEP Natural Gas Conversion Analysis* concluded that health and other benefits from improved air quality could range from $64 million to $200 million by 2020, based on a wide range of values found within previous studies (CE, 2014a). While natural gas distribution alone may not completely reduce PM 2.5 to the federally-required standard, it will address the problem significantly, demonstrating to the federal government the community’s action to improve poor air quality.

The NEI Gas Distribution Analysis shows an even greater effect from converting wood-fired systems to natural gas (NEI, 2012). The NEI data, based on research done by SLR International Corporation in 2012, shows a 95% PM 2.5 emission reduction. This higher figure is mostly likely due to the inclusion of wood-only burning households in the data. While the real effects will not be fully realized until the completion of the conversion phase (2027), it is reasonable to assume that natural gas conversions will play a significant role in reducing fuel-sourced emissions from residential structures.

If the state fails to implement the SIP by deadline, the EPA has the power to impose sanctions or other penalties on the state, including the loss of federal highway transportation funds, and additional requirements to offset emissions from industrial projects within the non-attainment area. The state must also show willingness to assist the community in attaining or maintain the standard (ADEC, 2013b).

Air quality affects the quality of life and attractiveness of Interior Alaska for everyone who lives and visits the area. Military personnel stationed in Fairbanks often cite poor air quality as a reason to apply for a transfer to a different location (CE, 2014a). The military generates 30% of jobs in the area, equating to $3.9 billion to the local economy (FEDC, 2014). Reducing PM 2.5 air emissions has far reaching benefits throughout the community and state.
FIGURE 5-1

SIX-YEAR PLAN
FNSB PM 2.5 NON-ATTAINMENT BOUNDARY

LEGEND:

- EPA PM2.5 NA BOUNDARY
- MPO BOUNDARY

SOURCE:
FAIRBANKS NORTH STAR BOROUGH
DEPARTMENT OF COMMUNITY PLANNING TO
JANUARY 6, 2009

FILE:    S:\CAD\Proj\ANG\10504203 IGU Six Year Plan\final\Fig5-1
(This page intentionally left blank.)
5.2 Economic

The net current value of cost savings for changing from heating fuel to natural gas is estimated at $835.1 million through 2027, the year final conversions are expected to occur. As the number of household conversions increase, the price of natural gas is likely to decrease – as the costs of LNG plant, storage, regasification and delivery costs are further distributed (CE, 2014a).

In 2012, an economic survey concluded (AIDEA, 2013):

“Construction and operation of a piped natural gas distribution system in the high-density and medium-density areas of the FNSB, and a propane distribution system in the low-density areas of the borough, has the potential to reduce fuel costs for space heating of residential and commercial structures from approximately $524 million in 2021, the first full year of operations, to about $210 million, a savings of roughly $315 million annually, a savings of 60 percent compared to the status quo using fuel oil and wood. These estimates will change with different assumptions or if capital costs or commodity costs change, but the magnitude of the savings is so large that it is evident that substantial savings will accrue under almost any future scenario that employs natural gas and propane.”

A reduction of energy costs affords residents the ability to spend more disposable income in the community, improving economic stability, and increasing the quality – and longevity – of life.

---

**Figure 5-2  Winter Comparison of PM 2.5 Exceedances in Fairbanks**

- **Winter Comparison:** Number of Daily Concentrations Exceeding EPA's PM$_{2.5}$ Standard (35 μg/m$^3$) at the Fairbanks State Office Building Primary Monitor

<table>
<thead>
<tr>
<th>Year</th>
<th>Regulatory exceedances</th>
<th>Measured exceedances</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2004-05</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>2005-06</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>2006-07</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>2007-08</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2008-09</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>2009-10</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>2010-11</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>2011-12</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>2012-13</td>
<td>20</td>
<td>15</td>
</tr>
</tbody>
</table>

---
amongst residents. Increased spending within the FNSB for goods and services are estimated to support an increase of 340 jobs annually, resulting in $15 million in income from 2014 to 2027 (CE, 2014b).

Jobs and gross income estimates related to both construction and operations in the FNSB are expected to yield an average of 440 direct and indirect jobs relating to construction, with an average labor income of $29.1 million until 2021. It is important to note when referencing these particular numbers, that they include both FNG and IGU gas distribution project plans (CE, 2014b).

The long term operations predicted from 2014 to 2028 conclude an average of 580 local jobs, with an average labor income of $23.4 million, is anticipated. The study predicts an indirect economic impact from other FNSB businesses to equate to approximately 520 jobs and $10.9 million (CE, 2014b).

The Economic Impact Analysis, based on the Conversion Analysis, assumes heating system installation costs will flow to local heating and plumbing contractors, at an average $4,300 per household (CE, 2014b). While this generates economic impact within the business community, it is also noted that heating oil distribution companies will be adversely affected since the need for heating fuel will be reduced by 47 million gallons from current consumption by 2028 – resulting in a total estimated reduction of $128.9 million in direct, indirect, and induced income, with an average annual loss of 220 jobs through 2028. These estimates are based on conversion rates assumed in the Conversion Analysis of 77% (CE, 2014a).

The IEP is expected to generate between 250 and 840 jobs, depending on the construction year, resulting in $16.5 million to $55.2 million in total income just within the FNSB (CE, 2014b).

This project represents a major milestone for Interior Alaska, one that has eluded the Interior for years. IGU’s goal is focused on completing all six phases of this project, as certified to do so by the RCA, using the tools available in SB 23 to meet the IEP target price of approximately $15/mcf at the customer’s meter.
6.0 COMMUNITY INVOLVEMENT

In July 2013, the RCA held a public meeting during the CPCN application process and invited public testimony on the community energy crisis. Some participants spoke in favor – or against – a particular applicant, but most people were there to express to the RCA that the community is suffering in many ways under high energy costs and poor air quality.

On February 24, 2014, MWH held a Design Charrette with key state agencies, public utilities, private companies, and governmental officials to discuss the project’s progress and proposed timeline. Topics addressed were:

- The gas distribution system.
- The build out and schedule.
- Coordination of other construction projects.
- ROW permitting needs.
- Review of perceived challenges.
- To establish and build on relationships.

MWH presented the overall, six-phase layout for the Distribution and Transmission system using a Google Earth map (circa 2009-2010), and constructed of maps from NEI and the AEA (August 2013). Participants then had the opportunity to discuss each phase of the project build out and ask questions. Map sets were provided that participants referred to during the Charrette and took with them afterward.

The outcome of this Charrette was the opportunity to reach out to stakeholders to demonstrate the general plan of the project by reviewing each phase together. The group showed enthusiasm about the project and voiced their support for moving forward and working together.

6.1 Communication Plan

Effective communication begins by using specific messages that apply to the many stakeholders involved in this project. These stakeholders have been identified as:

- Customers
- Borough and Municipal Governments – FNSB, COF, and CONP
- Governmental Entities – AIDEA, RCA, Alaska Department of Transportation and Public Facilities (ADOT&PF), Alaska Railroad, Alaska Legislature
- Utilities – Golden Valley Electric Association (GVEA) and FNG
- Building Trades and Contractors
- Private Sector
- General Public

Some of these messages may be the same, as everyone could be interested in the distribution plan, for example, but specific groups will be best communicated with using specific messages.
For instance, customers are going to be more interested in conversion costs and cost savings at their meter, while contractors will need to know about construction bid deadlines, the type and size of equipment needed, and the number of jobs that each construction phase forecasts. Further, private businesses who sell natural gas boilers and furnaces need to know what areas will be converting first, and who is most likely to convert during the build out process to educate their customers and meet the demand of hardware sales, materials, and installation requests.

This project is designed to work closely with governmental agencies for: funding; transportation needs; coordination on ROW, easements, and permits; and construction projects. Utilities will be interested to know the specifications of the project, and if any of the product supply can help reduce their operating costs or provide value-added services to their customers. Many other examples apply, and the Communications Plan is designed to provide an avenue of communication that is responsive and sensitive to each stakeholder need.

6.2 Toolbox

Communication tools are meant to be living documents for processes that can be molded to fit a specific situation or outreach method. Establishing early the protocol for excellent communication will be a key factor to smoothly transition from each function of the utility for seamless interaction with stakeholders and the community at large.

The IGU website is the online face of the IGU. It requires constant updating as the project develops and changes. The IGU website will serve as the main component to disseminate the latest information, news, and updates on this project. The website has built-in back-end capabilities that allow data collection, grouping of the data, and the ability to microtarget messages to an audience based on their known identities and interests. This information can be integrated into an IGU database collection to increase our understanding of public interest profiles. The website serves as an interactive tool in day-to-day activities and in the event of an emergency. As IGU develops, the website will grow and include capabilities for customers to pay their bills online, and view their accounts. This effort is ongoing and growing.

Working with the media is an important and particularly useful tool in communications development. Ensuring the media has the correct understanding of the project, and accessibility to the decision makers when necessary, will drive favorable stories and coverage from the news media (provided we are doing favorable things), and can be demonstrated through a media packet describing the project, the people involved and documents that help reporters tell a story with Frequently Asked Questions (FAQs) and other pertinent information. Forging the relationships between press and scheduling regular meetings with the Fairbanks News Miner editorial board are ways in which these relationships can be cultivated for a mutually beneficial relationship.

The Communications Plan utilizes a host of technological options to develop an online presence through social media, quarterly e-newsletters (may also be mailed), electronic surveys, and emails. As technology advances, staying up-to-date and in-touch with customers using the latest tools is paramount and should be given attention daily.
Beginning in the summer of 2014, community focus group sessions, or town hall meetings, may become necessary to engage, educate, and gather information on residents within Phases 1 and 2. These focus groups will become refined through the process to be used for further Phase research. These will help in crafting community messages, establishing the IGU brand within the community, and expanding contact distribution lists.

A mail campaign will be used specifically for construction notices, community events, and other pertinent information. These will be administered intentionally and on an “as-needed” basis.

The IGU staff and Board of Directors have begun to address niche communities to update, inform, educate, learn, and build relationships with community groups by using local and state speaker forums. These forums, such as the Chamber of Commerce, FEDC, Rotary and Kiwanis Clubs, and others, will provide essential information and relationships that generate buy-in and a positive feeling about the work of the IGU. Interaction and involvement in the public is necessary to build brand awareness and to expose the mission of the IGU. This will be further explored through local and statewide memberships to community organizations that can help the IGU fulfill their mission as a community partner, and by participating in community events, such as Golden Days and the Midnight Sun Festival, as well as trade shows throughout the year.

There is no better way to make IGU real than to appear at the door. This part of the communication strategy is to personalize the utility with the customer, be approachable, answer questions, and provide information about the project with a face-to-face interaction. This work is anticipated to begin in the Summer of 2014 to introduce IGU and discuss conversion options and construction plans with the residents in the first phase of the project. Door hangers are also an effective way to personalize a mass message, especially regarding upcoming construction.

A Customer Service Handbook will be developed and provided for each IGU leadership and staff; and training opportunities on customer service and media relations best practices adopted by IGU will be offered. This will be a required training component for anyone interacting with the public and/or the media, and may require the assistance of a third-party vendor. Since IGU is in a unique position of literally building an organization from the ground up, leadership may be involved in developing this handbook so that values and practices included truly reflect the personality and brand of the IGU.

A Crisis Communication Plan is imperative to have internally as the organization grows. This will cover how IGU plans on addressing crisis situations – such as natural disasters, public defamation, conspiracy, on-site accidents, gas explosions and leaks, environmental disasters, disruption of service, and disgruntled employees. This plan is to be developed in the summer of 2014, most likely with the assistance of a third-party vendor, and will be subject to annual reviews, and bi-annual crisis drills.

A government relations component will be developed to best work with local, state, and federal elected officials on legislation, events, and information that advocates or advances the mission of IGU. The first and most pressing issue is developing a conversion assistance solution by the next legislative session in 2015.
Finally, all types of communications must be consistent in branding, tone, and messaging. The comprehensive Communications Plan pulls together the above components into a well-packaged public relations and media campaign, with a professional and recognizable look. These messages will be developed by working with a local agency who can help the IGU develop these materials to best reflect and compliment the overall goals of the IEP.

The components of a recommended Communications Plan include:

- Website
- Community Focus Groups
- “Town Hall” Meetings
- Mail
- Newsletters (Mail and Email)
- Speakers Forum/Presentations
- Door-to-Door
- Customer Service Handbook
- Crisis Communications Plan
- Government Relations
- Brand Development
- Annual Customer Meetings
7.0 STRATEGIC PARTNERSHIPS AND WORKING RELATIONSHIPS

This complex project requires extensive expertise, both professional and institutional, and these relationships are reviewed and carefully defined in this section.

7.1 Strategic Partnerships – Supply Chain

The project supply chain is shown on Figure 7-1, from the North Slope LNG Plant to the end users.

The North Slope LNG Plant is currently being pursued with AIDEA financing, along with private equity investors.

Transportation and trucking of the gas will also be an important part of the planning phase. Trucks will haul LNG from the North Slope LNG Plant over 500 miles down the Dalton Highway to a storage and regasification facility. The partnership, location, and storage needs of the regasification and storage facility are undefined at this time, but as the distribution system begins to build out, storage needs will have been developed and permanent location structures should be underway.

Developments are ongoing relating to the North Slope LNG Facility – commercial terms negotiations are underway while permitting and construction procurement proposals are ongoing and under review (AIDEA, 2014).
Additionally, AIDEA has hired a consulting firm to look at a total supply chain management analysis (gas production, trucking, storage, and regasification) to allow for the most efficient and lowest cost of gas FOB Fairbanks.

### 7.2 Working Relationships

AIDEA is the state Authority administering the funding mechanism to support the entire IEP. This Authority has the ability to award grants and loans at a fixed, low interest rate, as well as the flexibility to negotiate terms and conditions of funding options under SB 23. AIDEA is currently managing the project contract for the LNG plant facility and storage components of the IEP, while overseeing and working toward the gas distribution system expansion of IGU and FNG.

GVEA was a supporter of IGU during the RCA process, and continues to be an important partner on gas storage and regasification. GVEA has expressed an interest in developing a partnership for gas storage with IGU. Currently, GVEA is discussing with IGU to take the lead on financing through AIDEA, engineering design, and construction of a tank situated on land GVEA owns near the North Pole Plant (H and H Road and Old Richardson Highway). GVEA would agree to lease the property and work toward developing a ‘take-or-pay’ contract for gas that covers their share of the cost of the facility. The maximum tank size for this location is anticipated at 2.2 million gallons (MG), where IGU would use 1.2 MG and GVEA would use 1.0 MG. Discussions on ‘take-or-pay’ agreements and storage options are ongoing.

FNG owns the existing natural gas distribution system in the highest density area of the COF. This private company was awarded a CPCN in 1997 to serve this area with over 5,000 potential customers, and currently services 1,100 customers (RCA U-13-103). FNG applied for the same service area to the RCA as IGU on April 8, 2013. In April 2014, FNG was authorized $15 million from AIDEA to expand their existing gas distribution pipeline in 2014 and 2015 (CE, 2014b). IGU recognizes the importance of a solid working partnership with FNG in order to provide timely, low-cost natural gas to as many people as possible. IGU continues to work toward their commonalities with FNG to provide energy relief to the community.

IGU is the product of a working group focused on energy under the FEDC umbrella. FEDC has played a significant role in coordinating a dedicated group of community leaders committed to providing low cost natural gas to the most people as possible, as soon as possible, and has supported the IGU’s mission through staff, materials, funding, development, and resources. IGU regularly meets in the FEDC conference room, and relies on accounting support from FEDC staff. This relationship has been fundamental to the growth of IGU.

The IGU will maintain a close working relationship with employees, departments, and leadership within the FNSB, CONP, and COF. The IGU depends on these local governments for: financial assistance; administrative and legal support, including coordination in community projects; website updates; institutional knowledge; and community influence.

While the creation of the IGU and LNG gas distribution project is mostly seen positively, there is a population of the community that is not in favor of a public utility. This is a very important
voice in the community which should be handled firmly, yet respectfully. Also, finding ways to work with heating oil distribution companies and coal producers, whose business and income may be jeopardized by the success of this project, should be carefully considered.

IGU recognizes there may be partnerships throughout the state and Canada that are ideal to develop as contingency resources in the event of a disrupted supply of LNG from the primary North Slope source, and will continue to develop these relationships.
(This page intentionally left blank.)
8.0 SYSTEM DESIGN AND CONSTRUCTION

The system design is proposed on an aggressive 6-year build out schedule. This section reviews: the process; technical and safety standards; the proposed transmission line build-out for each phase, along with approximate costs and schedule; and the relationship to other aspects of the project, including permitting considerations.

8.1 Design Process

At least three consultants are expected to be contracted for work pertaining to the design – one each for Phase 1 and Phase 2 and a third consultant for storage development. These consultants are expected to be contracted in 2014 through a competitive proposal process and will be contracted through IGU and managed by MWH. The consultants will begin work on design, ROW, and permitting for the distribution system and will stay with that phase of the project for which they are contracted through construction. In addition, engineering for both temporary and permanent gas storage and regasification is anticipated to occur concurrent with the distribution system design work.

8.2 Technical and Safety Standards

IGU will follow the requirements of the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) and the Office of Pipeline Safety (OPS) Standards. Operator Qualifications and Integrity Management procedures will be developed that meet the requirement of Code of Federal Regulations (CFR) 192, as required for operators of natural gas pipeline systems and LNG facilities.

IGU will create a safe work environment for the construction of their projects, the operation of their facilities, and their integration into the community. MWH will prepare an overall analysis of IGU’s and FNG’s service areas to ensure that an economical, viable, and sustainable storage and distribution system is constructed. As they are two separate, but adjoining service areas, it is imperative that this analysis be conducted from the standpoint of compatibility of common components and also from the standpoint of independent operations. As part of this analysis, IGU will ensure that the design and construction principles to be used will meet all federal, state, and local standards – with emphasis on cold weather construction and operations.

8.3 Gas Distribution

8.3.1 Distribution System Build-out

The IGU Service Area planning map is the culmination of maps developed by NEI/ Michael Baker, Jr. Inc. (MBJ) and AEA, originally developed to assess the miles of pipe for the project. On the IGU phase maps (Appendix A), the blue, green, and red lines are transmission and distribution feeder lines, provided by NEI/MBJ. The orange lines are distribution lines to neighborhoods and homes, provided by AEA, 2013. These preliminary maps are demonstrated using Google Earth software, which provides the ability to hone into potential service locations.
The system layout will be further refined once hydraulic modeling is performed and layouts optimize the system and further refined by the design consultants based on local constraints permitting and ROW needs.

### 8.3.2 Demand Analysis

The conversion tables used in the Conversion Analysis (CE, 2014a) were modified to only focus on the IGU service area, and to incorporate that first year customers connected include only half of a calendar year of demand. These results are provided in **Table 8-1**, and the annual gas demand is shown on **Figure 8-1**.

![Figure 8-1 IGU Service Area Natural Gas Demand](image)

The demand analysis accounts for homeowners to use approximately half of their average annual consumption in the year of conversion. This is due to the fact that most homeowners will not convert in the fall/winter months due to risks associated with conversion changes in extreme weather, although if they did, they would still be using half of their average annual consumption because the natural gas would not be available for the entire year. Instead, it is anticipated that most homeowners will convert in the spring/summer months following the completion of the phase in their area.
## Table 8-1  IGU Area Customer and Gas Demand/Growth

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Volumes (mcf)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Family Residence</td>
<td>112,363</td>
<td>247,350</td>
<td>457,749</td>
<td>729,985</td>
<td>1,033,139</td>
<td>1,310,654</td>
<td>1,490,888</td>
<td>1,584,398</td>
<td>1,635,678</td>
<td>1,664,335</td>
</tr>
<tr>
<td>Multi-Family Residence</td>
<td>25,000</td>
<td>40,000</td>
<td>70,000</td>
<td>105,000</td>
<td>150,000</td>
<td>235,000</td>
<td>305,000</td>
<td>330,000</td>
<td>345,000</td>
<td>350,000</td>
</tr>
<tr>
<td>Commercial – Small</td>
<td>10,530</td>
<td>26,033</td>
<td>50,066</td>
<td>75,319</td>
<td>101,936</td>
<td>142,903</td>
<td>176,264</td>
<td>190,060</td>
<td>196,300</td>
<td>196,300</td>
</tr>
<tr>
<td>Commercial – Medium</td>
<td>65,500</td>
<td>147,100</td>
<td>273,800</td>
<td>396,300</td>
<td>480,800</td>
<td>543,300</td>
<td>575,800</td>
<td>587,800</td>
<td>592,000</td>
<td>592,000</td>
</tr>
<tr>
<td>Commercial – Large</td>
<td>8,000</td>
<td>14,200</td>
<td>25,600</td>
<td>38,600</td>
<td>47,800</td>
<td>53,600</td>
<td>55,400</td>
<td>56,000</td>
<td>56,000</td>
<td>56,000</td>
</tr>
<tr>
<td>Industrial</td>
<td>13,600</td>
<td>13,600</td>
<td>16,600</td>
<td>19,400</td>
<td>22,200</td>
<td>23,400</td>
<td>24,000</td>
<td>24,000</td>
<td>24,000</td>
<td>24,000</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>234,993</td>
<td>488,283</td>
<td>893,815</td>
<td>1,364,603</td>
<td>1,835,876</td>
<td>2,308,857</td>
<td>2,627,352</td>
<td>2,772,258</td>
<td>2,848,978</td>
<td>2,882,635</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Calculated Customers (Number)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Residence</td>
<td>745</td>
<td>1,640</td>
<td>3,035</td>
<td>4,840</td>
<td>6,850</td>
<td>8,690</td>
<td>9,885</td>
<td>10,505</td>
<td>10,845</td>
<td>11,035</td>
</tr>
<tr>
<td>Multi-Family Residence</td>
<td>25</td>
<td>40</td>
<td>70</td>
<td>105</td>
<td>150</td>
<td>235</td>
<td>305</td>
<td>330</td>
<td>345</td>
<td>350</td>
</tr>
<tr>
<td>Commercial – Small</td>
<td>16</td>
<td>40</td>
<td>77</td>
<td>116</td>
<td>157</td>
<td>220</td>
<td>271</td>
<td>292</td>
<td>302</td>
<td>302</td>
</tr>
<tr>
<td>Commercial – Medium</td>
<td>16</td>
<td>37</td>
<td>69</td>
<td>99</td>
<td>120</td>
<td>136</td>
<td>144</td>
<td>147</td>
<td>148</td>
<td>148</td>
</tr>
<tr>
<td>Commercial – Large</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Industrial</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>805</td>
<td>1,761</td>
<td>3,256</td>
<td>5,167</td>
<td>7,286</td>
<td>9,291</td>
<td>10,615</td>
<td>11,284</td>
<td>11,650</td>
<td>11,845</td>
</tr>
</tbody>
</table>

Key:
- mcf – thousand cubic feet

Source: CardnoENTRIX, 2014 (modified showing only IGU Customers)
8.3.3 Prioritization of Construction Areas for Demand

The Six-Year Plan is prioritized by serving the densest service area of downtown North Pole, in combination with the highest known levels of PM 2.5, affecting the air quality and quality of life.

The potential gas storage site (GVEA) also is adjacent to this area, so it provides for a logical starting point. The subsequent phases are mapped out based on similar criteria, serving the highest density areas first and their proximity to the starting point, as well as the ability to expand what would then be an existing distribution line to outlying neighborhoods.

8.3.4 Relationship to Storage and Interties

The RCA required IGU to provide for a 5-day security gas storage back-up as part of granting IGU its CPCN. The permanent storage is not anticipated to be on line until late in the third quarter of 2017. Until then, temporary storage will need to be provided in the range of 25,000 to 30,000 gallons. Since the demands will be low in the first years of operation, it is anticipated that smaller-style tanks or mobile units will be provided.

8.3.5 Cost Assumptions

The distribution system is anticipated to cost $251 million, and storage/regasification is currently estimated at $30 million for permanent and $6 million for temporary facilities for the 2016 and 2017 heating season while the permanent tank is being constructed. This is demonstrated in Table 8-2.

Table 8-2 Final Cost Estimate Summary – Pipeline Layout Network

<table>
<thead>
<tr>
<th>Estimated Cost</th>
<th>Total Cost</th>
<th>Cost per Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pipelines</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>$ 25,969,000</td>
<td>$ 284,000</td>
</tr>
<tr>
<td>2016</td>
<td>$ 37,016,000</td>
<td>$ 326,000</td>
</tr>
<tr>
<td>2017</td>
<td>$ 48,356,000</td>
<td>$ 298,000</td>
</tr>
<tr>
<td>2018</td>
<td>$ 57,933,000</td>
<td>$ 301,000</td>
</tr>
<tr>
<td>2019</td>
<td>$ 49,748,000</td>
<td>$ 263,000</td>
</tr>
<tr>
<td>2020</td>
<td>$ 32,650,000</td>
<td>$ 254,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$ 251,672,000</td>
<td>$ 287,000</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td>$ 30,000,000</td>
<td>NA</td>
</tr>
<tr>
<td>Temporary</td>
<td>$  6,000,000</td>
<td>NA</td>
</tr>
</tbody>
</table>

Key:
NA – not applicable
8.4 Permitting/Right-of Way

Permitting the construction and operation of the gas distribution lines in the IGU service area could take a year if the preparation of a National Environmental Policy Act (NEPA) document is required. Federally-funded, or permitted, projects require completion of a NEPA document. For this project, an Environmental Assessment is likely sufficient, given current understanding of the work to be completed. The design consultant will be asked to prepare the environmental documentation and permits for the project using their in-house environmental resources, or a sub-consultant.

The design consultant team will also be asked to prepare a permitting plan that includes a list of the permits required, the issuing agency, the timeframe for securing the permit, and the associating activities needed to get approvals. An overall permitting schedule will be prepared and updated as the project progresses. A similar ROW plan will be developed by the design consultant using in-house resources, or a ROW sub-consultant. A ROW schedule will be prepared and updated as the ROW work progresses.

The BLM is the federal land owner and will issue permits for construction through Eielson Air Force Base and Fort Wainwright Army Post. Military Base and Post Commanders must approve project construction, and a change of command during permitting could significantly impact the schedule.

The BIA Revocable Use Permit must be obtained prior to conducting field work on Native allotments. This permit, and the ROW across allotments, requires input from the original allottee or all of their heirs if the allottee has passed away. Locating heirs can be time-consuming and these should be considered long lead time permits.

Wetland, raptor, fisheries, and cultural resources studies may be required if information on potential effects on those resources does not exist for the project area. These studies must be conducted during the growing season. If winter construction is proposed, then a winter fisheries study may be required. These usually occur in February or March. Generally, field studies will require land owner permits or permission. Surveys using a drill rig or loader usually take longer to permit than surveys conducted with hand-held equipment.

Permits will be needed for work within the ROW of the ADOT&PF and Alaska Railroad, along with the FNSB, CONP and, to some extent, the COF. Close coordination with the planning and engineering group within each of these entities will be needed. Because several of the corridors along the highways have controlled accesses, additional permit time will be needed to work through these issues with ADOT&PF. The Alaska Railroad has indicated that at least 9 months should be allowed for the submittal of an application before approval will be considered.

ROW activities are estimated to last about 9 months. This duration assumes that the new pipeline will follow existing roads and can be placed within existing utility easements, or within new easements of existing road ROWs. The only new ROW required will be for the regulator stations. The siting of the stations is somewhat flexible and, consequently, they can be located to minimize ROW acquisition efforts. The schedule for this activity could be adversely impacted if
any new ROW requires an eminent domain or condemnation process where ROW is acquired from an unwilling landowner. Condemnation could extend the duration of this effort to 2 years or longer (NEI, 2012).

As the preliminary designs proceed during 2014, preliminary gas distribution line layouts will allow for formal identification of permit and ROW requirements and, at such time, permitting and ROW activities will be initiated. The permitting and ROW activities will be part of the design consultant’s scope of work.

NOTE – it is the goal of IGU to start a field program the summer of 2014.

8.5 Construction Schedule

IGU plans to begin construction of pipelines in 2015 to meet the 6-year build-out timeframe. A previous study (NEI, 2012) recommended an 18-month period for design and permitting, along with an 18-month construction time frame. To meet the 6-year timeframe, construction would have to begin in 2015. This has some risk in having the time to optimize a planned out system, fully develop design standards, and allow time to negotiate ROW agreements or respond to additional requests of information from permitting agencies. Since design work of Phase 1 will not be able to be completed until January 2015, IGU will need to secure funding, bid, and contract for the purchase pipe materials by October 2014 so the pipe material is available for spring construction in 2015. The schedule for other phases of design, ROW, and permitting work will have additional time to be completed; however, contracting for the purchase of pipe materials for each phase of the work should be anticipated in order to ensure the pipe is on hand by the time construction contracts are bid.

The schedule for the six phases is shown on Figure 8-2. With the exception of the first year, gas is expected to be provided to each phase area in the beginning of the fourth quarter of the same year as construction. Conversion in a phase will likely start slowly in the first year of constructing gas lines in an area, and then ramp up after the entire build out is completed, based on indications that residents’ willingness to convert is higher after the first year.
### Figure 8-2 Proposed IGU Project Schedule

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design/ROW/Permitting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Lead Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipeline Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Service Line Constr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design/ROW/Permitting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Lead Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipeline Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Service Line Constr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design/ROW/Permitting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Lead Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipeline Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Service Line Constr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase IV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design/ROW/Permitting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Lead Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipeline Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Service Line Constr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design/ROW/Permitting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Lead Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipeline Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Service Line Constr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase VI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design/ROW/Permitting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Lead Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipeline Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Service Line Constr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design/ROW/Permitting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Lead Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundation Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tank Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* NOTE: Service line installations will occur for 6 years after they begin in each phase of the work.
9.0 OPERATIONS

It is IGU’s intent to contract out the operations of the gas distribution system. The IGU anticipates that a Statement of Qualification will be developed and qualified companies will be requested to submit and respond to a RFP. IGU expects that services provided will include: the operation and maintenance of the system, PHMSA response, the customer service components of responding to requests for new connections, billing, and collections.

IGU currently anticipates maintaining a small staff consisting of a General Manager, Chief Operating Officer, and a Procurement Officer to be hired in 2014.
10.0 CONVERSION

The conversion issues considered in this section review the details and assumptions using known public perspectives, willingness to convert, and historical information from existing and similar programs and projects to determine the best possible conversion plan to attain a goal of converting 75% of the potential customer base to natural gas.

10.1 Conversion Requirements

In order for customers to convert, they require three main things (Agnew::Beck, 2013):

1. Lower Cost of Gas – A lower cost of gas than what they are paying to heat their home now. At current costs of heating fuel and wood, this equates to a cost of gas at the customers meter in the range of $15/mcf for this to be feasible.
2. Return on Investment – Most homeowners expect a 3- to 5-year return on investment.
3. Incentives – Incentives to pay for the up-front costs either in a rebate program or in an on-bill financing (OBF) program will need to be easy to access and apply for, as well as ready to put into place.

In a focus group led by Agnew::Beck Consulting in October 2013, most homeowners responded that they would prefer an OBF option, where the costs were paid for by the utility and added to their billing system for repayment. They indicated a higher rate of conversion after being presented with several different options to aide in the conversion.

10.2 Efficiency

During the Conversion Analysis, six heating and plumbing businesses, five in Fairbanks and one in Homer, were interviewed to better understand the efficiency of natural gas conversions (CE, 2014a). Efficiencies of converting to natural gas boilers, water heaters, and burners are based on the types of heating systems each home has. Based on these responses, data collected showed 80% of homes in Fairbanks heat with baseboard systems and 10% with forced air units. Some small businesses do convert burners, but it is generally agreed that the efficiency of the system does not justify the costs, and replacing the system is a better use of time and money. Generally, the higher the cost of a natural gas boiler the better the quality of the unit – providing a higher rate of efficiency (CE, 2014a).

10.3 Cost Analysis of Conversions

The Conversion Analysis shows that capital costs for conversions can cost on average $2,300 to $10,700 and depends on conversion needs – including the efficiency and quality of each model (CE, 2014a). Other than totally replacing the heating unit, options include converting the burner ($1,000 to $4,000) or installing a space heating unit ($2,000 to $3,500). Costs include the cost of heating systems, piping and valves, and labor for full installation. The costs do not include boiler installation permit fees of $120 for COF and $50 for CONP residents. There is no fee for installation within the FNSB (CE, 2014a).
The Economic Impact Analysis, based on the Conversion Analysis, assumes heating system installation costs will flow to local heating and plumbing contractors, at an average $4,300 per household (CE, 2014b).

IGU plans to include the cost of the distribution lines within 100 feet of a property in the project costs. A decision regarding the IGU charge for a meter is still to be determined and is expected within 3 months. In Homer, the utility charged $1,290 for the first 100 feet and $2 per foot of additional line needed to be installed. Meters for the homes cost approximately $200 (CE, 2014a).

There are several options to convert based on a homeowner’s current heating system. Factors include (CE, 2014a):

- Existing Heating Systems
- Heating System Specifics
- Conversion Options
- Heating System Installation Process

### 10.4 Consumer Participation

Studies conclude that barriers exist for customers converting to natural gas, and the ability to pay for the upgrades is considered the number one biggest obstacle to overcome. To address the issue of financial assistance is to understand how a program can be successful by offering solutions to income restrictions, consumer mobility, and perception of a complicated process.

Currently, the state, through the AHFC energy programs, offers residents incentives to improve their home heating systems and energy efficiency; however, no conversion-specific programs exist. While AHFC programs have been successful throughout the state, paying for upfront costs for reimbursement and long waiting periods to participate may deter applicable residents. While the weatherization program addresses the income restrictions by providing a program for low-income residents, long waiting periods can be a deterrent, especially in this situation where the conversion timeline is limited. Historically, the program mandates a 2-year waiting period before a homeowner can participate in the program, which could also be problematic for the IGU customer base. While the AHFC programs can be used for this project, they should be used in tandem with a program specifically designed for IGU customers.

One solution found to be favorable among focus group participants is the ease and accessibility of an OBF program. The OBF allows for someone other than the customer (usually the utility) to pay for the upfront energy conversion costs, adding them to the consumer’s monthly bill. This only works if the conversion costs plus the cost of the service is lower than the current customer’s monthly energy bill. There are two primary ways to administer an OBF program: as a loan to the customer that will need to be repaid when the customer moves, or a tariff on the property meter in which the loan would stay with the home (CE, 2014a).

There is a concern for IGU’s ability to take on such debt in the first 2 years of operation; financial implications and concepts are still being reviewed.
11.0 FINANCIAL ANALYSIS

The financial analysis includes a year-by-year consideration of rates, revenues, cost of gas, operating expenses, capital funding requirements, debt service, cash flow, and other financial elements of the IGU proposed build-out. Distribution system costs for 4,630,854 linear feet (877 miles) of pipeline (including service lines), based on the build out plan of:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Cost</td>
<td>$178,442,000</td>
</tr>
<tr>
<td>Materials</td>
<td>$60,557,000</td>
</tr>
<tr>
<td>Engineering</td>
<td>$12,146,000</td>
</tr>
<tr>
<td>Permitting</td>
<td>$527,000</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td><strong>$251,672,000</strong></td>
</tr>
</tbody>
</table>

LNG storage costs are based upon the *LNG Storage Tank Cost Analysis* (MBJ, 2013), and the cost estimate provided to AIDEA by FNG in their loan application for a 5 million gallon (MG) storage tank.

North Slope supply and trucking costs to Fairbanks are based upon figures given to IGU by AIDEA, currently shown as $11.89/mcf. The basis provided is $3.30 for the supply, $3.00 for liquefaction, and $5.59 for trucking (all per mcf). The trucking cost is based upon the *LNG Transportation Analysis* by HDR dated February 2014.

The key element here is that the cost of gas to IGU represents about 70% of overall costs; IGU does not control the primary cost component to make economics work at $15/mcf. This is essentially a flow-through of actual costs.

The financial model includes tools to examine financing options (grants, low-interest loans, etc.) and to test the sensitivity of alternative repayment terms and conditions. Meeting the goal of a $15/mcf rate is a key success factor.

11.1 Current Sources and Use of Funding

Currently, IGU has established multiple sources of funding, as discussed below.

11.1.1 FEDC Funding

FEDC made a $9,500 donation to IGU in July 2014. This was funding from private business owners that FEDC provided to IGU for initial startup operations and allow for flexibility as to use of these funds.
11.1.2 FNSB Firm Fixed Price Contract

This is a firm fixed price contract with the FNSB for $2,142,700. This contract is in the form of an original contract with the FNSB in the amount of $319,000 and associated amendments totaling $1,823,700.

This contract is funded by a $3 million grant from the state of Alaska to the FNSB. IGU has the ability to add task to this contract with the FNSB up to that $3M total. As of April 18, 2014, IGU has used $1,331,710 of this source of funding for work on the:

- CPCN application and hearing.
- NEI work on financing and demand.
- FEDC support through January 1, 2014.
- MWH support from January 18, 2014.

11.1.3 FNSB Letter of Credit

This is a $7.5M letter of credit from FNSB. This financing will serve to provide contingency funding in concert with AIDEA funding. It will also cover unanticipated increases in item costs to maintain cash flow. The terms and conditions are outlined in FNSB Ordinance 2014-18, as follows:

- Interest – Interest will accrue on the unpaid principal amounts from the date of each withdrawal was actually paid to IGU, using a 365-day year and the actual number of 126 days outstanding. The interest rate will be the federal funds rate on the date of the withdrawal, adjusted annually on January 1 to the annual rate for the preceding year.
- Repayment – Each withdrawal amount, along with its accrued interest, will be repaid within three (3) years following the date the withdrawal was actually paid to IGU. Payments will be applied first to accrued unpaid interest, if any, and then to principal. The specifics of the repayment schedule will be determined by the Chief Financial Officer of FNSB and approved by the Mayor. However, payment of unpaid balances may be accelerated without penalty.

As of April 1, 2014, no draws against this line of credit have been made.

11.1.4 AIDEA Development Loan

This is an $8.1 million development loan from AIDEA. This loan has been authorized by the AIDEA Board as authorized financing under SETS financing under SB 23. As of May 1, 2014, a loan agreement has yet to be executed.

This loan is to be used to fund IGU’s initial work needed to develop IGU’s distribution system and affiliated infrastructure. To date, there have been no requests for reimbursable costs to AIDEA. The general terms and conditions in the term sheet presented to the AIDEA Board on
April 3, 2014, are that financing will be a 20-month fixed line of credit at 0% interest that will convert into a long term note on December 30, 2015, in conjunction with the financing of IGU’s 2015 build out. The final terms of the note will be negotiated based on the parameters of SB 23. If the negotiations do not reach agreement, the note will be paid back over 40 years at 3% interest, commencing on January 1, 2018.

11.2 Potential Sources of Future Funding

IGU has three sources of future funding for this project: funding through authorizations contained in SB 23 through AIDEA, Revenue Bonds through IGU, and General Obligation Bonds through the FNSB. A mix of SB 23 funding sources and Revenue Bonds are the most likely sources, with SB 23 sources being used as initial funding sources followed by Revenue Bond sales.

11.2.1 SB 23 through AIDEA

SB 23 contained three funding mechanisms for the IEP that are available to IGU through AIDEA:

- Capital Funding – The legislature authorized $57.5 million in capital funding for the entire IEP project. To date, AIDEA has not allocated any of the capital funding to the gas distribution system. The appropriation left the use of the capital flexible between the supply chain of gas (gas plant, trucking, and storage) and gas distribution. Currently, AIDEA has focused on financing the gas plant first.

- SETS Funding – SB23 authorized $125 million in low cost loan funding to the project, with the terms and conditions of SETS funding to be determined by AIDEA. AIDEA has released $8.1 million to IGU and $15 million to FNG for the initial distribution loans. At this time, it is unclear how much of the remaining funding will be made available to distribution – or how that will be allocated between IGU and FNG. This source of funding is the most attractive source to IGU, given the fact that AIDEA can set terms and conditions that are below market rates.

- Bond Authority – SB23 authorized $150 million in market rate bonds to be sold to finance the IEP project. Currently, it is anticipated that this financing will be at, or above, 5% over 30 to 40 years, and will reflect market rates at the time of the sale.

11.2.2 Revenue Bonds

Revenue Bonds can be sold by IGU to meet distribution capital expenses. These bonds are municipal bonds and will be secured by IGU’s revenue source. It is anticipated that this source of funds will be the used once the SB 23 funds are exhausted and will be at market rate at the time of the sale.
11.2.3 General Obligation Bonds

General Obligation Bonds can be authorized by the FNSB voters specific to the capital needs of IGU, and would be secured by FNSB’s pledge to repay the bond holders. It is anticipated that General Obligation Bonds will not be used as a funding source for this project.

11.3 Financial Modeling

Best available information was used to create a financial model of IGU’s operational and capital costs over the next 30 years to analyze various financial conditions based on the sources of capital funds and associated terms and conditions. Multiple scenarios were developed, which ranged from maximizing the use of SB 23 SETS funding, to meet the IEP and IGU goal of $15/mcf at the customers meter to only using IGU’s revenue bonding capacity. Based upon this analysis, the project can meet IGU’s goals.
12.0 PATH FORWARD

In conclusion, the Six-Year Plan has evaluated and calculated the known risks, costs, and communications needed to complete an aggressive and complex natural gas project. As the project develops, the path to success will become clearer, especially in terms of financing, permitting, and public natural gas conversion. As such, these components are based on information that is available and has been obtained to date, some of which will change as the project moves forward. Due diligence, with respect to financial analyses, have been reviewed in depth, and continue to be adjusted based on the scope of work and funding allowances.

A challenge early in the project will be the timeframe to prepare plans, negotiate ROWs and permits, purchase pipe, and contract for the construction of the Phase 1 (2015) work. Phases 2 through 6 will have the benefit of time, but the accelerated schedule for Phase 1 will need to be carefully developed and managed, as it will affect the municipal governments, regulatory agencies, contractors, homeowners, and others – as well as set the stage for furthering the project.

Supply and trucking make up over 70% of the cost, storage and distribution make up the remainder. For the project to be successful in delivering gas near $15/mcf, it is imperative to secure AIDEA funds with terms and conditions that will allow this to occur.

The financial sensitivity analysis shows that the project is feasible given current cost estimates and using the flexible funding alternatives available to AIDEA under SB 23.

Vision of IGU in 5 Years

In 5 years, IGU will have in place an operator and a dedicated staff, including organizational leadership comprised of a full-time General Manager, Chief Financial Officer, and Procurement Officer.

The gas distribution build-out will be entering into the fifth phase of the project, and programs to aide in conversions and educational material will have been refined in previous years to appropriately recognize and answer each community’s needs.

The cost of gas and the critical need to evaluate various factors impacting the cost will have been addressed, and IGU will be repaying their debts to the state and bond holders while generating revenue for the organization.
13.0 REFERENCES


APPENDIX A

IGU Project Phases 1 through 6
Preliminary Gasline Layout IGU

- 8 inch Transmission Line
- 6 inch Distribution Lines
- 10 inch Transmission Lines
- IGU Proposed Gaslines

Proposed pipeline locations are approximate only, not intended as a substitute for official utility locates.

Effective Date: Feb. 24th, 2014
Preliminary Gasline Layout IGU

- 8 inch Transmission Line
- 6 inch Distribution Lines
- 10 inch Transmission Lines
- IGU Proposed Gaslines

Proposed pipeline locations are approximate only, not intended as a substitute for official utility locates.

Effective Date: Feb. 24th, 2014
Preliminary Gasline Layout IGU

8 inch Transmission Line  6 inch Distribution Lines
10 inch Transmission Lines  IGU Proposed Gaslines

Phase 5
Phase 6

Proposed pipeline locations are approximate only, not intended as a substitute for official utility locates.

Effective Date: Feb. 24th, 2014
APPENDIX B

IGU Project Class 4 (+50%/-30%) Cost Estimate
# FINAL COST ESTIMATE SUMMARY: PIPELINE LAYOUT NETWORK

## HIGH DEMAND AREA

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission Lines</td>
<td>121,449</td>
<td>23</td>
<td>12,115,000</td>
<td>7,355,000</td>
<td>973,000</td>
<td>68,000</td>
<td>20,511,000</td>
<td>$ 169</td>
<td>$ 892,000</td>
</tr>
<tr>
<td>Transmission lines 2015</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Transmission lines 2016</td>
<td>56,300</td>
<td>11</td>
<td>$ 5,327,000</td>
<td>$ 3,471,000</td>
<td>$ 440,000</td>
<td>$ 31,000</td>
<td>$ 9,269,000</td>
<td>$ 165</td>
<td>$ 869,000</td>
</tr>
<tr>
<td>Transmission lines 2017</td>
<td>32,649</td>
<td>6</td>
<td>$ 3,351,000</td>
<td>$ 1,875,000</td>
<td>$ 261,000</td>
<td>$ 18,000</td>
<td>$ 5,505,000</td>
<td>$ 169</td>
<td>$ 890,000</td>
</tr>
<tr>
<td>Transmission lines 2018</td>
<td>32,509</td>
<td>6</td>
<td>$ 3,431,000</td>
<td>$ 2,099,000</td>
<td>$ 272,000</td>
<td>$ 19,000</td>
<td>$ 5,737,000</td>
<td>$ 177</td>
<td>$ 932,000</td>
</tr>
<tr>
<td>Transmission lines 2019</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Transmission lines 2020</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Distribution feeder lines 2015</td>
<td>137,000</td>
<td>26</td>
<td>$ 8,450,000</td>
<td>$ 1,918,000</td>
<td>$ 519,000</td>
<td>$ 26,000</td>
<td>$ 10,913,000</td>
<td>$ 80</td>
<td>$ 421,000</td>
</tr>
<tr>
<td>Distribution feeder lines 2016</td>
<td>57,000</td>
<td>11</td>
<td>$ 4,050,000</td>
<td>$ 805,000</td>
<td>$ 243,000</td>
<td>$ 12,000</td>
<td>$ 5,108,000</td>
<td>$ 90</td>
<td>$ 473,000</td>
</tr>
<tr>
<td>Distribution feeder lines 2017</td>
<td>80,000</td>
<td>15</td>
<td>$ 4,400,000</td>
<td>$ 1,115,000</td>
<td>$ 276,000</td>
<td>$ 14,000</td>
<td>$ 5,805,000</td>
<td>$ 73</td>
<td>$ 383,000</td>
</tr>
<tr>
<td>Distribution feeder lines 2018</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Distribution feeder lines 2019</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Distribution feeder lines 2020</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Service lines</td>
<td>303,075</td>
<td>57</td>
<td>$ 7,578,000</td>
<td>$ 4,099,000</td>
<td>$ 580,000</td>
<td>$ 25,000</td>
<td>$ 12,196,000</td>
<td>$ 40</td>
<td>$ 212,000</td>
</tr>
<tr>
<td>Service Lines 2015</td>
<td>84,675</td>
<td>16</td>
<td>$ 2,117,000</td>
<td>$ 1,118,000</td>
<td>$ 162,000</td>
<td>$ 8,000</td>
<td>$ 3,405,000</td>
<td>$ 40</td>
<td>$ 212,000</td>
</tr>
<tr>
<td>Service Lines 2016</td>
<td>85,550</td>
<td>17</td>
<td>$ 2,325,000</td>
<td>$ 1,192,000</td>
<td>$ 172,000</td>
<td>$ 9,000</td>
<td>$ 3,612,000</td>
<td>$ 40</td>
<td>$ 213,000</td>
</tr>
<tr>
<td>Service Lines 2017</td>
<td>112,860</td>
<td>24</td>
<td>$ 3,222,000</td>
<td>$ 1,689,000</td>
<td>$ 246,000</td>
<td>$ 12,000</td>
<td>$ 5,179,000</td>
<td>$ 40</td>
<td>$ 213,000</td>
</tr>
<tr>
<td>Service Lines 2018</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Service Lines 2019</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Service Lines 2020</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pig Launcher and Receiver</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pig Launcher and Receiver 2015</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pig Launcher and Receiver 2016</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pig Launcher and Receiver 2017</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pig Launcher and Receiver 2018</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pig Launcher and Receiver 2019</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pig Launcher and Receiver 2020</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Unknown Costs (30%) 2015</td>
<td>-</td>
<td>-</td>
<td>19,032,000</td>
<td>7,089,000</td>
<td>1,351,000</td>
<td>71,000</td>
<td>27,532,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Unknown Costs (30%) 2016</td>
<td>-</td>
<td>-</td>
<td>4,406,000</td>
<td>1,288,000</td>
<td>285,000</td>
<td>14,000</td>
<td>5,993,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Unknown Costs (30%) 2017</td>
<td>-</td>
<td>-</td>
<td>5,675,000</td>
<td>2,417,000</td>
<td>427,000</td>
<td>23,000</td>
<td>8,542,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Unknown Costs (30%) 2018</td>
<td>-</td>
<td>-</td>
<td>7,930,000</td>
<td>2,691,000</td>
<td>530,000</td>
<td>26,000</td>
<td>11,159,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Unknown Costs (30%) 2019</td>
<td>-</td>
<td>-</td>
<td>1,031,000</td>
<td>693,000</td>
<td>109,000</td>
<td>6,000</td>
<td>1,838,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Unknown Costs (30%) 2020</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1,672,084</td>
<td>374</td>
<td>82,429,000</td>
<td>30,717,000</td>
<td>5,854,000</td>
<td>308,000</td>
<td>119,307,000</td>
<td>$ 60</td>
<td>$ 319,000</td>
</tr>
<tr>
<td>Subtotal 2015</td>
<td>482,385</td>
<td>91</td>
<td>$ 19,091,000</td>
<td>$ 5,982,000</td>
<td>$ 1,235,000</td>
<td>$ 61,000</td>
<td>$ 25,869,000</td>
<td>$ 54</td>
<td>$ 284,000</td>
</tr>
<tr>
<td>Subtotal 2016</td>
<td>599,930</td>
<td>114</td>
<td>$ 24,559,000</td>
<td>$ 10,472,000</td>
<td>$ 1,851,000</td>
<td>$ 100,000</td>
<td>$ 37,016,000</td>
<td>$ 62</td>
<td>$ 326,000</td>
</tr>
<tr>
<td>Subtotal 2017</td>
<td>857,259</td>
<td>162</td>
<td>$ 34,277,000</td>
<td>$ 11,661,000</td>
<td>$ 2,297,000</td>
<td>$ 121,000</td>
<td>$ 48,536,000</td>
<td>$ 56</td>
<td>$ 298,000</td>
</tr>
<tr>
<td>Subtotal 2018</td>
<td>32,509</td>
<td>6</td>
<td>$ 4,468,000</td>
<td>$ 3,902,000</td>
<td>$ 471,000</td>
<td>$ 26,000</td>
<td>$ 7,956,000</td>
<td>$ 245</td>
<td>$ 1,294,000</td>
</tr>
<tr>
<td>Subtotal 2019</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Subtotal 2020</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**SUBTOTAL COST RANGE (30% to +50%):** $83,500,000 to $179,000,000
## MEDIUM DEMAND AREA

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission Lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission lines 2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission lines 2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission lines 2017</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission lines 2018</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission lines 2019</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission lines 2020</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution feeder lines 2015</td>
<td>263,360</td>
<td>50</td>
<td>13,969,000</td>
<td>3,692,000</td>
<td>889,000</td>
<td>31,000</td>
<td>18,575,000</td>
<td>$71</td>
<td>$372,000</td>
</tr>
<tr>
<td>Distribution feeder lines 2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution feeder lines 2017</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution feeder lines 2018</td>
<td>120,470</td>
<td>23</td>
<td>6,424,000</td>
<td>1,679,000</td>
<td>405,000</td>
<td>14,000</td>
<td>8,522,000</td>
<td>$71</td>
<td>$374,000</td>
</tr>
<tr>
<td>Distribution feeder lines 2019</td>
<td>97,890</td>
<td>19</td>
<td>5,295,000</td>
<td>1,973,000</td>
<td>339,000</td>
<td>12,000</td>
<td>7,013,000</td>
<td>$72</td>
<td>$378,000</td>
</tr>
<tr>
<td>Distribution feeder lines 2020</td>
<td>45,090</td>
<td>9</td>
<td>2,250,000</td>
<td>680,000</td>
<td>145,000</td>
<td>5,000</td>
<td>3,040,000</td>
<td>$68</td>
<td>$357,000</td>
</tr>
<tr>
<td>Distribution Lines</td>
<td>1,795,010</td>
<td>340</td>
<td>44,898,000</td>
<td>12,486,000</td>
<td>2,869,000</td>
<td>100,000</td>
<td>60,351,000</td>
<td>$34</td>
<td>$177,000</td>
</tr>
<tr>
<td>Service Lines</td>
<td>599,500</td>
<td>114</td>
<td>14,989,000</td>
<td>6,778,000</td>
<td>1,089,000</td>
<td>38,000</td>
<td>22,893,000</td>
<td>$38</td>
<td>$202,000</td>
</tr>
</tbody>
</table>

| Intake and Distribution Lines|            |                |                   |           |             |            |            |           |           |

| Pig Launcher and Receiver 2015|            |                |                   |           |             |            |            |           |           |
| Pig Launcher and Receiver 2016|            |                |                   |           |             |            |            |           |           |
| Pig Launcher and Receiver 2017|            |                |                   |           |             |            |            |           |           |
| Pig Launcher and Receiver 2018|            |                |                   |           |             |            |            |           |           |
| Pig Launcher and Receiver 2019|            |                |                   |           |             |            |            |           |           |
| Pig Launcher and Receiver 2020|            |                |                   |           |             |            |            |           |           |
| Unknown Costs (90%)           |            |                |                   |           |             |            |            |           |           |
| Unknown Costs (90%) 2015      |            |                |                   |           |             |            |            |           |           |
| Unknown Costs (90%) 2016      |            |                |                   |           |             |            |            |           |           |
| Unknown Costs (90%) 2017      |            |                |                   |           |             |            |            |           |           |
| Unknown Costs (90%) 2018      |            |                |                   |           |             |            |            |           |           |
| Unknown Costs (90%) 2019      |            |                |                   |           |             |            |            |           |           |
| Unknown Costs (90%) 2020      |            |                |                   |           |             |            |            |           |           |
| Subtotal                      | 2,658,770  | 504            | 96,013,000        | 25,840,000| 6,292,000   | 219,000    | 132,365,000| $50       | $263,000  |

**TOTAL COST RANGE (-30% to +50%):**

$91,700,000 to $198,500,000

**COMBINED HIGH AND MEDIUM DEMAND AREAS**

**Total Cost:**

$176,200,000 to $377,500,000

**TOTAL COST RANGE (-30% to +50%):**

$287,000,000 to $574,500,000
## HIGH POPULATION DENSITY AREA

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia [in]</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. TRANSMISSION LINES:</strong> Provides natural gas to distribution feeder lines and industrial users</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation Fairbanks to Eielson ANSI 600</td>
<td>10</td>
<td>-</td>
<td>LF</td>
<td>$90</td>
<td>$90</td>
<td></td>
</tr>
<tr>
<td>Installation Fairbanks towards Fox ANSI 300</td>
<td>8</td>
<td>-</td>
<td>LF</td>
<td>$90</td>
<td>$90</td>
<td></td>
</tr>
<tr>
<td>Cathodic Protection</td>
<td></td>
<td>miles</td>
<td>-</td>
<td>$15,000</td>
<td>$15,000</td>
<td></td>
</tr>
<tr>
<td>HDD Chena river</td>
<td>varies</td>
<td>LF</td>
<td>-</td>
<td>$400</td>
<td>$400</td>
<td></td>
</tr>
<tr>
<td>Gate Station ANSI 600</td>
<td>10</td>
<td>-</td>
<td>EA</td>
<td>$1,250,000</td>
<td>$1,250,000</td>
<td></td>
</tr>
<tr>
<td>Piping connection ANSI 600</td>
<td>10</td>
<td>-</td>
<td>EA</td>
<td>$50,000</td>
<td>$50,000</td>
<td></td>
</tr>
<tr>
<td>Piping connection ANSI 300</td>
<td>8</td>
<td>-</td>
<td>EA</td>
<td>$50,000</td>
<td>$50,000</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$</td>
<td></td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials - Steel pipe, FBE coated ANSI 600</td>
<td>10</td>
<td>-</td>
<td>LF</td>
<td>$53</td>
<td>$53</td>
<td></td>
</tr>
<tr>
<td>Materials - Steel pipe, FBE coated ANSI 300</td>
<td>8</td>
<td>-</td>
<td>LF</td>
<td>$44</td>
<td>$44</td>
<td></td>
</tr>
<tr>
<td>Materials - Valves ANSI 600</td>
<td>10</td>
<td>-</td>
<td>EA</td>
<td>$34,000</td>
<td>$34,000</td>
<td></td>
</tr>
<tr>
<td>Materials - Valves ANSI 300</td>
<td>8</td>
<td>-</td>
<td>EA</td>
<td>$20,000</td>
<td>$20,000</td>
<td></td>
</tr>
<tr>
<td>Materials - Design allowance</td>
<td>varies</td>
<td>10 &amp; 8</td>
<td>5%</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials - Misc. Freight</td>
<td></td>
<td></td>
<td>2%</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials - Procurement</td>
<td></td>
<td></td>
<td>4%</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials - SCS</td>
<td></td>
<td></td>
<td>2%</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$</td>
<td></td>
</tr>
<tr>
<td><strong>Launcher/Receiver</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pig Barrels-mobile ANSI 600</td>
<td>12</td>
<td>-</td>
<td>EA</td>
<td>$300,000</td>
<td>$300,000</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal- Transmission Lines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$</td>
<td></td>
</tr>
<tr>
<td><strong>2. DISTRIBUTION FEEDER LINES:</strong> Provides natural gas to local distribution lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation 60psig</td>
<td>6</td>
<td>57,000</td>
<td>LF</td>
<td>$50</td>
<td>$2,850,000</td>
<td></td>
</tr>
<tr>
<td>HDD Chena river 60psig</td>
<td>6</td>
<td>0</td>
<td>LF</td>
<td>$300</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Regulator stations 60psig</td>
<td>6</td>
<td>3</td>
<td>EA</td>
<td>$400,000</td>
<td>$1,200,000</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$4,050,000</td>
<td></td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials - Plastic 60psig</td>
<td>6</td>
<td>57,000</td>
<td>LF</td>
<td>$12</td>
<td>$684,000</td>
<td></td>
</tr>
<tr>
<td>Materials - Valves 60psig</td>
<td>6</td>
<td>2</td>
<td>EA</td>
<td>$13,300</td>
<td>$27,600</td>
<td></td>
</tr>
<tr>
<td>Materials - Design allowance</td>
<td>varies</td>
<td></td>
<td>5%</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials - Misc. Freight</td>
<td>varies</td>
<td></td>
<td>2%</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials - Procurement</td>
<td></td>
<td></td>
<td>4%</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials - SCS</td>
<td></td>
<td></td>
<td>2%</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$809,000</td>
<td></td>
</tr>
<tr>
<td><strong>3. DISTRIBUTION LINES:</strong> Provides natural gas to service lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential lines 60 psig</td>
<td>2</td>
<td>340,720</td>
<td>LF</td>
<td>$25</td>
<td>$8,518,000</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$8,518,000</td>
<td></td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials - Pipe HDPE 60 psig</td>
<td>2</td>
<td>340,720</td>
<td>LF</td>
<td>$6</td>
<td>$2,044,000</td>
<td></td>
</tr>
<tr>
<td>Materials - Valves 60 psig</td>
<td>2</td>
<td>9</td>
<td>EA</td>
<td>$6,200</td>
<td>$56,000</td>
<td></td>
</tr>
<tr>
<td>Materials - Design allowance</td>
<td>varies</td>
<td></td>
<td>5%</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials - Misc. Freight</td>
<td>varies</td>
<td></td>
<td>2%</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials - Procurement</td>
<td></td>
<td></td>
<td>4%</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials - SCS</td>
<td></td>
<td></td>
<td>2%</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,373,000</td>
<td></td>
</tr>
<tr>
<td><strong>4. SERVICE LINES:</strong> Provides natural gas to individual users</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential lines- high density 60 psig</td>
<td>0.625</td>
<td>1,101</td>
<td>LF</td>
<td>$25</td>
<td>$2,064,000</td>
<td></td>
</tr>
<tr>
<td>Commercial lines- high density 60 psig</td>
<td>1</td>
<td>28</td>
<td>2,100</td>
<td>$25</td>
<td>$53,000</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,117,000</td>
<td></td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials - Pipe HDPE 60 psig</td>
<td>0.625</td>
<td>1,071</td>
<td>82,575</td>
<td>LF</td>
<td>$5</td>
<td>$413,000</td>
</tr>
<tr>
<td>Materials - Pipe HDPE 60 psig</td>
<td>1</td>
<td>57</td>
<td>2,100</td>
<td>LF</td>
<td>$5</td>
<td>$11,000</td>
</tr>
<tr>
<td>Materials - Excess Flow Valves 60 psig</td>
<td>0.625</td>
<td>1,071</td>
<td>EA</td>
<td>$500</td>
<td>$536,000</td>
<td></td>
</tr>
<tr>
<td>Materials - Excess Flow Valves 60 psig</td>
<td>1</td>
<td>57</td>
<td>LF</td>
<td>$500</td>
<td>$29,000</td>
<td></td>
</tr>
<tr>
<td>Materials - Design allowance</td>
<td></td>
<td></td>
<td>5%</td>
<td>LF</td>
<td>$49,450</td>
<td>$49,450</td>
</tr>
<tr>
<td>Materials - Misc. Freight</td>
<td></td>
<td></td>
<td>2%</td>
<td>LF</td>
<td>$19,780</td>
<td>$20,000</td>
</tr>
<tr>
<td>Materials - Procurement</td>
<td></td>
<td></td>
<td>4%</td>
<td>LF</td>
<td>$39,560</td>
<td>$40,000</td>
</tr>
<tr>
<td>Materials - SCS</td>
<td></td>
<td></td>
<td>2%</td>
<td>LF</td>
<td>$19,780</td>
<td>$20,000</td>
</tr>
<tr>
<td><strong>Subtotal-materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,118,000</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-Service Lines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,235,000</td>
<td></td>
</tr>
</tbody>
</table>
### HIGH POPULATION DENSITY AREA

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia [in]</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. TRANSMISSION LINES:</strong> Provides natural gas to distribution feeder lines and industrial users</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation Fairbanks to Eielson</td>
<td>ANSI 600</td>
<td>10</td>
<td>56,300</td>
<td>LF</td>
<td>$90</td>
<td>$5,067,000</td>
</tr>
<tr>
<td>Installation Fairbanks towards Fox</td>
<td>ANSI 300</td>
<td>8</td>
<td>-</td>
<td>LF</td>
<td>$90</td>
<td>-</td>
</tr>
<tr>
<td>Cathodic Protection</td>
<td>varies</td>
<td>varies</td>
<td>-</td>
<td>LF</td>
<td>$400</td>
<td>-</td>
</tr>
<tr>
<td>HDD Chena river</td>
<td>varies</td>
<td>varies</td>
<td>-</td>
<td>LF</td>
<td>$15,000</td>
<td>$160,000</td>
</tr>
<tr>
<td>Gate Station</td>
<td>ANSI 600</td>
<td>10</td>
<td>-</td>
<td>EA</td>
<td>$1,250,000</td>
<td>-</td>
</tr>
<tr>
<td>Pigging connection</td>
<td>ANSI 600</td>
<td>10</td>
<td>1</td>
<td>EA</td>
<td>$50,000</td>
<td>$50,000</td>
</tr>
<tr>
<td>Subtotal-construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,527,000</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Steel pipe, FBE coated</td>
<td>ANSI 600</td>
<td>10</td>
<td>56,300</td>
<td>LF</td>
<td>$53</td>
<td>$2,984,000</td>
</tr>
<tr>
<td>Materials-Steel pipe, FBE coated</td>
<td>ANSI 300</td>
<td>8</td>
<td>-</td>
<td>LF</td>
<td>$44</td>
<td>-</td>
</tr>
<tr>
<td>Materials-Valves</td>
<td>ANSI 600</td>
<td>10</td>
<td>2</td>
<td>EA</td>
<td>$34,000</td>
<td>$68,000</td>
</tr>
<tr>
<td>Materials-Valves</td>
<td>ANSI 300</td>
<td>8</td>
<td>1</td>
<td>EA</td>
<td>$20,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Materials-Design allowance</td>
<td>varies</td>
<td>varies</td>
<td>10 &amp; 8</td>
<td>EA</td>
<td>$153,600</td>
<td>$154,000</td>
</tr>
<tr>
<td>Materials-Misc. Freight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$61,440</td>
<td>$61,440</td>
</tr>
<tr>
<td>Materials-Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$122,880</td>
<td>$123,000</td>
</tr>
<tr>
<td>Materials-SQS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$61,440</td>
<td>$61,440</td>
</tr>
<tr>
<td>Subtotal-materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,471,000</td>
<td></td>
</tr>
<tr>
<td>Launcher/Receiver</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pig Barrels- mobile</td>
<td>ANSI 600</td>
<td>12</td>
<td>1</td>
<td>EA</td>
<td>$300,000</td>
<td>$300,000</td>
</tr>
<tr>
<td>Subtotal- Transmission Lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$9,098,000</td>
<td></td>
</tr>
<tr>
<td><strong>2. DISTRIBUTION FEEDER LINES:</strong> Provides natural gas to local distribution lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation</td>
<td>60psig</td>
<td>6</td>
<td>-</td>
<td>LF</td>
<td>$50</td>
<td>-</td>
</tr>
<tr>
<td>HDD Chena river</td>
<td>60psig</td>
<td>6</td>
<td>0</td>
<td>LF</td>
<td>$300</td>
<td>-</td>
</tr>
<tr>
<td>Regulator stations</td>
<td>60psig</td>
<td>6</td>
<td>-</td>
<td>EA</td>
<td>$400,000</td>
<td>-</td>
</tr>
<tr>
<td>Subtotal-construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Plastic</td>
<td>60psig</td>
<td>6</td>
<td>-</td>
<td>LF</td>
<td>$12</td>
<td>-</td>
</tr>
<tr>
<td>Materials-Valves</td>
<td>60psig</td>
<td>6</td>
<td>-</td>
<td>EA</td>
<td>$33,300</td>
<td>-</td>
</tr>
<tr>
<td>Materials-Design allowance</td>
<td>varies</td>
<td>varies</td>
<td>5%</td>
<td>EA</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Materials-Misc. Freight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$136,800</td>
<td>$137,000</td>
</tr>
<tr>
<td>Materials-Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$54,720</td>
<td>$55,000</td>
</tr>
<tr>
<td>Materials-SQS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$109,440</td>
<td>$109,000</td>
</tr>
<tr>
<td>Subtotal-materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$54,720</td>
<td>$55,000</td>
</tr>
<tr>
<td>Subtotal-Distribution Feeder Lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,092,000</td>
<td></td>
</tr>
<tr>
<td><strong>3. DISTRIBUTION LINES:</strong> Provides natural gas to service lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential lines</td>
<td>60 psig</td>
<td>2</td>
<td>454,080</td>
<td>LF</td>
<td>$25</td>
<td>$11,352,000</td>
</tr>
<tr>
<td>Subtotal-construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$11,352,000</td>
<td></td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Pipe HDPE</td>
<td>60 psig</td>
<td>2</td>
<td>454,080</td>
<td>LF</td>
<td>$6</td>
<td>$2,724,000</td>
</tr>
<tr>
<td>Materials-Valves</td>
<td>60 psig</td>
<td>2</td>
<td>2</td>
<td>EA</td>
<td>$6,200</td>
<td>$12,000</td>
</tr>
<tr>
<td>Materials-Design allowance</td>
<td>varies</td>
<td>varies</td>
<td>5%</td>
<td>EA</td>
<td>$136,800</td>
<td>$137,000</td>
</tr>
<tr>
<td>Materials-Misc. Freight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$54,720</td>
<td>$55,000</td>
</tr>
<tr>
<td>Materials-Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$109,440</td>
<td>$109,000</td>
</tr>
<tr>
<td>Materials-SQS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$54,720</td>
<td>$55,000</td>
</tr>
<tr>
<td>Subtotal-materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,092,000</td>
<td></td>
</tr>
<tr>
<td>Subtotal-Distribution Lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$14,448,000</td>
<td></td>
</tr>
<tr>
<td><strong>4. SERVICE LINES:</strong> Provides natural gas to individual users</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential lines- high density</td>
<td>60 psig</td>
<td>0.625</td>
<td>1,162</td>
<td>87,150</td>
<td>LF</td>
<td>$25</td>
</tr>
<tr>
<td>Commercial lines- high density</td>
<td>60 psig</td>
<td>1</td>
<td>32</td>
<td>2,400</td>
<td>LF</td>
<td>$25</td>
</tr>
<tr>
<td>Subtotal-construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,230,000</td>
<td></td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Pipe HDPE</td>
<td>60 psig</td>
<td>0.625</td>
<td>1,140</td>
<td>87,150</td>
<td>LF</td>
<td>$5</td>
</tr>
<tr>
<td>Materials-Valves</td>
<td>60 psig</td>
<td>1</td>
<td>74</td>
<td>2,400</td>
<td>LF</td>
<td>$5</td>
</tr>
<tr>
<td>Materials-Design allowance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$50</td>
<td>$50</td>
</tr>
<tr>
<td>Materials-Misc. Freight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$50</td>
<td>$50</td>
</tr>
<tr>
<td>Materials-Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$50</td>
<td>$50</td>
</tr>
<tr>
<td>Materials-SQS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$50</td>
<td>$50</td>
</tr>
<tr>
<td>Subtotal-materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,192,000</td>
<td></td>
</tr>
<tr>
<td>Subtotal-Service Lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,431,000</td>
<td></td>
</tr>
</tbody>
</table>

IGU Nat Gas Pipe Estm 27Feb14
126556
<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia [in]</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TRANSMISSION LINES: Provides natural gas to distribution feeder lines and industrial users</td>
<td>Installation Fairbanks to Eklavon</td>
<td>ANSI 600</td>
<td>10</td>
<td>16,500</td>
<td>LF</td>
<td>$ 90</td>
</tr>
<tr>
<td>Installation Fairbanks towards Fox</td>
<td>ANSI 300</td>
<td>8</td>
<td>16,149</td>
<td>LF</td>
<td>$ 90</td>
<td>$ 1,453,000</td>
</tr>
<tr>
<td>Cathodic Protection</td>
<td></td>
<td></td>
<td>6 miles</td>
<td></td>
<td></td>
<td>$ 15,000</td>
</tr>
<tr>
<td>HDD Chena river</td>
<td>varies</td>
<td>varies</td>
<td>800</td>
<td>LF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gate Station</td>
<td>ANSI 600</td>
<td>10</td>
<td></td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piping connection</td>
<td>ANSI 600</td>
<td>10</td>
<td></td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piping connection</td>
<td>ANSI 300</td>
<td>8</td>
<td></td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtotal-construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>Materials- Steel pipe, FBE coated</td>
<td>ANSI 600</td>
<td>10</td>
<td>16,500</td>
<td>LF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Steel pipe, FBE coated</td>
<td>ANSI 300</td>
<td>8</td>
<td>16,149</td>
<td>LF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Valves</td>
<td>ANSI 600</td>
<td>10</td>
<td>1</td>
<td>EA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Valves</td>
<td>ANSI 300</td>
<td>8</td>
<td>2</td>
<td>EA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Design allowance</td>
<td>varies</td>
<td>10 &amp; 8</td>
<td>5%</td>
<td>EA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Misc. Freight</td>
<td></td>
<td></td>
<td>2%</td>
<td>EA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Procurement</td>
<td></td>
<td></td>
<td>4%</td>
<td>EA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- SGS</td>
<td></td>
<td></td>
<td>2%</td>
<td>EA</td>
<td></td>
</tr>
<tr>
<td>Subtotal-materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Launcher/Receivers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pig Barrels- mobile</td>
<td>ANSI 600</td>
<td>12</td>
<td></td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtotal- Transmission Lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. DISTRIBUTION FEEDER LINES: Provides natural gas to local distribution lines</td>
<td>Installation</td>
<td>60psig</td>
<td>6</td>
<td>80,000</td>
<td>LF</td>
<td></td>
</tr>
<tr>
<td>HDD Chena river</td>
<td>60psig</td>
<td>6</td>
<td>0</td>
<td>LF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulator stations</td>
<td>60psig</td>
<td>6</td>
<td>1</td>
<td>EA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtotal-construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>Materials- Plastic</td>
<td>60psig</td>
<td>6</td>
<td>80,000</td>
<td>LF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Valves</td>
<td>60psig</td>
<td>6</td>
<td>2</td>
<td>EA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Design allowance</td>
<td>varies</td>
<td></td>
<td></td>
<td>5%</td>
<td>EA</td>
</tr>
<tr>
<td></td>
<td>Materials- Misc. Freight</td>
<td></td>
<td></td>
<td>2%</td>
<td>EA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Procurement</td>
<td></td>
<td></td>
<td>4%</td>
<td>EA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- SGS</td>
<td></td>
<td></td>
<td>2%</td>
<td>EA</td>
<td></td>
</tr>
<tr>
<td>Subtotal-materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subtotal- Distribution Feeder Lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. DISTRIBUTION LINES: Provides natural gas to service lines</td>
<td>Residential lines</td>
<td>60 psig</td>
<td>2</td>
<td>615,760</td>
<td>LF</td>
<td></td>
</tr>
<tr>
<td>Subtotal-construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>Materials- Pipe HDPE</td>
<td>60 psig</td>
<td>2</td>
<td>615,760</td>
<td>LF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Valves</td>
<td>60 psig</td>
<td>2</td>
<td>15</td>
<td>EA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Design allowance</td>
<td>varies</td>
<td></td>
<td></td>
<td>5%</td>
<td>EA</td>
</tr>
<tr>
<td></td>
<td>Materials- Misc. Freight</td>
<td></td>
<td></td>
<td>2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Procurement</td>
<td></td>
<td></td>
<td>4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- SGS</td>
<td></td>
<td></td>
<td>2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtotal-materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subtotal- Distribution Lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. SERVICE LINES: Provides natural gas to individual users</td>
<td>Residential lines- high density</td>
<td>60 psig</td>
<td>0.625</td>
<td>1,676</td>
<td>125,700</td>
<td>LF</td>
</tr>
<tr>
<td>Commercial lines- high density</td>
<td>60 psig</td>
<td>1</td>
<td>42</td>
<td>3,150</td>
<td>LF</td>
<td></td>
</tr>
<tr>
<td>Subtotal-construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>Materials- Pipe HDPE</td>
<td>60 psig</td>
<td>0.625</td>
<td>1,643</td>
<td>125,700</td>
<td>LF</td>
</tr>
<tr>
<td></td>
<td>Materials- Pipe HDPE</td>
<td>60 psig</td>
<td>1</td>
<td>74</td>
<td>3,150</td>
<td>LF</td>
</tr>
<tr>
<td></td>
<td>Materials- Valves</td>
<td>60 psig</td>
<td>0.625</td>
<td>1,643</td>
<td>EA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Valves</td>
<td>60 psig</td>
<td>1</td>
<td>74</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Design allowance</td>
<td></td>
<td></td>
<td>5%</td>
<td>LF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Misc. Freight</td>
<td></td>
<td></td>
<td>2%</td>
<td>LF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- Procurement</td>
<td></td>
<td></td>
<td>4%</td>
<td>LF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials- SGS</td>
<td></td>
<td></td>
<td>2%</td>
<td>LF</td>
<td></td>
</tr>
<tr>
<td>Subtotal-materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subtotal- Service Lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Fabbanks North Star Borough Gas Distribution System Analysis

**Phase 4**

**Dates:** March 12, 2016

## 1. TRANSMISSION LINES: Provides natural gas to distribution feeder lines and industrial users

### Construction

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia (in)</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation</td>
<td>ANH-L</td>
<td>10</td>
<td>32,000 LF</td>
<td>$90</td>
<td>$2,880,000</td>
</tr>
<tr>
<td>Installation</td>
<td>ANH-L</td>
<td>8</td>
<td>40,000 LF</td>
<td>$90</td>
<td>$3,600,000</td>
</tr>
<tr>
<td>Catholic Protection</td>
<td></td>
<td></td>
<td>12 miles</td>
<td>$15,000</td>
<td>$90,000</td>
</tr>
<tr>
<td>HDG-Chem-Irrig</td>
<td></td>
<td></td>
<td>800 LF</td>
<td>$400</td>
<td>$320,000</td>
</tr>
<tr>
<td>Gate Station</td>
<td>ANH-400</td>
<td>10</td>
<td>8 EA</td>
<td>$1,310,000</td>
<td></td>
</tr>
<tr>
<td>Piping connection</td>
<td>ANH-400</td>
<td>10</td>
<td>1 EA</td>
<td>$10,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Piping connection</td>
<td>ANH-400</td>
<td>8</td>
<td>1 EA</td>
<td>$10,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Subtotal-construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$4,570,000</td>
</tr>
</tbody>
</table>

### Materials

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia (in)</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials: Steel pipe, FBE coated</td>
<td>ANH-400</td>
<td>10</td>
<td>32,000 LF</td>
<td>$53</td>
<td>$1,712,000</td>
</tr>
<tr>
<td>Materials: Steel pipe, FBE coated</td>
<td>ANH-300</td>
<td>8</td>
<td>1 EA</td>
<td>$44</td>
<td>$44</td>
</tr>
<tr>
<td>Materials: Valves</td>
<td>ANH-400</td>
<td>10</td>
<td>1 EA</td>
<td>$34,000</td>
<td>$34,000</td>
</tr>
<tr>
<td>Materials: Valves</td>
<td>ANH-200</td>
<td>8</td>
<td>1 EA</td>
<td>$20,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Materials: Design allowance</td>
<td></td>
<td></td>
<td>10 &amp; R</td>
<td>$89,810</td>
<td>$89,810</td>
</tr>
<tr>
<td>Materials: Misc. Freight</td>
<td></td>
<td></td>
<td></td>
<td>$36,000</td>
<td>$36,000</td>
</tr>
<tr>
<td>Materials: Procurement</td>
<td></td>
<td></td>
<td></td>
<td>$36,000</td>
<td>$36,000</td>
</tr>
<tr>
<td>Materials: SGS</td>
<td></td>
<td></td>
<td></td>
<td>$35,540</td>
<td>$35,540</td>
</tr>
<tr>
<td>Subtotal-materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>

### Launchers/Receivers

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia (in)</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pig Barrels-mobile</td>
<td>ANH-400</td>
<td>12</td>
<td>1 EA</td>
<td>$300,000</td>
<td>$300,000</td>
</tr>
</tbody>
</table>

### Subtotal: Transmission Lines

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia (in)</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$4,570,000</td>
</tr>
</tbody>
</table>

## 2. DISTRIBUTION FEEDER LINES: Provides natural gas to local distribution lines

### Construction

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia (in)</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation</td>
<td>60psi</td>
<td>6</td>
<td>120,470 LF</td>
<td>$10</td>
<td>$1,204,700</td>
</tr>
<tr>
<td>HDG-Chem-Irrig</td>
<td>60psi</td>
<td>6</td>
<td>0 LF</td>
<td>$300</td>
<td>$300</td>
</tr>
<tr>
<td>Regulator stations</td>
<td>60psi</td>
<td>6</td>
<td>1 EA</td>
<td>$400,000</td>
<td>$400,000</td>
</tr>
<tr>
<td>Subtotal-construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$4,624,000</td>
</tr>
</tbody>
</table>

### Materials

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia (in)</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials: Fitting</td>
<td>60psi</td>
<td>6</td>
<td>120,470 LF</td>
<td>$12</td>
<td>$1,445,640</td>
</tr>
<tr>
<td>Materials: Valves</td>
<td>60psi</td>
<td>6</td>
<td>1 EA</td>
<td>$13,900</td>
<td>$83,400</td>
</tr>
<tr>
<td>Materials: Design allowance</td>
<td></td>
<td></td>
<td>1 EA</td>
<td>$24,300</td>
<td>$24,300</td>
</tr>
<tr>
<td>Materials: Misc. Freight</td>
<td></td>
<td></td>
<td></td>
<td>$59,410</td>
<td>$59,410</td>
</tr>
<tr>
<td>Materials: Procurement</td>
<td></td>
<td></td>
<td></td>
<td>$29,720</td>
<td>$29,720</td>
</tr>
<tr>
<td>Materials: SGS</td>
<td></td>
<td></td>
<td></td>
<td>$29,720</td>
<td>$29,720</td>
</tr>
<tr>
<td>Subtotal-materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,670,000</td>
</tr>
</tbody>
</table>

### Subtotal: Distribution Feeders | | | | | $8,103,000 |

## 3. DISTRIBUTION LINES: Provides natural gas to service lines

### Construction

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia (in)</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential lines</td>
<td>60psi</td>
<td>2</td>
<td>6,500,000 LF</td>
<td>$25</td>
<td>$16,250,000</td>
</tr>
<tr>
<td>Subtotal: construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$16,250,000</td>
</tr>
</tbody>
</table>

### Materials

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia (in)</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials: Pipe HDPE</td>
<td>60psi</td>
<td>2</td>
<td>6,500,000 LF</td>
<td>$6</td>
<td>$3,900,000</td>
</tr>
<tr>
<td>Materials: Valves</td>
<td>60psi</td>
<td>2</td>
<td>5 EA</td>
<td>$6,200</td>
<td>$31,000</td>
</tr>
<tr>
<td>Materials: Design allowance</td>
<td></td>
<td></td>
<td>5 EA</td>
<td>$20,850</td>
<td>$208,500</td>
</tr>
<tr>
<td>Materials: Misc. Freight</td>
<td></td>
<td></td>
<td></td>
<td>$81,400</td>
<td>$81,400</td>
</tr>
<tr>
<td>Materials: Procurement</td>
<td></td>
<td></td>
<td></td>
<td>$153,280</td>
<td>$153,280</td>
</tr>
<tr>
<td>Materials: SGS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$153,280</td>
</tr>
<tr>
<td>Subtotal: materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$4,184,000</td>
</tr>
</tbody>
</table>

### Subtotal: Distribution lines | | | | | $6,626,000 |

## 4. SERVICE LINES: Provides natural gas to individual users

### Construction

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia (in)</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential lines: medium density</td>
<td>60psi</td>
<td>0.625</td>
<td>3,955,000 LF</td>
<td>$25</td>
<td>$98,875,000</td>
</tr>
<tr>
<td>Commercial lines: medium density</td>
<td>60psi</td>
<td>0.625</td>
<td>6,400,000 LF</td>
<td>$25</td>
<td>$160,000,000</td>
</tr>
<tr>
<td>Subtotal: construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$258,875,000</td>
</tr>
</tbody>
</table>

### Materials

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia (in)</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials: Pipe HDPE</td>
<td>60psi</td>
<td>0.625</td>
<td>3,955,000 LF</td>
<td>$5</td>
<td>$19,775,000</td>
</tr>
<tr>
<td>Materials: Pipe HDPE</td>
<td>60psi</td>
<td>0.625</td>
<td>6,400,000 LF</td>
<td>$5</td>
<td>$32,000,000</td>
</tr>
<tr>
<td>Materials: Valves</td>
<td>60psi</td>
<td>0.625</td>
<td>1,965,000 EA</td>
<td>$800</td>
<td>$1,570,000</td>
</tr>
<tr>
<td>Materials: Valves</td>
<td>60psi</td>
<td>0.625</td>
<td>6,400,000 EA</td>
<td>$800</td>
<td>$5,120,000</td>
</tr>
<tr>
<td>Materials: Design allowance</td>
<td></td>
<td></td>
<td>5 EA</td>
<td>$103,100</td>
<td>$515,500</td>
</tr>
<tr>
<td>Materials: Misc. Freight</td>
<td></td>
<td></td>
<td></td>
<td>$40,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Materials: Procurement</td>
<td></td>
<td></td>
<td></td>
<td>$88,200</td>
<td>$88,200</td>
</tr>
<tr>
<td>Materials: SGS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$88,200</td>
</tr>
<tr>
<td>Subtotal: materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,395,000</td>
</tr>
</tbody>
</table>

### Subtotal: Service Lines | | | | | $7,584,000 |
### MEDIUM POPULATION DENSITY AREA

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia (in)</th>
<th>Length (ft)</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. TRANSMISSION LINES: Provides natural gas to distribution feeder lines and industrial users</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation</td>
<td>ANSI 600</td>
<td>10</td>
<td>-</td>
<td>LF</td>
<td>$90</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Cathodic Protection</td>
<td>varies</td>
<td>miles</td>
<td>-</td>
<td>LF</td>
<td>$15,000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>HDD Chena river</td>
<td>varies</td>
<td>varies</td>
<td>-</td>
<td>LF</td>
<td>$400</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Gate Stallion</td>
<td>ANSI 600</td>
<td>10</td>
<td>-</td>
<td>EA</td>
<td>$1,250,000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Piggling connection</td>
<td>ANSI 600</td>
<td>10</td>
<td>-</td>
<td>EA</td>
<td>$50,000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Piggling connection</td>
<td>ANSI 300</td>
<td>8</td>
<td>-</td>
<td>EA</td>
<td>$50,000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Steel pipe, FBE coated</td>
<td>ANSI 600</td>
<td>10</td>
<td>-</td>
<td>LF</td>
<td>$53</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials-Steel pipe, FBE coated</td>
<td>ANSI 300</td>
<td>8</td>
<td>-</td>
<td>LF</td>
<td>$44</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials-Valves</td>
<td>ANSI 600</td>
<td>10</td>
<td>-</td>
<td>EA</td>
<td>$34,000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials-Valves</td>
<td>ANSI 300</td>
<td>8</td>
<td>-</td>
<td>EA</td>
<td>$20,000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials-Design allowance</td>
<td>varies</td>
<td>10 &amp; 8</td>
<td>5%</td>
<td>EA</td>
<td>$-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Materials-Misc. Freight</td>
<td>2%</td>
<td>EA</td>
<td>$-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Procurement</td>
<td>4%</td>
<td>EA</td>
<td>$-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-SGS</td>
<td>2%</td>
<td>EA</td>
<td>$-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Launcher/Receiver</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pig Barrels-mobile</td>
<td>ANSI 600</td>
<td>12</td>
<td>-</td>
<td>EA</td>
<td>$300,000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-Transmission Lines</strong></td>
<td>-</td>
<td>LF</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>2. DISTRIBUTION FEEDER LINES: Provides natural gas to local distribution lines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation</td>
<td>60psig</td>
<td>6</td>
<td>97,890</td>
<td>LF</td>
<td>$50</td>
<td>$4,895,000</td>
<td></td>
</tr>
<tr>
<td>HDD Chena River</td>
<td>60psig</td>
<td>6</td>
<td>0</td>
<td>LF</td>
<td>$300</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Regulator stations</td>
<td>60psig</td>
<td>6</td>
<td>1</td>
<td>EA</td>
<td>$400,000</td>
<td>$400,000</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Plastic</td>
<td>60psig</td>
<td>6</td>
<td>97,890</td>
<td>LF</td>
<td>$12</td>
<td>$1,175,000</td>
<td></td>
</tr>
<tr>
<td>Materials-Valves</td>
<td>60psig</td>
<td>6</td>
<td>3</td>
<td>EA</td>
<td>$13,300</td>
<td>$40,000</td>
<td></td>
</tr>
<tr>
<td>Materials-Design allowance</td>
<td>varies</td>
<td>varies</td>
<td>5%</td>
<td>EA</td>
<td>$60,750</td>
<td>$61,000</td>
<td></td>
</tr>
<tr>
<td>Materials-Misc. Freight</td>
<td>2%</td>
<td>EA</td>
<td>$24,300</td>
<td>$24,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Procurement</td>
<td>4%</td>
<td>EA</td>
<td>$46,600</td>
<td>$49,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-SGS</td>
<td>2%</td>
<td>EA</td>
<td>$24,300</td>
<td>$24,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-Distribution Feeder Lines</strong></td>
<td>97,890</td>
<td>LF</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$6,888,000</td>
<td></td>
</tr>
<tr>
<td><strong>3. DISTRIBUTION LINES: Provides natural gas to service lines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential lines</td>
<td>60 psig</td>
<td>2</td>
<td>684,310</td>
<td>LF</td>
<td>$25</td>
<td>$17,108,000</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Pipe HDPE</td>
<td>60 psig</td>
<td>2</td>
<td>684,310</td>
<td>LF</td>
<td>$6</td>
<td>$4,106,000</td>
<td></td>
</tr>
<tr>
<td>Materials-Valves</td>
<td>60 psig</td>
<td>2</td>
<td>17</td>
<td>EA</td>
<td>$6,200</td>
<td>$105,000</td>
<td></td>
</tr>
<tr>
<td>Materials-Design allowance</td>
<td>varies</td>
<td>varies</td>
<td>5%</td>
<td>EA</td>
<td>$210,550</td>
<td>$211,000</td>
<td></td>
</tr>
<tr>
<td>Materials-Misc. Freight</td>
<td>2%</td>
<td>EA</td>
<td>$84,220</td>
<td>$84,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Procurement</td>
<td>4%</td>
<td>EA</td>
<td>$168,440</td>
<td>$168,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-SGS</td>
<td>2%</td>
<td>EA</td>
<td>$84,220</td>
<td>$84,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-Distribution Lines</strong></td>
<td>684,310</td>
<td>LF</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$21,866,000</td>
<td></td>
</tr>
<tr>
<td><strong>4. SERVICE LINES: Provides natural gas to individual users</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential lines- medium density</td>
<td>60 psig</td>
<td>0.625</td>
<td>2,057</td>
<td>205,700</td>
<td>LF</td>
<td>$25</td>
<td>$5,143,000</td>
</tr>
<tr>
<td>Commercial lines- medium density</td>
<td>60 psig</td>
<td>1</td>
<td>105</td>
<td>10,500</td>
<td>LF</td>
<td>$25</td>
<td>$263,000</td>
</tr>
<tr>
<td><strong>Subtotal-construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Pipe HDPE</td>
<td>60 psig</td>
<td>0.625</td>
<td>2,057</td>
<td>205,700</td>
<td>LF</td>
<td>$5</td>
<td>$1,029,000</td>
</tr>
<tr>
<td>Materials-Pipe HDPE</td>
<td>60 psig</td>
<td>1</td>
<td>105</td>
<td>10,500</td>
<td>LF</td>
<td>$5</td>
<td>$53,000</td>
</tr>
<tr>
<td>Materials-Valves</td>
<td>60 psig</td>
<td>0.625</td>
<td>2,057</td>
<td>EA</td>
<td>$500</td>
<td>$1,029,000</td>
<td></td>
</tr>
<tr>
<td>Materials-Valves</td>
<td>60 psig</td>
<td>1</td>
<td>105</td>
<td>$500</td>
<td>$53,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Design allowance</td>
<td>5%</td>
<td>LF</td>
<td>$108,200</td>
<td>$108,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Misc. Freight</td>
<td>2%</td>
<td>LF</td>
<td>$43,280</td>
<td>$43,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-Procurement</td>
<td>4%</td>
<td>LF</td>
<td>$86,560</td>
<td>$87,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials-SGS</td>
<td>2%</td>
<td>LF</td>
<td>$43,280</td>
<td>$43,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal-Service Lines</strong></td>
<td>216,200</td>
<td>LF</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$7,831,000</td>
<td></td>
</tr>
</tbody>
</table>
## MEDIUM POPULATION DENSITY AREA

### 1. TRANSMISSION LINES: Provides natural gas to distribution feeder lines and industrial users

<table>
<thead>
<tr>
<th>Description</th>
<th>Class</th>
<th>Dia [in]</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation</td>
<td>ANSI 600</td>
<td>10</td>
<td>-</td>
<td>LF</td>
<td>$ 90</td>
<td>-</td>
</tr>
<tr>
<td>Cathodic Protection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$ 15,000</td>
<td>-</td>
</tr>
<tr>
<td>HDD Chena river</td>
<td>varies</td>
<td>varies</td>
<td></td>
<td>LF</td>
<td>$ 400</td>
<td>-</td>
</tr>
<tr>
<td>Gate Station</td>
<td>ANSI 600</td>
<td>10</td>
<td>-</td>
<td>EA</td>
<td>$ 1,250,000</td>
<td>-</td>
</tr>
<tr>
<td>Piping connection</td>
<td>ANSI 600</td>
<td>10</td>
<td>-</td>
<td>EA</td>
<td>$ 50,000</td>
<td>-</td>
</tr>
<tr>
<td>Piping connection</td>
<td>ANSI 300</td>
<td>8</td>
<td>-</td>
<td>EA</td>
<td>$ 50,000</td>
<td>-</td>
</tr>
<tr>
<td><strong>Subtotal-construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>ANSI 600</td>
<td>10</td>
<td>-</td>
<td>LF</td>
<td>$ 53</td>
<td>-</td>
</tr>
<tr>
<td>Materials--Steel pipe, FBE coated</td>
<td>ANSI 300</td>
<td>8</td>
<td>-</td>
<td>LF</td>
<td>$ 44</td>
<td>-</td>
</tr>
<tr>
<td>Materials--Valves</td>
<td>ANSI 600</td>
<td>10</td>
<td>-</td>
<td>EA</td>
<td>$ 34,000</td>
<td>-</td>
</tr>
<tr>
<td>Materials--Valves</td>
<td>ANSI 300</td>
<td>8</td>
<td>-</td>
<td>EA</td>
<td>$ 20,000</td>
<td>-</td>
</tr>
<tr>
<td>Materials--Design allowance</td>
<td>varies</td>
<td>10 &amp; 8</td>
<td>5%</td>
<td>EA</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Materials--Misc. Freight</td>
<td>2%</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Materials--Procurement</td>
<td>4%</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Materials--SOS</td>
<td>2%</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Subtotal-materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Launcher/Receiver</td>
<td>ANSI 600</td>
<td>12</td>
<td>-</td>
<td>EA</td>
<td>$ 300,000</td>
<td>-</td>
</tr>
<tr>
<td><strong>Subtotal-Transmission Lines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 2. DISTRIBUTION FEEDER LINES: Provides natural gas to local distribution lines

<table>
<thead>
<tr>
<th>Description</th>
<th>Dia [in]</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation</td>
<td>60 psig</td>
<td>6</td>
<td>LF</td>
<td>45,000</td>
<td>$ 50</td>
</tr>
<tr>
<td>HDD Chena River</td>
<td>60 psig</td>
<td>6</td>
<td>LF</td>
<td>0</td>
<td>$ 300</td>
</tr>
<tr>
<td>Regulator stations</td>
<td>60 psig</td>
<td>6</td>
<td>EA</td>
<td>400,000</td>
<td>-</td>
</tr>
<tr>
<td><strong>Subtotal-construction</strong></td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td>$ 2,250,000</td>
</tr>
<tr>
<td>Materials</td>
<td>60 psig</td>
<td>6</td>
<td>LF</td>
<td>45,000</td>
<td>$ 12</td>
</tr>
<tr>
<td>Materials--Valves</td>
<td>60 psig</td>
<td>6</td>
<td>EA</td>
<td>2</td>
<td>$ 13,300</td>
</tr>
<tr>
<td>Materials--Design allowance</td>
<td>varies</td>
<td>varies</td>
<td>5%</td>
<td>EA</td>
<td>$ 28,850</td>
</tr>
<tr>
<td>Materials--Misc. Freight</td>
<td>2%</td>
<td></td>
<td></td>
<td>EA</td>
<td>$ 11,940</td>
</tr>
<tr>
<td>Materials--Procurement</td>
<td>4%</td>
<td></td>
<td></td>
<td>EA</td>
<td>$ 22,690</td>
</tr>
<tr>
<td>Materials--SOS</td>
<td>2%</td>
<td></td>
<td></td>
<td>EA</td>
<td>$ 11,940</td>
</tr>
<tr>
<td><strong>Subtotal-materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$ 640,000</td>
</tr>
<tr>
<td><strong>Subtotal-Distribution Feeder Lines</strong></td>
<td></td>
<td>45,000</td>
<td>LF</td>
<td>$ 2,890,000</td>
<td></td>
</tr>
</tbody>
</table>

### 3. DISTRIBUTION LINES: Provides natural gas to service lines

<table>
<thead>
<tr>
<th>Description</th>
<th>Dia [in]</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential lines</td>
<td>60 psig</td>
<td>2</td>
<td>LF</td>
<td>452,000</td>
<td>$ 6</td>
</tr>
<tr>
<td><strong>Subtotal-construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$ 11,300,000</td>
</tr>
<tr>
<td>Materials</td>
<td>60 psig</td>
<td>2</td>
<td>LF</td>
<td>452,000</td>
<td>$ 6</td>
</tr>
<tr>
<td>Materials--Pipe HDPE</td>
<td>60 psig</td>
<td>2</td>
<td>EA</td>
<td>11</td>
<td>$ 6,200</td>
</tr>
<tr>
<td>Materials--Design allowance</td>
<td>varies</td>
<td>varies</td>
<td>5%</td>
<td>EA</td>
<td>$ 139,000</td>
</tr>
<tr>
<td>Materials--Misc. Freight</td>
<td>2%</td>
<td></td>
<td></td>
<td>EA</td>
<td>$ 11,960</td>
</tr>
<tr>
<td>Materials--Procurement</td>
<td>4%</td>
<td></td>
<td></td>
<td>EA</td>
<td>$ 22,690</td>
</tr>
<tr>
<td>Materials--SOS</td>
<td>2%</td>
<td></td>
<td></td>
<td>EA</td>
<td>$ 11,940</td>
</tr>
<tr>
<td><strong>Subtotal-materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$ 3,142,000</td>
</tr>
<tr>
<td><strong>Subtotal-Distribution Lines</strong></td>
<td></td>
<td>452,000</td>
<td>LF</td>
<td>$ 14,442,000</td>
<td></td>
</tr>
</tbody>
</table>

### 4. SERVICE LINES: Provides natural gas to Individual users

<table>
<thead>
<tr>
<th>Description</th>
<th>Dia [in]</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential lines--medium density</td>
<td>60 psig</td>
<td>0.625</td>
<td>1,724</td>
<td>172,400</td>
<td>$ 5</td>
</tr>
<tr>
<td>Commercial lines--medium density</td>
<td>60 psig</td>
<td>1</td>
<td>80</td>
<td>8,000</td>
<td>$ 5</td>
</tr>
<tr>
<td><strong>Subtotal-construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$ 4,510,000</td>
</tr>
<tr>
<td>Materials</td>
<td>60 psig</td>
<td>0.625</td>
<td>1,608</td>
<td>172,400</td>
<td>$ 5</td>
</tr>
<tr>
<td>Materials--Pipe HDPE</td>
<td>60 psig</td>
<td>1</td>
<td>196</td>
<td>8,000</td>
<td>$ 5</td>
</tr>
<tr>
<td>Materials--Design allowance</td>
<td>varies</td>
<td>varies</td>
<td>5%</td>
<td>LF</td>
<td>$ 500</td>
</tr>
<tr>
<td>Materials--Misc. Freight</td>
<td>2%</td>
<td></td>
<td></td>
<td>LF</td>
<td>$ 50,000</td>
</tr>
<tr>
<td>Materials--Procurement</td>
<td>4%</td>
<td></td>
<td></td>
<td>LF</td>
<td>$ 72,160</td>
</tr>
<tr>
<td>Materials--SOS</td>
<td>2%</td>
<td></td>
<td></td>
<td>LF</td>
<td>$ 36,080</td>
</tr>
<tr>
<td><strong>Subtotal-materials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$ 2,088,000</td>
</tr>
<tr>
<td><strong>Subtotal-Service Lines</strong></td>
<td></td>
<td>180,400</td>
<td>LF</td>
<td>$ 6,548,000</td>
<td></td>
</tr>
</tbody>
</table>

---

IGU Nat Gas Pipe Estim 27Feb14 126556
Background

The Interior Gas Utility (IGU) is charged with establishing a distribution system for the communities surrounding the core of the City of Fairbanks. IGU was issued a Certificate of Public Convenience and Necessity (CPCN) to provide that service in December 2013. IGU contracted with MWH to provide project management and technical expertise on the build-out of its distribution system beginning January 2014.

In past 11 months IGU has targeted activity with the stated goal of beginning construction on the distribution system in the summer of 2015. To that end, IGU has arranged financing; conducted ROW, permitting, and design fieldwork in the North Pole area; contracted for system design; solicited pipe for the system; solicited for a system operator; and evaluated storage options. This has been accomplished on time and on budget based upon the work plan presented to AIDEA as part of the financing package.

IGU’s gas distribution system is part of a larger “Interior Energy Project” whereby North Slope gas will be liquefied, trucked to the utilities, and distributed through local distribution systems, IGU and FNG, to community residents and businesses. The community goal of gas at $15/mcf (the equivalent of $2/gal fuel oil) remains the target price for IGU’s delivery to the CoNP residents and businesses.

Placement of City of North Pole (CoNP) in IGU Six Year Construction Plan

IGU’s Six-Year build out plan is being used to guide construction and financing decisions. A copy of the Six-Year Plan is available at interiorgas.com. Phase 1 of the construction plan involves construction of the distribution system in the City of North Pole and the close surrounding area. A map depicting the six phases of construction is attached to this white paper.

North Pole was selected as the construction starting point for a number of reasons, including:

1. proximity to GVEA turbines and storage site;
2. the population density in North Pole;
3. the severity of the PM2.5 air quality problems in the area;
4. need to build out in a phased approach across a six year period.

Status of Design, Engineering and ROW for Phase 1 (including CoNP)

In July 2014 IGU contracted with local engineering firms PDC and Michael Baker Jr (MBJ) to perform ROW and permitting work in the Phase 1 area. PDC was given the responsibility for design of the Phase 1 system and preparation of the bid specifications for the construction contractors.
PDC has submitted, on time and on budget, the 35% and the 65% designs for the system. Concurrently, PDC prepared the bid specs for the 80 miles of pipe that will be used by the contractors in the summer of 2015. The pipe order needs to be placed this winter in order to have it delivered FOB North Pole in time for construction this coming summer. Bid documents are being prepared for ROW clearing that will need to occur during the early spring of 2015. The ROW timing is a permit requirement related to avoiding bird nesting periods.

**Critical Benchmarks for Phase 1 (including CoNP) Construction, Summer 2015**

- **Ordering of Pipe**: Dec/Jan
- **Financing of Phase 1 Construction by AIDEA**: Jan
- **Negotiation with Contract System Operator**: Jan
- **Completion of Bid Documents / Issuance of Construction Bids**: Jan
- **Issuance of ROW clearing bids**: Jan
- **Award of System Operator Contract**: Feb
- **Delivery of Pipe**: Mar/April
- **ROW Clearing**: Mar/April
- **Evaluation and Award of Construction Contracts**: April
- **Contractor Mobilization**: April/May
- **Summer Construction**: May/Oct

A map depicting the three areas presently planned to be bid is attached to this white paper. Information on the contractor, actual costs, and schedules will be available once bids are opened, evaluated, and awarded.

**Supply Chain Logistics and Projected Costs**

The Interior Energy Project, managed by AIDEA, includes a gas supply contract; a liquefaction plant on the North Slope; a trucking consortium; storage and regas; and distribution. Work on the North Slope plant, the pricing expected from that plant, and other components of the supply chain have progressed slower than originally planned. Based on information from AIDEA and other publically available sources, IGU provided the FNSB Assembly a target price projection of $20.50/mcf in November. AIDEA has indicated that they believe a more correct number is $19.50/mcf, with the hope that those numbers will come down; however no firm numbers from the supply chain team have been made publically available since then. Finally, first gas is projected for Sep/Oct 2016, making conversions for the 2016-17 heating season a challenge.

Clearly, at a price of $20/mcf instead of $15/mcf, the economics of the project are challenged. The ability/willingness of residents and businesses to convert decrease as prices rise. At $20/mcf, gas prices
are not competitive with wood, significantly reducing the positive impact low-cost gas could have on severe air quality issues. Most importantly, the economic relief sought by individuals, businesses and the community as a whole are not achieved by a project that does not deliver on the target of cutting energy costs in half through the introduction of low cost gas.

It is expected that there will be an effort by the Walker/Mallot Administration to take actions that will bring the cost of gas to the residents/businesses back in line with original project goals. IGU will support that effort.

**Summary**

IGU is moving forward on the path of installing gas distribution pipe in the City of North Pole in the summer of 2015. Challenges exist in the supply chain relative to both cost and timing. IGU will continue to work toward:

- $15 gas to the meter
- Advance build-out of distribution infrastructure (Including maintaining Summer 2015 construction in the CONP)
- A supply chain that brings gas to the community as quickly as possible
- A conversion program with financing options for utilities, consumers, and businesses

AIDEA will be making the decisions this January on the amount and type of funding being made available for construction in the CoNP for the summer of 2015. There will be pressure on project financing and questions of uncertainty in the supply chain that will lead some to urge delay of distribution infrastructure. To the extent CoNP supports construction in the summer of 2015 and the target of $15 gas to residents and businesses, the CoNP would want to consider a formal position statement at this time while decisions impacting the IEP are being made.
DESIGN OF A NATURAL GAS DISTRIBUTION SYSTEM IN THE FAIRBANKS AREA (PHASE 1)

PHASE 1: 65%

FIGURE: CONSTRUCTION ZONES
10/30/2014

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

ZONE A
24.2MILES

ZONE B
29.9MILES

ZONE C
19.2MILES

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>

Notes
ZONE A
ZONE B
ZONE C

Zone A
Zone B
Zone C

Legend
HDD Boring
- 2"
- 4"
- 8"
65% Gas Pipe
- 2" gas
- 4" gas
- 8" gas
<all other values>
CITY OF NORTH POLE
ORDINANCE 12-18

AN ORDINANCE APPROVING THE TRANSFER OF NATURAL GAS UTILITY
POWER TO THE FAIRBANKS NORTH STAR BOROUGH

WHEREAS, Article X, Section 13, of the Alaska Constitution and Alaska Statute 29.35.310 authorize a
home rule city in a second class borough to transfer to the borough any of its powers or functions; and

WHEREAS, the Fairbanks North Star Borough desires to create an area-wide natural gas utility, the
purpose of which is to provide affordable natural and/or manufactured gas to the largest number of people in the
borough in the shortest amount of time; and

WHEREAS, the Council believes that there is an urgent need for affordable natural gas in the
Fairbanks area; and

WHEREAS, the Council has reviewed the Borough's proposed ordinance that would create this utility
and provide for its management and supports the provisions, conditions and safeguards contained in that
ordinance,

NOW, THEREFORE, BE IT ENACTED BY THE CITY COUNCIL OF THE CITY OF NORTH POLE,
ALASKA, as follows:

Section 1. The City of North Pole transfers to the Fairbanks North Star Borough its power to own and operate a
natural gas utility.

Section 2. Transfer of this power is conditioned upon (INSERT ANY CONDITIONS ESTABLISHED BY
COUNCIL).

Section 3. Effective Date. This ordinance shall be effective at 5:00 p.m. on the first City business day
following its adoption.

PASSED AND APPROVED by a duly constituted quorum of the North Pole City Council this 1st day of
October, 2012.

Douglas W. Isaacson, Mayor

APPROVED AS TO FORM:

Zane Wilson, City Attorney

ATTEST:

Kathryn M Weber, MMC
North Pole City Clerk

YES: 5 – Jones, Hunter, Nelson, McGhee, Isaacson
NO: 2 – Ward, Holm
Absent: 0
ORDINANCE NO. 5895 AS AMENDED

AN ORDINANCE APPROVING THE CONDITIONAL TRANSFER OF NATURAL GAS UTILITY POWER TO THE FAIRBANKS NORTH STAR BOROUGH

WHEREAS, the need for energy cost relief is paramount for all residents of Interior Alaska, and past efforts to solve the problem have been unsuccessful; and

WHEREAS, the construction of a natural gas pipeline from the North Slope to utilize the stranded gas is a fundamental infrastructure need for the State of Alaska that is long overdue; and

WHEREAS, constructing liquefied natural gas ("LNG") processing facilities on the North Slope and trucking gas to Fairbanks is the most promising short term solution since a gas pipeline is still years away; and

WHEREAS, Flint Hills Resources and Golden Valley Electric Association are jointly working on the construction of an LNG facility that will produce 9 billion cubic feet ("BCF") per year leaving only approximately 2 BCF/year potentially available for space heating; and

WHEREAS, Fairbanks Natural Gas is also planning a North Slope LNG facility that will produce up to 7 BCF/year for space heating needs through an expansion of its existing natural gas distribution system; and

WHEREAS, the Fairbanks North Star Borough is proposing the creation of an Interior Alaska Natural Gas Utility ("IANGU") to explore available public-private partnership options; creation of this utility would require the City of North Pole and the City of Fairbanks to transfer powers to the Borough; and

WHEREAS, the Borough does not currently have the legal authority to create such a utility, but it may acquire that power on an areawide basis if the cities of Fairbanks and North Pole transfer their utility powers to the Borough by ordinance; and

WHEREAS, the City of Fairbanks has made several requests that have been incorporated into the Borough’s draft implementing ordinance, including retention of all earnings by the utility financially separating it from the Borough, a change in board member makeup which gives each municipality an appointment to the utility board, and expansion of the “purpose” definition; and

WHEREAS, the City of Fairbanks has concerns about the creation of a public utility that could potentially compete with a private sector provider and views IANGU first as a facilitator, second as an implementing corporation that contracts, partners or joint ventures with private
companies, and third as a provider/competitor if services are not currently being provided or if the private entity is unwilling to provide them or will not do so in a timely manner; and

WHEREAS, the City of Fairbanks has a long history of running utilities and is very much aware of the difficulties associated with them and the challenges a board faces in controlling costs over a period of time, costs which could be greatly mitigated if the utility, rather than being an operating company, accomplishes its goals by contracting, partnering, and/or joint venturing with private industry, and

WHEREAS, the IANGU could be of utmost help by providing a conduit for low interest financing and grants available to public entities,

NOW, THEREFORE, BE IT ENACTED BY THE CITY COUNCIL OF THE CITY OF FAIRBANKS, ALASKA, as follows:

Section 1. The City of Fairbanks transfers to the Fairbanks North Star Borough its power to own and operate a natural gas utility.

Section 2. Transfer of this power is conditioned upon the adoption by the Borough Assembly of an ordinance containing the provisions regarding the management organization as set out in the attached proposed Borough Ordinance No. 2012 - 52, including:

a. The City of Fairbanks and the City of North Pole shall each have the right to appoint one board member of the seven member board of directors.

b. Direct competition in an area covered by a Certificate of Public Convenience & Necessity by the Regulatory Commission of Alaska will not be initiated without approval of the City of Fairbanks by resolution. In the event such authority is given, IANGU is only authorized to operate via a contract with a non-governmental entity unless this option is not available.

c. Compensation of the IANGU Board of Directors shall not exceed compensation paid to the Assembly Members of the Fairbanks North Star Borough.

d. IANGU shall report its activities to the public on at least a quarterly basis.

e. To the extent the power is not exercised within three years from the date of this ordinance, the City of Fairbanks revokes the unexercised portion of this transfer of power. Any extension must be authorized by a new ordinance.

f. Should any grant funds awarded to the IANGU or awarded for gas utility projects be administered by the Borough, the fee for administering such grants (by either the IANGU or the Borough) may not exceed 0.25%.
g. During the term for which elected and for one year thereafter, no local elected municipal official may be directly or indirectly employed by the Utility in any paid position or nominated, elected or appointed to the Board if the Board was created or the salary, compensation, or emoluments of the Board were increased during the elected official’s term of office. For the purposes of this subsection, the term “employment by the Utility” includes payment from any business entity that contracts with the Utility and any contractual or consulting arrangement between the Utility and with any business entity partially or wholly owned by the elected municipal official or in which the elected municipal official has an interest.

Section 3. That the effective date of transfer of power provided by this Ordinance shall be November 15, 2012.

Jerry Cleworth, City Mayor

AYES: Eberhart, Gatewood, Stiver, Matherly, Roberts
NAYS: Hilling
ABSENT: None
ADOPTED: October 08, 2012

ATTEST: Janey Hovanen, CMC, City Clerk
APPROVED AS TO FORM: Paul Ewers, City Attorney

Ordinance No. 5895, As Amended
Page 3
FAIRBANKS NORTH STAR BOROUGH

ORDINANCE NO. 2012 - 52

AN ORDINANCE ACQUIRING AN AREAWIDE NATURAL GAS UTILITY POWER BY TRANSFER FROM THE CITIES OF FAIRBANKS AND NORTH POLE, ESTABLISHING THE INTERIOR ALASKA NATURAL GAS UTILITY AND PROVIDING FOR ITS MANAGEMENT

WHEREAS, Article X § 13 of Alaska's Constitution authorizes a city located in a borough to transfer to the borough any of its powers or functions unless prohibited by law or charter; and

WHEREAS, both the City of North Pole and the City of Fairbanks are home rule cities authorized to acquire, own and operate public utilities and to exercise all powers and functions necessarily or fairly implied in or incident to that purpose; and

WHEREAS, Alaska statutes (AS 29.35.210(d), AS 29.35.300, and AS 29.35.310) expressly authorize a second class borough, like the Fairbanks North Star Borough, to exercise on an areawide basis a power acquired by transfer from a city; and

WHEREAS, it is in the best interest of the citizens of the Fairbanks North Star Borough to create an areawide natural gas utility empowered to ensure its citizens affordable access to natural gas and/or propane; and
WHEREAS, an areawide natural gas utility will allow for tax exempt financing, access to governmental funding, and provide transparency of operations; and

WHEREAS, the areawide natural gas utility, once established, can explore available public-private partnership options in order to operate in a businesslike, cost-effective manner.

NOW, THEREFORE, BE IT ORDAINED by the Assembly of the Fairbanks North Star Borough:

Section 1. This ordinance is of a general and permanent nature and shall, except for sections 2 and 3, be codified.

Section 2. Approval of Transfer by Cities. The Fairbanks North Star Borough hereby accepts the transfer to the Borough by the City of Fairbanks and the City of North Pole of the power to acquire, own, and operate a natural gas utility. The Fairbanks North Star Borough agrees to the following two conditions on the transfer: (1) Except as otherwise provided by city charter, the cities may revoke the unexercised portion of the transferred power to the extent it is not exercised within three years from the date of this ordinance and (2) Each city council shall have the right to confirm the appointment by their mayor of at least one member of the Board of Directors of the Utility. For purposes of this ordinance, the power to acquire, own, and operate a natural gas utility includes, without limitation, the power to acquire, own and operate distribution, transmission, and transportation-related facilities and pipelines and conditioning facilities as well as all powers necessarily or fairly implied in or incident to that purpose. Such powers are intended to be broadly construed.
Section 3. Orderly Transition. The Fairbanks North Star Borough, in consultation with the Cities of Fairbanks and North Pole, shall arrange for an orderly and equitable transfer of rights and other matters related to acquisition of the areawide powers.

Section 4. FNSB 1.02.050, acquired areawide powers, shall be amended to add the following (the Clerk shall provide the appropriate date):


Section 5. FNSB Code of Ordinances is hereby amended to add a new Title as follows:

Title 11. Natural Gas Utility

Chapter 11.01 Establishment of Utility and Management

11.01.010 Establishment. There is established the Interior Alaska Natural Gas Utility, the purpose of which is to facilitate if possible or provide, if necessary, affordable natural and/or manufactured gas to the largest number of people in the Fairbanks North Star Borough in the shortest amount of time. The Interior Alaska Natural Gas Utility shall be a public corporation and an instrumentality of the Fairbanks North Star Borough. It shall be wholly owned by the Fairbanks North Star Borough but shall have a legal existence independent of and separate from the Borough.

11.01.020 Application of Laws. The Utility shall, as a public corporation, comply with the Open Meetings Act and other applicable state laws. Borough ordinances not of general public application shall apply only as specified herein or as specifically made applicable in any adopted ordinance. Ordinances not of general public application include the procurement code, the personnel ordinance and the ordinance requiring a vote for revenue bonds.

CODE AMENDMENTS ARE SHOWN IN LEGISLATIVE FORMAT
Text to be added is underlined
Text to be deleted is [BRACKETED AND CAPITALIZED]
11.01.030 Management.

A. There is hereby created a seven member independent and non-partisan Interior Alaska Natural Gas Utility Board of Directors who shall oversee the work necessary to achieve the purpose of the Utility which specifically may include management and operation of a natural gas utility. The Board shall annually elect a chair and may elect other officers from among its members. The Board shall have the authority to adopt and amend bylaws subject to assembly approval. The Board shall report to the Assembly at least quarterly and shall provide an annual report which must include financial statements audited by independent outside auditors.

B. The initial appointments to the Board shall be made as follows: three by the Borough Mayor, one by the assembly presiding officer, one by the City of North Pole and two by the City of Fairbanks, each confirmed by the respective governing body. Appointments shall be made for staggered terms (as determined by lottery) with two members serving for two years, two serving for three years and three serving for four years with their terms ending when their successors are elected or appointed. Upon the expiration of the first four initial appointed terms of office, their successors shall be elected at large by the voters of the Fairbanks North Star Borough. Upon expiration of the last three initial appointed terms, their successors shall be appointed, one by the Borough Mayor, one by the City of North Pole Mayor and one by the City of Fairbanks Mayor, each subject to confirmation by the respective governing body. After the expiration of their initial terms all shall thereafter serve a term of three years.

C. The Utility shall be independently managed and operated by the Board of Directors in accordance with prevailing industry practices and general standards common to utilities providing the same utility service. The Board, not the Fairbanks North Star Borough, shall oversee the management of the Utility and shall have the powers necessary or convenient to the management and operation of the Utility. The Borough Intends that the Board shall have full authority respecting the Utility unless that
authority is specifically withheld by law or ordinance. During its first year of operation
the Board may request and use, at the discretion of the Mayor, available Borough
resources such as staff and equipment. Thereafter, the Board may not utilize the
resources of the Borough except as authorized by the Assembly. The Board may
contract or act only on behalf of the Utility and not on behalf of the Fairbanks North Star
Borough. The Fairbanks North Star Borough shall not be liable for the debts or liabilities
of the Utility without specific authorization by the Fairbanks North Star Borough
Assembly. No general obligation bonds may be issued without voter approval. The
Board shall maintain a separate account for the Utility which shall be kept and classified
in accordance with uniform accounting standards generally prescribed for public utilities
providing the same utility service. The Board may acquire and dispose of capital
assets.

D. Manager. The Board of Directors may enter into contracts or other
agreements to provide for the management and operation or any aspect thereof of the
natural gas utility and shall have the authority to appoint a Manager which may be an
individual or a private entity.

E. The Board shall have a separate capital and operating budget. Provided
that total Utility annual budgeted revenues at least equal total annual budgeted
expenses, no further Borough Assembly approval is required. If required, the Borough
Assembly shall have approval only over the total budget amount and may not raise or
lower any other line item. Earnings shall be retained by the Utility to enable the Utility to
meet its purpose of providing affordable natural and/or manufactured gas to the largest
number of people in the borough in the shortest amount of time.

Section 6. Effective Date. This ordinance shall be effective at 5:00 p.m.

of the first Borough business day following its adoption.
PASSED AND APPROVED THIS _____ DAY OF __________, 2012.

Diane Hutchison
Presiding Officer

APPROVED:

A. Repa Broker
Borough Attorney

ATTEST:

Mona Lisa Drexler, MMC
Borough Municipal Clerk

CODE AMENDMENTS ARE SHOWN IN LEGISLATIVE FORMAT
Text to be added is underlined
Text to be deleted is [BRACKETED AND CAPITALIZED]

Fairbanks North Star Borough, Alaska

ORDINANCE NO. 2012 -
RESOLUTION NO. 4566

A RESOLUTION IN SUPPORT OF FUNDING FOR THE CONSTRUCTION OF
A NATURAL GAS PRODUCTION, TRUCKING AND DISTRIBUTION
SYSTEM, INCLUDING LEGISLATION TO AUTHORIZE THE ALASKA
INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY (AIDEA) TO
PROVIDE LOW INTEREST LOANS AND ISSUE BONDS

WHEREAS, many Interior and rural Alaskan communities are suffering from extremely high energy costs; and

WHEREAS, the development of in-state gas processing facilities on the North Slope so that liquefied natural gas ("LNG") can be trucked to market for distribution would provide a near term "bridge" solution for Northern Alaska pending the construction of a pipeline; and

WHEREAS, because known reserves in the Cook Inlet Basin are insufficient to supply the demand for natural gas in South Central Alaska, the delivery of LNG by truck may alleviate the shortage; and

WHEREAS, in addition to at least $50 million in state funding, House Bill 74 and Senate Bill 23 will incentivize the construction by providing funds for a natural gas liquefaction facility on the North Slope, trucking LNG to markets, propane for rural communities, and distribution systems; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE
CITY OF FAIRBANKS, that the City Council supports legislative efforts in HB 74 and SB 23 that authorize AIDEA to provide low interest loans and issue bonds for a liquefied natural gas production, transportation and distribution system in addition to state grant funding. In addition, the City Council urges the legislature to provide at least $50 million in funding for the project.

PASSED and APPROVED this 25th of February 2013.

JERRY CLEWORTH, MAYOR

AYES: Gatewood, Staley, Hilling, Matherly, Walley
NAYS: None
ABSENT: Eberhart
APPROVED: February 25, 2013

ATTEST:  

APPROVED AS TO FORM:

JANEY ROYDEN, CMC, City Clerk 

PAUL J. EWERS, City Attorney
CITY OF NORTH POLE

RESOLUTION 13-01

A RESOLUTION SUPPORTING LEGISLATIVE EFFORTS TO CONSTRUCT A
NATURAL GAS PIPELINE FROM THE NORTH SLOPE TO SOUTH CENTRAL
ALASKA.

WHEREAS, the development of an in-state gas pipeline would provide stable and affordable
gas for Alaskans for many years; and

WHEREAS, known reserves in the Cook Inlet Basin are insufficient to supply the demand for
natural gas in South Central Alaska in the future; and

WHEREAS, many Interior and Rural Alaskan communities are suffering from extremely high
energy cost; and

WHEREAS, development of vibrant local and statewide economies are dependent on affordable
energy; and

WHEREAS, Alaskans wish to leave a legacy of prosperity through development of our natural
resources to the maximum benefit for the most Alaskans; and

WHEREAS, Alaska Gasline Development Corporation (AGDC) has created the Alaska Stand
Alone Gas Pipeline (ASAP) and is seeking monies to bring an in-state gas-line to open season; and
ultimately to fruition; and

WHEREAS, House Bill 4 includes the necessary provisions to advance a successful Alaska
natural gas pipeline project.

NOW, THEREFORE, BE IT RESOLVED that the North Pole City Council supports
legislative efforts to fund AGDC as they move forward in developing and advancing a project to
construct a natural gas pipeline from the North Slope to South Central Alaska.

PASSED AND APPROVED by a duly constituted quorum of the North Pole City Council this
4th day of February, 2013

Bryce J Ward, Mayor

ATTEST:

Kathryn M. Weber, MMC
North Pole City Clerk

PASSED
Yes: Nelson, McGhee, Holm, Smith, Sikma, Ward
No: 0
Absent: Hunter