BOARD OF DIRECTORS SPECIAL MEETING
Tuesday, March 30, 2021 @ 4:00 P.M.
IGU Office: 3408 International Street, Fairbanks, AK
Future IGU Meeting Location: 2216 S Cushman St, Fairbanks, AK

DRAFT AGENDA

To participate via teleconference, call 1-253-215-8782;
when prompted, enter meeting ID 899 1249 2995, Password 865949

*Given the ongoing COVID-19 concerns this meeting will be held ***telephonically only***. Packets will be available to the public outside the door of the IGU Office or outside the door at our future meeting location 2216 S Cushman St *

Join Zoom Meeting
https://us02web.zoom.us/j/89912492995?pwd=NkR3S1hzVGVqNGZiQlprZGdnNkw1Zz09

1-253-215-8782
Meeting ID: 899 1249 2995
Password: 865949

I. CALL TO ORDER

- Roll call
- Approval of Agenda
- Public Comment – *limited to three minutes*

II. OLD BUSINESS (Board Discussion & Possible Action) (Possible Executive Session)

- Future IGU Office Plans Update
  - Resolution 2021-06 A RESOLUTION AUTHORIZING THE GENERAL MANAGER OF THE INTERIOR GAS UTILITY TO PURCHASE THE PROPERTY AT 2525 PHILLIPS FIELD ROAD FOR OFFICE AND WAREHOUSE SPACE INCLUDING EXECUTION OF LOAN AGREEMENTS TO FINANCE THE PURCHASE ..... Page 04

III. NEW BUSINESS (Board Discussion & Possible Action) (Possible Executive Session)

- Legislative Priorities
  - Resolution 2021-07 A RESOLUTION APPROVING THE 2021 LEGISLATIVE PRIORITIES FOR THE INTERIOR GAS UTILITY ..... Page 06
- Cost of Service/Rates Review ..... Page 08
- Customer Engagement Plan Review ..... Page 26

IV. CORRESPONDENCE

- Anchorage Daily News Article – Natural but deadly: Huge gaps exist in US rules for wood-stove smoke

V. DIRECTOR REQUESTS FOR IGU INFORMATION

VI. EXECUTIVE SESSION (If Required)

VII. CLOSING COMMENTS

- General Manager
- IGU Attorney
- Directors

VIII. ADJOURNMENT - *To be effective at the end of the Executive Session*

* EXECUTIVE SESSIONS may be moved to after Closing Comments to allow for the public's full participation in the meeting.*

Public Comment

limited to 3 minutes

Future IGU Office Plans Update

RESOLUTION 2021-06

Suggested Motion: Move to approve Resolution 2021-06
A RESOLUTION AUTHORIZING THE GENERAL MANAGER OF THE INTERIOR GAS UTILITY TO PURCHASE THE PROPERTY AT 2525 PHILLIPS FIELD ROAD FOR OFFICE AND WAREHOUSE SPACE INCLUDING EXECUTION OF LOAN AGREEMENTS TO FINANCE THE PURCHASE

The Board shall adopt by resolution, approved by a majority of the membership of the Board of Directors, fiscal policies that govern the financial activities of the organization.

INTERIOR
IGU GAS UTILITY

Considered on: March 30, 2021

Approved on: _____

RESOLUTION 2021-06

A RESOLUTION AUTHORIZING THE GENERAL MANAGER OF THE INTERIOR GAS UTILITY TO PURCHASE THE PROPERTY AT 2525 PHILLIPS FIELD ROAD FOR OFFICE AND WAREHOUSE SPACE INCLUDING EXECUTION OF LOAN AGREEMENTS TO FINANCE THE PURCHASE

WHEREAS, in October 2012, the community established the Interior Gas Utility (IGU), with the mission of ensuring provision of clean-burning natural gas to the most people in the FNSB, as soon as possible and at the lowest possible cost; and

WHEREAS, with the growth of the utility and the addition of more employees, IGU's current leased office and warehouse facilities are at maximum capacity; and

WHEREAS, IGU management has researched available properties for lease or purchase and recommends the purchase of 2525 Phillips Field Road as the best alternative; and

WHEREAS, due diligence on the property purchase has been completed including a Phase 1 Environmental Report, Building Inspection, Radon Inspection and Preliminary Title Insurance commitment; and

WHEREAS, Mt. McKinley Bank has provided a Commitment to Finance the property either as a taxable or tax-exempt financing both at reasonable interest rates, and subject to an Appraisal; and

WHEREAS, IGU's purchase and financing is subject to the Appraisal meeting or exceeding the agreed purchase price; and

WHEREAS, the purchase will not result in a material increase of costs compared to the existing leased facilities.

NOW, THEREFORE, BE IT RESOLVED that the IGU Board of Directors authorizes the IGU General Manager to complete all necessary documents to purchase the property at 2525 Phillips Field Road, Fairbanks, Alaska, known as Lot 1 of PHILLIPS SUBDIVISION, subject to the purchase meeting all of the terms of the Earnest Money Agreement dated January 22, 2021, and counter offer accepted on February 09, 2021, and subject to AIDEA approval of the additional indebtedness. The IGU General Manager is further authorized to execute all documents necessary to finalize the Loan with Mt. McKinley Bank in accordance with the Loan Commitment dated March 18, 2021, provided IGU has received approval from AIDEA regarding the additional indebtedness.

Approved:

_____ _____
Steve Haagenson - Chair, IGU Board of Directors Date

_____ _____
Heather Thomas - Secretary to the IGU Board of Directors Date

Legislative Priorities

RESOLUTION 2021-07

Suggested Motion: Move to approve Resolution 2021-07 A RESOLUTION APPROVING THE 2021 LEGISLATIVE PRIORITIES FOR THE INTERIOR GAS UTILITY

Unless otherwise specifically stated in the Bylaws, any matter coming before the Board of Directors shall only be approved if a majority of the Directors present vote in favor of approval.

INTERIOR IGU GAS UTILITY

Considered on: March 30, 2021

Approved on: _____

RESOLUTION 2021-07

A RESOLUTION APPROVING THE 2021 LEGISLATIVE PRIORITIES FOR THE INTERIOR GAS UTILITY

WHEREAS, the Interior Alaska Natural Gas Utility (IGU) is a municipal utility under the Fairbanks North Star Borough (FNSB). It operates independently of the FNSB and is governed by a seven-member board of directors.

WHEREAS, to meet the mission of the IGU and ensure the lowest cost of natural gas as possible for the community, the IGU Board of Directors find it in the best interest of IGU customers to identify priorities for the second session of the 32nd Alaska State Legislature.

NOW, THEREFORE, BE IT RESOLVED that the IGU Board of Directors establishes the 2021 Legislative Priorities as outlined below:

1) To accelerate state payment of its outstanding $15 Million liability to IGU for liquefied natural gas storage facility tac credits as established by AS 43.20.047.
2) To advance the expansion of natural gas service in the FNSB as a priority of the State of Alaska to help alleviate the poor air quality and assist with the FNSB compliance related to the fine particulate matter ($PM_{2.5}$) nonattainment area designation.
3) To reduce the cost of natural gas and related customer conversion costs in the FNSB through state and/or federal financial assistance opportunities.

Approved:

_____ _____

Steve Haagenson - Chair, IGU Board of Directors Date

_____ _____

Heather Thomas - Secretary to the IGU Board of Directors Date

Cost of Service/Rates Review

OVERVIEW:

The COSS is intended to allocate costs on a cost causation basis. Various components of the Revenue Requirement need to be broken down by cost driver in order to assign those components on a customer class basis. The COSS is not intended to be a definitive basis to determine exact customer rates on a go forward basis. It is intended to give an indication of the relative Revenue to Cost Ratios that exist for the various customer classes.

COST DRIVERS:

There are three main categories of cost drivers that divide the types of costs that make up the IGU Revenue Requirement: (1) Commodity costs, (2) Capacity costs and (3) Customer costs.

Commodity related costs are those tied to the throughput of natural gas to the customer. These are the variable costs that are directly related to the annual or seasonal purchases of natural gas. These, in turn, are used internally for such purposes as fuel gas (such as fuel to vaporize LNG), company use (such as heating IGU facilities), and sales to IGU's customers.

Capacity related costs are those that are related to the demand on the delivery system. The vast majority of IGU's customers are using natural gas for the purpose of space heating, and the peak demand is strongly correlated to the ambient temperature in Fairbanks. Ultimately, the size of the natural gas delivery system must be sufficient to meet the aggregate of customers' natural gas demands in extreme cold weather. Capacity related costs are related to functions that are scaled to meet peak demand across IGU's delivery system, including storage tanks, vaporization system, and distribution mains.

Customer related costs are those that are independent of the delivery of natural gas. Essentially, these are costs of customers merely to be connected to the natural gas delivery system in order to receive natural gas without actually receiving any natural gas. Included functions are customer service and billing as well as customer specific assets such as service lines and gas meters.

DESCRIPTION OF COSS MODEL:

The COSS is designed to mirror the Revenue Requirement in terms of the total revenue requirement. If the Revenue Requirement is the "bill" for all customers, the COSS represents the "share" or portion that is attributable to each class of customer.

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interiorgas.com

To start, the Tables A-1 to A-6 are the input tables that capture the key data pieces from the Revenue Requirement as well as other relevant sources. These tables are:

A-1 Volumes and customer accounts by class.
A-2 Revenues by class.
A-3 Revenue Requirement Study – Summary.
A-4 Rate Base Summary.
A-5 Depreciation Expense. (NOT USED)
A-6 Meter Expenses by Class.
A-7 Customer Weighted Inputs.

CAPACITY (DEMAND) ALLOCATIONS DETERMINED FOR IGU (TABLE B-1):

In order to assess the capacity-based costs, a relevant "Peak Day" or "Design Day" must be created. IGU does not have readily available and reliable daily metered consumption for each of its customer groups. IGU has accurate monthly consumption data from which regressions (weather temperature versus consumption) can be reasonably determined. Table B-1 contains regression data obtained from IGU data for its customer classes. Because all customers are generally using natural gas for the primary purpose of space heating, these regressions are able to reasonably project consumption on cold weather days and indicate the relative capacity requirements for all customer classes, with the notable exception of UAF.

DESCRIPTION OF THE DESIGN DAY METHOD (TABLE B-2):

Table B-2 contains the "Synthetic Peak Days". Again, these are synthetic in that daily meter data is not available to confirm each customer's consumption. However, they are estimates that produce reasonable peak day results.

Two days were considered for the test year, 2021. The first peak day is the "coldest" day available in the test year, where it is assumed that all interruptible customers were deemed to be curtailed to zero consumption. The second peak day is "coincidental" peak that shows a high aggregate consumption for all customers on a day that no interruptible customers were subject to volume curtailment.

The Coldest Day is therefore an example of a day where only firm customers are causing demand on the system. While it is based on an actual temperature event (-29 degree F on February 21, 2021), the day in question did have sales to interruptible customers. Nonetheless, it stands as a theoretical cold day that assumes all interruptible customers were off the system in accordance with IGU's contractual right to curtail their consumption.

The Coincidental Peak Day is a day where all customers were free to consume their desired natural gas volumes (-24 degree F on February 22, 2021). In this scenario, the interruptible customers are deemed to be using system capacity as they are on the system on a day with a sendout volume that exceeds that of the Coldest Day with interruptible volumes removed.

In the COSS, these two "design days" are given equal weighting. This assumption is made in order to balance two unique characteristics about the IGU system. First, a true design day would normally only include the firm demand on the system as interruptible customers, by definition, place no demand on the capacity of the supply chain. The second

characteristic is that IGU's interruptible customers enjoy a very high quality of service (ie. low interruption frequency) such that higher sendout days are likely those that include interruptible sales. IGU believes that to assume that the capacity of the IGU system should be based entirely on the firm only day (coldest day) or entirely on the highest sendout day (coincidental day) one would have to ignore one of these unique characteristics, and that would result in an incorrect allocation of the capacity related costs to IGU's customers.

HOW THE VARIOUS "ALLOCATION FACTORS" ARE CREATED:

Tables C-1 to C-3 develop the allocation factors for the various cost components. These tables are:

C-1 Primary Capacity, Commodity and Customer.
C-2 Plant Related Factors.
C-3 Rate Base and Depreciation Expense.

Table C-1 takes the primary allocators (Capacity, Commodity and Customer) to establish weightings for each customer class. These primary allocators are used directly to separate certain Revenue Requirement costs by customer class, where applicable, as well as to develop allocation factors for Utility Plant (Table C-2) and for Rate Base and Debt Service (Table C-3). Each factor evolves from its primary factor weightings and each line item shows the genesis of how its weighting is derived.

HOW ARE THE ALLOCATIONS FACTORS THEN APPLIED:

In order to achieve the objective of allocating the full revenue requirement among the customer classes, the revenue requirement must be parsed on a line by line basis. This is done in Table D. The key line items are entered from Table A-3 which are then multiplied with the appropriate allocator, as indicated. This divides the required cost of service by customer class. The total allocated cost of service is summed at the bottom of Table D (Line 34).

Table E takes the revenue by customer class (Table A-2) and compares it to the calculated cost of service (Table D). The result is a "Revenue to Cost Ratio" (R/C) for each of the customer classes.

COST OF SERVICE STUDY ("COSS")

Developed for:

Interior Alaska Natural Gas Utility

by:

Wesley G.W. Smith, C.P.A

Controller

Interior Alaska Natural Gas Utility

FY 2021

INTERIOR ALASKA NATURAL GAS UTILITY (COSS)

IGU - Cost of Service Study
INPUT - Volume/Customer
(Test Year FY 21)

TABLE A-1

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
GAS VOLUMES (Mcf)		**Jul** Actual	**Aug** Actual	**Sep** Actual	**Oct** Actual	**Nov** Actual	**Dec** Actual	**Jan** Actual	**Feb** Actual	**Mar** Projected	**Apr** Projected	**May** Projected	**Jun** Projected	**Total** Projected	**Winter** (Nov-Mar)	**Non-Winter** (Apr-Oct)
	IGU Sales Volumes															
1	Residential	1,510	1,540	2,939	5,942	10,016	10,497	11,277	10,872	9,222	5,434	3,029	1,486	73,763	51,885	21,879
2	Small Commercial	9,568	10,377	18,904	33,286	52,541	55,161	58,658	55,824	48,154	28,682	16,326	8,394	395,877	270,340	125,538
3	Large Commercial	4,759	5,024	10,003	18,906	29,154	29,645	30,077	30,263	23,552	14,432	7,971	5,499	209,285	142,691	66,594
4	Small Interruptible	2,098	2,617	3,734	5,744	8,536	10,105	8,497	9,585	6,649	4,473	4,333	4,223	70,593	43,372	27,221
5	Large Interruptible	719	1,089	2,095	4,080	6,348	6,750	8,215	6,634	4,727	2,892	1,263	531	45,343	32,674	12,669
6	Hospital	5,998	6,578	7,968	7,123	6,923	1,134	690	974	0	0	0	0	37,387	9,722	27,666
7	University	0	592	422	0	0	0	0	0	0	0	0	0	1,014	0	1,014
8																
9	Total Sales Volume	24,652	27,816	46,064	75,080	113,519	113,293	117,414	114,153	92,305	55,912	32,923	20,133	833,263	550,683	282,580

		a	b	c	d	e	f	g	h	i	j	k	l	m
CUSTOMER COUNT		**Jul** Actual	**Aug** Actual	**Sep** Actual	**Oct** Actual	**Nov** Actual	**Dec** Actual	**Jan** Actual	**Feb** Actual	**Mar** Projected	**Apr** Projected	**May** Projected	**Jun** Projected	**Average** Projected
10	Residential	495	496	526	567	591	606	615	621	615	615	615	615	581
11	Small Commercial	498	510	578	625	630	641	645	645	649	649	649	649	614
12	Large Commercial	32	32	32	32	32	32	32	32	32	32	32	32	32
13	Small Interruptible	32	32	32	32	32	32	32	30	30	30	30	30	31
14	Large Interruptible	15	15	15	15	15	15	15	15	15	15	15	15	15
15	Hospital	1	1	1	1	1	1	1	1	1	1	1	1	1
16	University	1	1	1	1	1	1	1	1	1	1	1	1	1
17														
18	Total Customer Count	1074	1087	1185	1273	1302	1328	1341	1345	1343	1343	1343	1343	1275

Source: ***IGU***

IGU - Cost of Service Study
INPUT - Revenue

TABLE A-2

		a	b	c	d
	CUSTOMER REVENUES [IGU F.S. FY 21]	**Sales**	**Fixed Charges**	**Other Charges**	**Total**
1	Residential	$ 1,533,279	$ 90,728	$ -	$ 1,624,007
2	Small Commercial	$ 8,218,300	$ 176,470	$ -	$ 8,394,770
3	Large Commercial	$ 4,332,208	$ 27,648	$ -	$ 4,359,856
4	Total Firm	$ 14,083,787	$ 294,846	$ -	$ 14,378,633
5					
6	Small Interruptible	$ 1,413,985	$ 27,216	$ -	$ 1,441,201
7	Large Interruptible	$ 748,153	$ 12,960	$ -	$ 761,113
8	Hospital	$ 616,889	$ 6,000	$ -	$ 622,889
9	University	$ 16,731	$ 6,000	$ -	$ 22,731
10	Total Interruptible	$ 2,795,757	$ 52,176	$ -	$ 2,847,933
11					
12	Total Customer Revenues	$ 16,879,544	$ 347,022	$ -	$ 17,226,566
13					
14					
15					
16					
17					

	Fixed Charge Calculation	**Fixed Charge**	**Rounded**	**# Customers** Avg Customer FY 21	**Annual Fixed**
18					
19					
20					
21	Residential	12.00000	$ 12.00	630	$ 90,728
22	Small Commercial	22.00000	$ 22.00	668	$ 176,470
23	Large Commercial	72.00000	$ 72.00	32	$ 27,648
24	Small Interruptible	72.00000	$ 72.00	31	$ 27,216
25	Large Interruptible	72.00000	$ 72.00	15	$ 12,960
26	Hospital	500.00000	$ 500.00	1	$ 6,000
27	University	500.00000	$ 500.00	1	$ 6,000

IGU - Cost of Service Study
INPUT - RSS Summary

TABLE A-3

	COST OF SERVICE	IGU F.S. FY 21	Allocation Comments
1	LNG Purchases - Firm	9,925,674	Commodity - All Months
2	LNG Purchases - Interruptible	-	Commodity - Winter Months
3			
4	Other Storage Expenses	759,464	Capacity
5			
6	LNG Terminaling and Processing	1,924,260	Capacity
7	Distribution Expenses	544,167	Capacity
8	Engineering Expenses	160,998	Capacity
9	Customer Accounts Expenses	326,471	Customer
11	Administrative & General	2,772,970	Allocation
13	Taxes other than Income Taxes	12,511	Allocation
14			
15		16,426,515	
16			
17	Income Tax Expense	-	Rate Base
18			
19	Debt Service	613,446	Rate Base (Debt Service)
20			
21			
22			
23	Total Cost of Service	17,039,961	

IGU - Cost of Service Study
INPUT - Rate Base Summary

TABLE A-4

	Plant in Service	Accounts	Plant in Service	Accumulated Depreciation	Net Plant	Allocation
1	Storage & Vaporization	**(361-363)**	84,252,170	4,029,897	**80,222,273**	Capacity
2						
3	Land & Buildings	**(374)**	2,738,951	30,751	**2,708,201**	Capacity
4						
5	Distribution Plant					
6	Mains	**(376)**	57,438,994	1,373,404	**56,065,591**	Capacity
7	Service Lines & Meters	**(380)**	4,783,592	561,236	**4,222,356**	Customer
8			62,222,586	1,934,640	**60,287,947**	
9						
10	Sub-Total Plant (excluding General)		149,213,708	5,995,287	143,218,421	
11						
12	General Plant	**(364, 390-396)**	11,208,329	2,491,416	**8,716,913**	Plant (excluding General)
13					**-**	
14						
15	**Tie to IGU F.S. FY 21**		**160,422,037**	**8,486,703**	**151,935,334**	
16						
17						
18						
19	**Other Rate Base**					
20						
21	Working Capital Requirements				**-**	Revenue
22						
23	Materials Inventory				**-**	Distribution Plant
24						
25	LNG Inventory				**-**	Commodity
26						
27	Customer Deposits				**-**	Revenue
28						
29	TOTAL RATE BASE				**151,935,334**	

IGU - Cost of Service Study
INPUT - Meter Expense by Class

TABLE A-6

Source: IGU

	Meter Size	Average Installation Cost	No. Installed	
Residential	250	$ 252	589	$ 148,428
	425	$ 632	65	$ 41,080
	630	$ 1,406	10	$ 14,060
	800/1000	$ 2,740	0	$ -
	+1400	$ 3,663	0	$ -
	2300	$ 7,992	0	$ -
	5000	$ 9,848	0	$ -
			664	$ 203,568
Small Commercial	250	$ 252	248	$ 62,496
	425	$ 632	184	$ 116,288
	630	$ 1,406	87	$ 122,322
	800/1000	$ 2,740	57	$ 156,180
	+1400	$ 3,663	66	$ 241,758
	2300	$ 7,992	36	$ 287,712
	5000	$ 9,848	24	$ 236,352
			702	$ 1,223,108
Large Commercial	250	$ 252	0	$ -
	425	$ 632	0	$ -
	630	$ 1,406	0	$ -
	800/1000	$ 2,740	1	$ 2,740
	+1400	$ 3,663	0	$ -
	2300	$ 7,992	1	$ 7,992
	5000	$ 9,848	30	$ 295,440
			32	$ 306,172

	Meter Size	Average Installation Cost	No. Installed	
Small Interruptible	250	$ 252	0	$ -
	425	$ 632	2	$ 1,264
	630	$ 1,406	4	$ 5,624
	800/1000	$ 2,740	2	$ 5,480
	+1400	$ 3,663	2	$ 7,326
	2300	$ 7,992	7	$ 55,944
	5000	$ 9,848	14	$ 137,872
			31	$ 213,510
Large Interruptible	250	$ 252	0	$ -
	425	$ 632	0	$ -
	630	$ 1,406	0	$ -
	800/1000	$ 2,740	0	$ -
	+1400	$ 3,663	0	$ -
	2300	$ 7,992	2	$ 15,984
	5000	$ 9,848	14	$ 137,872
			16	$ 153,856
Hospital	5000	$ 9,848	1	$ 9,848
	Custom	$ 30,000	1	$ 30,000
			2	$ 39,848
University	5000	$ 9,848	0	$ -
	Custom	$ 30,000	1	$ 30,000
			1	$ 30,000
Total			1,447	$ 2,016,206

	Residential	Small Commercial	Large Commercial	Small Interruptible	Large Interruptible	Hospital	University
Installation Cost	$ 306.58	$ 1,742.32	$ 9,567.88	$ 6,887.42	$ 9,616.00	$ 39,848.00	$ 30,000.00
Customer Weighting Factor	1	6	31	22	31	130	98

Note:

Customer numbers for meter systems are from the plant accounting which may not match the revenue forecast customer count.

IGU - Cost of Service Study
INPUT - Customer

TABLE A-7

		a	b	c
	WEIGHTED COUNT (Meter Cost)	**Average Number** Table A-1	**Weight per Customer** Table A-6	**Weighted Number**
1	Residential	581	1	581
2	Small Commercial	614	6	3684
3	Large Commercial	32	31	992
4	Small Interruptible	31	22	682
5	Large Interruptible	15	31	465
6	Hospital	1	130	130
7	University	1	98	98
8				
9	Total Customer Count	1275		6632
10				

11 **Notes**
12 - Weight per customer per IGU Meter Ratio Data (Table A-6)
13

		a	b	c	d	e
14						
15						
16		**Average**	**Annual**	**Use Per**	**Weight per**	**Weighted**
17	**WEIGHTED COUNT (Use Per Account)**	**Number**	**Volume**	**Account**	**Customer**	**Number**
18		Table A-1	Table A-1			
19						
20	Residential	581	73,763	127	1.00	581
21	Small Commercial	614	395,877	645	5.08	3,118
22	Large Commercial	32	209,285	6,540	51.51	1,648
23	Small Interruptible	31	70,593	2,277	17.94	556
24	Large Interruptible	15	45,343	3,023	23.81	357
25	Hospital	1	37,387	37,387	294.48	294
26	University	1	1,014	1,014	7.99	8
27						
28	Total Customer Count	1275				6,563
29						

30 **Notes**
31 - Use per Account from Inputs (Annual Volume / Average Customers (Table A-1))

IGU - Cost of Service Study

Peak Day Analysis

TABLE B-1

PEAK DAY DEMAND ESTIMATES - Calculations

				a	b	c	e	e	f
				Base Load [mcf/d]	Heating Load [mcf/HDD]	# Cust [Table A-1]	Peak @ -50	Annual Volume [Table A-1]	Estimated Load Factor
1	Residential			0.0572	0.00773	581	549.7	73,763	36.8%
2	Small Commercial			0.3442	0.03820	614	2908.5	395,877	37.3%
3	Large Commercial			2.7502	0.41837	32	1627.6	209,285	35.2%
4	Small Interruptible			2.4715	0.10382	31	446.7	70,593	43.3%
5	Large Interruptible			0.2046	0.22231	15	386.6	45,343	32.1%
6	Hospital			195.9333	3.36000	1	582.3	37,387	17.6%
7									
8	University								
9		January 2021	(1)	-	-	1	0.0	1,014	0.0%
10		December 2021	(2)	-	-	1	0.0	1,014	0.0%

IGU - Cost of Service Study
Peak Day Calculation

TABLE B-2

Synthetic Peak Days

Line		Column	a	b	c	d
	DESIGN DAY SENDOUT (mcf/day)		Coldest Day			Coincidental Peak Day
1	Date			21-Feb-21		22-Feb-21
2	Temperature			-29		-24
3	Degree Days			94		89
4						
5			**Firm**	**Int**	**Total**	**Total**
6	Residential	Firm	455.4		455.38	432.9
7	Small Commercial	Firm	2416.0		2,416.00	2298.7
8	Large Commercial	Firm	1346.5		1,346.46	1279.5
9	Small Interruptible	Inter	-	379.1	379.15	363.1
10	Large Interruptible	Inter	-	316.5	316.53	299.9
11	Hospital	Inter	-	511.8	511.77	495.0
12	University	Inter	-	0.0	-	0.0
13						
14	Total Peak Day Sales		4,217.8	1,207.4	5,425.3	5,169.1
	DESIGN DAY SENDOUT (gallons LNG/day)		**Firm**	**Int**	**Total**	**Total**
15	Residential	Firm	5,512.2		5,512.19	5,240.4
16	Small Commercial	Firm	29,244.9		29,244.91	27,825.4
17	Large Commercial	Firm	16,298.5		16,298.53	15,488.2
18	Small Interruptible	Inter	-	4,589.5	4,589.47	4,394.7
19	Large Interruptible	Inter		3,831.5	3,831.47	3,629.6
20	Hospital	Inter	-	6,194.9	6,194.86	5,991.5
21	University	Inter	-	-	-	-
22						
23	Total Peak Day Sales		51,055.6	14,615.8	65,671.4	62,569.8

1 MCF =	12.1047 Gallons LNG

IGU - Cost of Service Study
Allocation Factors - Capacity, Commodity & Customer

TABLE C-1

		FACTOR	Total	Table	Line/ Formula	Residential	Small Commercial	Large Commercial	Small Interruptible Commercial	Large Interruptible Commercial	Interruptible FMH	Interruptible UAF	Check
		CAPACITY											
1	Cap - 1	Peak Day - Coldest	4,217.8	B-2	Col(a)	455.4	2,416.0	1,346.5	-	-	-	-	4,217.8
2						**0.1080**	**0.5728**	**0.3192**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000**
3													
4	Cap - 2	Cold Day - Coincidental	5,169.1	B-2	Col(d)	432.9	2,298.7	1,279.5	363.1	299.9	495.0	-	5,169.1
5						**0.0838**	**0.4447**	**0.2475**	**0.0702**	**0.0580**	**0.0958**	**-**	**1.0000**
6													
7	Cap - 3	Blended Capacity	**50%** Coldest (L1)			**0.0959**	**0.5088**	**0.2834**	**0.0351**	**0.0290**	**0.0479**	**0.0000**	**1.0000**
8			**50%** Coincidental (L4)										
9													
10		**COMMODITY**											
11													
12	Com - 1	Total Annual Sales (Mcf)	833,263.2	A-1	Col(m)	73,763.4	395,877.3	209,285.4	70,593.3	45,342.6	37,387.2	1,014.0	833,263.2
13						**0.0885**	**0.4751**	**0.2512**	**0.0847**	**0.0544**	**0.0449**	**0.0012**	**1.0000**
14													
15	Com - 2	Winter Months (Mcf)	550,683.1	A-1	Col(n)	51,884.5	270,339.7	142,691.3	43,372.0	32,674.1	9,721.5	-	550,683.1
16						**0.0942**	**0.4909**	**0.2591**	**0.0788**	**0.0593**	**0.0177**	**-**	**1.0000**
17													
18	Com - 3	Interruptible (Winter)	42,395.6	C-1	(L16*L18)	3,994.4	20,812.7	10,985.4	3,339.1	2,515.5	748.4	-	42,395.6
19													
20													
21	Com-4	Firm Sales (Total - Int.)	790,867.6	C-1	(L12-L18)	69,769.0	375,064.5	198,300.0	67,254.2	42,827.1	36,638.8	1,014.0	790,867.6
22						**0.0882**	**0.4742**	**0.2507**	**0.0850**	**0.0542**	**0.0463**	**0.0013**	**1.0000**
23													
24		**CUSTOMER**											
25													
26	Cus - 1	Customer Numbers	1,275	A-1	Col(m)	581	614	32	31	15	1	1	1,275
27						**0.4557**	**0.4816**	**0.0251**	**0.0243**	**0.0118**	**0.0008**	**0.0008**	**1.0000**
28													
29	Cus - 2	Weighted - Service/Meter	6,632	A-7	Col(c)	581	3,684	992	682	465	130	98	6,632
30						**0.0876**	**0.5555**	**0.1496**	**0.1028**	**0.0701**	**0.0196**	**0.0148**	**1.0000**
31													
32	Cus - 3	Weighted - Use per Account	6,563	A-7	Col(e)	581	3,118	1,648	556	357	294	8	6,563
33						**0.0885**	**0.4751**	**0.2512**	**0.0847**	**0.0544**	**0.0449**	**0.0012**	**1.0000**
34													
35	Rev - 1	Annual Revenue	$ 17,226,566	A-2	Col(d)	$ 1,624,007	$ 8,394,770	$ 4,359,856	$ 1,441,201	$ 761,113	$ 622,889	$ 22,731	$ 17,226,566
36						**0.0943**	**0.4873**	**0.2531**	**0.0837**	**0.0442**	**0.0362**	**0.0013**	**1.0000**

IGU - Cost of Service Study
Allocation Factors - Plant Related

TABLE C-2

	FACTOR		Total	Table	Line/ Formula	Residential	Small Commercial	Large Commercial	Interruptible Commercial	Interruptible Commercial	FMH	UAF	Check
	PLANT												
	Plant (excluding General)												
1		Capacity		C-1	L7	**0.0959**	**0.5088**	**0.2834**	**0.0351**	**0.0290**	**0.0479**	**-**	**1.0000**
2			138,996,065			13,323,938	70,715,233	39,389,133	4,881,287	4,031,547	6,654,927	-	138,996,065
3													
4		Customer		C-1	L30	**0.0876**	**0.5555**	**0.1496**	**0.1028**	**0.0701**	**0.0196**	**0.0148**	**1.0000**
5			4,222,356			369,902	2,345,471	631,571	434,205	296,049	82,766	62,393	4,222,356
6													
7			143,218,421		L2+L5	13,693,840	73,060,703	40,020,704	5,315,492	4,327,596	6,737,693	62,393	143,218,421
8													
9						**0.0956**	**0.5101**	**0.2794**	**0.0371**	**0.0302**	**0.0470**	**0.0004**	**1.0000**
10													
11													
12													
13	**Plant in Service**			C-2	L9	**0.0956**	**0.5101**	**0.2794**	**0.0371**	**0.0302**	**0.0470**	**0.0004**	**1.0000**
14			151,935,334			14,527,309	77,507,504	42,456,542	5,639,017	4,590,992	7,147,779	66,191	151,935,334
15													
16													
17	**Distribution Plant**												
18		Capacity		C-1	L7	**0.0959**	**0.5088**	**0.2834**	**0.0351**	**0.0290**	**0.0479**	**-**	**1.0000**
19			56,065,591			5,374,357	28,523,766	15,888,040	1,968,921	1,626,169	2,684,338	-	56,065,591
20													
21		Customer		C-1	L30	**0.0876**	**0.5555**	**0.1496**	**0.1028**	**0.0701**	**0.0196**	**0.0148**	**1.0000**
22			4,222,356			369,902	2,345,471	631,571	434,205	296,049	82,766	62,393	4,222,356
23													
24			60,287,947		L18+L21	5,744,259	30,869,237	16,519,610	2,403,126	1,922,218	2,767,104	62,393	60,287,947
25													
26						**0.0953**	**0.5120**	**0.2740**	**0.0399**	**0.0319**	**0.0459**	**0.0010**	**1.0000**

IGU - Cost of Service Study
Allocation Factors - Rate Base & Depreciation

TABLE C-3

	FACTOR		Total	Table	Line/ Formula	Residential	Small Commercial	Large Commercial	Interruptible Commercial	Interruptible Commercial	FMH	UAF	Check
	Total Rate Base												
1	Plant in Service	Plant		C-2	L13	**0.0956**	**0.5101**	**0.2794**	**0.0371**	**0.0302**	**0.0470**	**0.0004**	**1.0000**
2			$ 151,935,334			14,527,309	77,507,504	42,456,542	5,639,017	4,590,992	7,147,779	66,191	151,935,334
3													
4	Working Capital	Revenue		C-1	L36	**0.0943**	**0.4873**	**0.2531**	**0.0837**	**0.0442**	**0.0362**	**0.0013**	**1.0000**
5			$ -			-	-	-	-	-	-	-	-
6													
7	Materials Inv.	Dist. Plant		C-2	L26	**0.0953**	**0.5120**	**0.2740**	**0.0399**	**0.0319**	**0.0459**	**0.0010**	**1.0000**
8			$ -			-	-	-	-	-	-	-	-
9													
10	LNG Inventory	Commodity		C-1	L13	**0.0885**	**0.4751**	**0.2512**	**0.0847**	**0.0544**	**0.0449**	**0.0012**	**1.0000**
11			$ -			-	-	-	-	-	-	-	-
12													
13			151,935,334			14,527,309	77,507,504	42,456,542	5,639,017	4,590,992	7,147,779	66,191	151,935,334
14													
15						**0.0956**	**0.5101**	**0.2794**	**0.0371**	**0.0302**	**0.0470**	**0.0004**	**1.0000**

IGU - Cost of Service Study
COS - Allocation of Revenue Requirement

TABLE D

	COST OF SERVICE - ALLOCATED	IGU F.S. FY 21 Table A-3	Allocator	Table	Line/ Formula	Residential	Small Commercial	Large Commercial	Small Interruptible Commercial	Large Interruptible Commercial	FMH	UAF	Check
1	LNG Purchases - Firm	9,925,674	Com - 4	C-1	L22	**0.0882**	**0.4742**	**0.2507**	**0.0850**	**0.0542**	**0.0463**	**0.0013**	**1.0000**
2						875,626	4,707,196	2,488,737	844,065	537,496	459,830	12,726	9,925,674
3													
4	LNG Purchases - Interruptible	-	Com - 2	C-1	L16	**0.0942**	**0.4909**	**0.2591**	**0.0788**	**0.0593**	**0.0177**	**0.0000**	**1.0000**
5						-	-	-	-	-	-	-	-
6													
7	Other Storage Expenses	759,464	Cap - 3	C-1	L7	**0.0959**	**0.5088**	**0.2834**	**0.0351**	**0.0290**	**0.0479**	**0.0000**	**1.0000**
8						72,801	386,383	215,219	26,671	22,028	36,362	-	759,464
9													
10	LNG Terminaling and Processing	1,924,260	Cap - 3	C-1	L7	**0.0959**	**0.5088**	**0.2834**	**0.0351**	**0.0290**	**0.0479**	**0.0000**	**1.0000**
11						184,456	978,981	545,303	67,576	55,813	92,131	-	1,924,260
12													
13	Distribution Expenses	544,167	Cap - 3	C-1	L7	**0.0959**	**0.5088**	**0.2834**	**0.0351**	**0.0290**	**0.0479**	**0.0000**	**1.0000**
14						52,163	276,849	154,208	19,110	15,783	26,054	-	544,167
15													
16	Engineering Expenses	160,998	Cap - 3	C-1	L7	**0.0959**	**0.5088**	**0.2834**	**0.0351**	**0.0290**	**0.0479**	**0.0000**	**1.0000**
17						15,433	81,909	45,624	5,654	4,670	7,708	-	160,998
18													
19	Customer Accounts Expenses	326,471	Cus - 1	C-1	L27	**0.4557**	**0.4816**	**0.0251**	**0.0243**	**0.0118**	**0.0008**	**0.0008**	**1.0000**
20						148,768	157,218	8,194	7,938	3,841	256	256	326,471
21													
22	Administrative & General	2,772,970	Plant	C-2	L13	**0.0956**	**0.5101**	**0.2794**	**0.0371**	**0.0302**	**0.0470**	**0.0004**	**1.0000**
23						265,138	1,414,589	774,874	102,918	83,790	130,454	1,208	2,772,970
24													
25	Taxes other than Income Taxes	12,511	Plant	C-2	L13	**0.0956**	**0.5101**	**0.2794**	**0.0371**	**0.0302**	**0.0470**	**0.0004**	**1.0000**
26						1,196	6,382	3,496	464	378	589	5	12,511
27													
28	Income Tax Expense	-	Rate Base	C-3	L15	**0.0956**	**0.5101**	**0.2794**	**0.0371**	**0.0302**	**0.0470**	**0.0004**	**1.0000**
29						-	-	-	-	-	-	-	-
30													
31	Debt Service	613,446	Rate Base	C-3	L15	**0.0956**	**0.5101**	**0.2794**	**0.0371**	**0.0302**	**0.0470**	**0.0004**	**1.0000**
32						58,655	312,940	171,420	22,768	18,536	28,859	267	613,446
33													
34	Total Cost of Service	17,039,961				1,674,236	8,322,446	4,407,074	1,097,164	742,335	782,243	14,463	17,039,961

IGU - Cost of Service Study
Summary Page

TABLE E

COSS Customer Class		Revenues			Allocated Cost of Service		Revenue to Cost Ratio
		Table A-2			*Table D*		
Residential	**$**	**1,624,007**	**9.4%**	**$**	**1,674,236**	**9.8%**	**0.97**
Small Commercial	**$**	**8,394,770**	**48.7%**	**$**	**8,322,446**	**48.8%**	**1.01**
Large Commercial	**$**	**4,359,856**	**25.3%**	**$**	**4,407,074**	**25.9%**	**0.99**
Small Interruptible	**$**	**1,441,201**	**8.4%**	**$**	**1,097,164**	**6.4%**	**1.31**
Large Interruptible[1]	**$**	**761,113**	**4.4%**	**$**	**742,335**	**4.4%**	**1.03**
Hospital[1]	**$**	**622,889**	**3.6%**	**$**	**782,243**	**4.6%**	**0.80**
University[1]	**$**	**22,731**	**0.1%**	**$**	**14,463**	**0.1%**	**1.57**
	$	**17,226,566**	**100.0%**	**$**	**17,039,961**	**100.0%**	**1.01**
Hospital, University and Large Interruptible combined:							
Large Interruptible [1]	*$*	*1,406,733*	***8.2%***	*$*	*1,539,041*	***9.0%***	*0.91*

****EXECUTIVE SESSIONS may be moved to after Closing Comments to allow for the public's full participation in the meeting and adjourn the public session immediately after conclusion of the executive session.****

Customer Engagement Plan Review

(Possible Executive Session)

Suggested Motion:

MOTION TO ENTER INTO EXECUTIVE SESSION TO DISCUSS THE CUSTOMER ENGAGEMENT PLAN REVIEW; THE IMMEDIATE PUBLIC KNOWLEGE OF WHICH WOULD CLEARLY HAVE AN ADVERSE EFFECT ON THE FINANCES OF IGU

INCLUDED PARTIES: IGU BOARD OF DIRECTORS,
DAN BRITTON-GM, ELENA SUDDUTH-IGU MARKETING MANAGER & IGU ATTORNEY

Provided that there is a Quorum, a majority vote of the Directors present is needed for the Motion to enter into Executive Session to pass.

Correspondence

Anchorage Daily News Article
Natural but deadly: Huge gaps exist in US rules for wood-stove smoke.

ANCHORAGE DAILY NEWS

Fairbanks

Natural but deadly: Huge gaps exist in US rules for wood-stove smoke

Author: **Liz Ruskin and Emily Holden - Alaska Public Media & Floodlight** Updated: 3 days ago
Published 3 days ago

Glenn Helkenn outside his small log cabin on the outskirts of Fairbanks. (Liz Ruskin/Alaska Public Media)

Glenn Helkenn lives in a spruce forest, in a tiny log cabin he built himself on the outskirts of Fairbanks, Alaska's third largest city.

Give him an hour and a handsaw and Helkenn says he can harvest enough firewood to heat his 96-square-foot home for a couple of days, even when the temperature drops to minus 40. For him, it's about more than free fuel.

"It is what I enjoy doing," Helkenn said. "You know, it's the fresh air. It's the time out in the woods. It's the snowshoeing. It's the exercise."

The trouble is about 12,000 other people in the Fairbanks area burn wood, too. Many buy it by the cord to heat much larger homes. On a cold winter day, when an air inversion sets in, smoke is trapped in low-lying neighborhoods for days or weeks.

Fairbanks has some of the dirtiest air in the country, in large part due to smoke from wood stoves. Wood smoke is a serious health threat. It emits high levels of fine-particle pollution that can be inhaled deep into the lungs, exacerbating respiratory problems like asthma, and increasing the risk of premature death from heart attacks and strokes.

In 2015, the U.S. government required that newer models of wood stoves perform better and has spent millions of dollars to subsidize the transition away from older models. Now, an investigation by state environment officials is revealing a critical flaw in that plan: The latest stoves might not be any less polluting than the previous ones.

State air regulators conducted a review of 250 wood-burning stove certifications and found unexplained data omissions and atypical lab practices.

"We pulled the test reports that are supposed to be publicly posted and we compared — did this certification report meet all the rules? And we couldn't find any that actually met all the rules," said Cindy Heil, an air quality official with Alaska's department of environmental conservation. "So, that's a problem."

An association of New England air regulators called NESCAUM retested about a dozen new-model wood stoves in their own labs. They were not able to reproduce the certification results. Some stoves fell short of the standards set in 2015. One produced so much pollution that it wouldn't have met the U.S. Environmental Protection Agency's first-ever standards from 1988.

The Alaska DEC and the New England air regulators group conclude in a new report that the certification procedures and EPA's oversight of them are a "systemic failure."

As long as the stove review process continues virtually unsupervised, they say, substandard stoves will slip through and people who live with the pollution will continue to get sick and die early, not just in Fairbanks but around the country.

• • •

Fairbanks resident Patrice Lee has been campaigning for cleaner air for 14 years, ever since her son, who was born with heart defects, collapsed outside his school, Lathrop High, on an especially smoky day.

Lee says millions of dollars have been wasted trying to get people to burn wood more cleanly when it would have been better spent switching them to another fuel.

"We have a whole generation of young people who may never achieve their full lung capacity, or even potentially their cognitive potential, because they've been breathing this smoke," Lee said.

Lee says the problem isn't just stove technology. Wet wood sends more particulates up the smoke stack, so Fairbanks is steeped in public service messages about how to split and store firewood. A new kiln in town dries firewood for three days before it's offered for sale. The Woodway stove dealership offers classes every Saturday to ensure residents know how to operate their stoves for minimal pollution.

And yet Lee can drive around her city on a cold day and see chimneys emitting thick plumes.

"This house right here is a habitual offender. Just burns and burns and burns," she said, pointing out a home in an older neighborhood. An air sensor nearby, on the porch of an 86-year-old woman, regularly registers the worst readings in Fairbanks, Lee said.

Lee doubts the problem will be solved in her lifetime. The attempts to clean up Fairbanks' air are a story of half measures, technology that didn't pan out, administrative blunders and political resistance. It's also been hard for many to accept that burning wood — an activity that seems so wholesome and close to the land — should be subject to intense regulation.

Lee says her neighbors are nice people who believe that what they do on their property is their own business.

"Their smoke all blows on to my property," she said. "My most personal property is my body. And when I can't avoid smoke, that's invading the most personal property I have."

Airborne particulates from burning wood in homes may be to blame for 10,000 or more premature deaths annually in the U.S., according to two studies. In 2017, the particle pollution from residential wood heating was four times higher than the particle pollution from coal-fired power plants.

Only about 4% of residential heating in the U.S. is from wood. But that wood heating is responsible for more particulate pollution than any other source: 22%.

People in Fairbanks have limited options. Most residents who have wood stoves use them to supplement another heater — typically one that burns oil. But oil costs more. Propane doesn't perform well in extreme cold. A new utility is trucking natural gas to Fairbanks and piping it to homes, but it's not available everywhere and residents say the initial cost is steep.

With those factors in mind, the state of Alaska has spent about $12.5 million in EPA grants to replace older wood stoves with newer ones in Fairbanks. It has about $15 million more available to spend on wood stove programs.

New stoves have to comply with a 2020 federal emissions standard for fine particles of 2 grams per hour.

The EPA has approved certifications for hundreds of wood stoves said to meet the tougher standard. But Alaska allows only a few dozen of them to be sold or installed in the Fairbanks area. Cindy Heil, the DEC official, says

with the testing gaps, the state can't be sure an EPA-approved certified stove actually complies.

"Right now we've made compromises and have left some things on the list that we still have concerns on–because we need to have something on the list," she said.

The EPA is reviewing complaints about the certification program and said it could revoke approvals for stoves and test labs if appropriate.

"Having wood-burning devices that are not meeting the standards is problematic for homeowners, as well as for communities and states working to meet the National Ambient Air Quality Standards for [particulate matter]," the agency said.

The wood stove industry has defended its new models. John Crouch, public affairs director for the trade group Hearth, Patio and Barbecue Association, said he doesn't know of any significant data missing from stove test results.

Crouch said he was not surprised a second lab can't reproduce the same results.

"This is fire. Fire is pretty random," he said. "And these are in the laboratory. You can imagine when you get out into the real world. It varies a lot."

As Crouch sees it, the problem is that many Fairbanks residents are still using stoves that don't meet any EPA standard.

Area residents have sent hundreds of older stoves to be crushed in change-out programs, but as many as 2,000 may still be in use, according to state regulators.

A company called Blaze King produces some of the most popular wood stoves in Fairbanks — black boxy things with catalytic converters.

Blaze King Vice President Chris Neufeld says back in the 1970s, it was common for a wood stove to emit 60 grams of fine particles an hour — far above the current two gram per hour standard.

"I would say that all these stoves – everything that our industry is currently (making) – is exceptionally clean-burning," he said.

One Blaze King stove series did not make Alaska's approved list for the Fairbanks area, even though it was certified by the EPA. Neufeld said it's because the Alaska DEC added a metric he considers arbitrary: A particulate limit of six grams for the first hour, when stoves burn less efficiently.

Having a first-hour standard is like judging a car by how many miles per gallon it gets driving uphill, he said. Anyway, he suspects a testing fluke.

"If the wood fell just the way it was intended, it probably would have been like some of the other stoves that were below one gram per hour in the first hour filter-pull," Neufeld said. "We just got a bad run."

Paul Miller, the executive director of the group of northeast U.S. air associations, said wood stove testing is a "backwater area for EPA." He said the agency had not double-checked a stove certification in decades.

"It's like having your car out there and EPA never going back to check to see if one of these millions of cars on the road actually performed as certified by the automaker."

Reporting expenses associated with this story were paid by Floodlight, a nonprofit environmental news collaborative. It was initially published by Alaska Public Media and the Guardian and Floodlight.

Director Requests for IGU Information

Executive Session

(If Required)

Closing Comments

- General Manager
- IGU Attorney
- Directors

ADJOURNMENT

*To be effective at the end of the Executive Session