



Alliant Energy - Gas Service Manual

Appendix A

Issued: 2012

Supersedes: 2009

APPROXIMATE GAS INPUT FOR TYPICAL APPLIANCES

Appliance	Input Btu/hr (Approx.)
Space Heating Units	
Warm air furnace	
Single family	100,000
Multifamily, per unit	60,000
Single family	100,000
Multifamily, per unit	60,000
Space and Water Heating Units	
Hydronic boiler	
Single family	120,000
Multifamily, per unit	75,000
Water Heating Appliances	
Water heater, automatic storage	
30 gal to 40 gal tank	35,000
50 gal tank	50,000
Water heater, automatic instantaneous	
Capacity at 2 gal/min	142,800
Capacity at 4 gal/min	285,000
Capacity at 6 gal/min	428,400
Water heater, domestic, circulating or side-arm	35,000
Cooking Appliances	
Range, freestanding, domestic	65,000
Built-in oven or broiler unit, domestic	25,000
Built-in top unit, domestic	40,000

(For SI units, 1000 Btu/hr = 0.293 W, 1 gal = 3.8 L)



APPROXIMATE GAS INPUT FOR TYPICAL APPLIANCES (CONTINUED)

Appliance	Input Btu/hr (Approx.)
Other Appliances	
Refrigerator	3,000
Clothes dryer, Type 1 (domestic)	35,000
Gas fireplace direct vent	40,000
Gas log	80,000
Barbecue	40,000
Gas light	2,500

(For SI units, 1000 Btu/hr = 0.293 W, 1 gal = 3.8 L)



CUSTOMER PIPING MATERIAL SPECIFICATIONS

The manufacturers listed below provide gas materials that are considered acceptable by the Company. This list does not include all manufacturers that meet these criteria but is intended to provide a sample of sources from which acceptable gas materials can be obtained.

Valves

All customer provided valves must be rated at the pressures listed below.

Threaded Valves: ½", ¾", 1", 1-1/4", 2":

Valve, gas, plug, non-insulating, threaded, material is cast iron or ductile iron, tamperproof, minimum working pressure 100 psig, rated for natural gas.

Manufacturer

A.Y. McDonald
Rockford Eclipse
Mueller

Flanged Valves: 2", 3", 4":

Valve, gas, plug, flanged, minimum ANSI 125 rated (working pressure 200 psig), wrench operated, material is cast iron, ductile iron or steel, rated for natural gas.

Manufacturer

Nordstrom/Flowserve
Resun
Walworth

Corrugated Stainless Steel Tubing (CSST) Pipe

Manufacturer

Ward Manufacturing
Omegaflex
Gastite
Parker Hannifin Corporation
Tru-Flex Metal Hose
Metal-Fab Inc.

Under Ground Risers

Manufacturer

Perfection



CUSTOMER PIPING MATERIAL SPECIFICATIONS (CONTINUED)

Flanges

Type:	Threaded
Size:	3", 4"
Material:	Forged Steel
Rating:	ANSI 150 class preferred, minimum ANSI 125

Flanges must meet requirements of ANSI B16.5 and MSS-SP44.

Note: These minimum flange requirements apply to any customer flange that will meet up with a flange on the Company side piping. All other flanges on customer piping must meet the requirements of ANSI B16.1, B16.20 or MSS SP-6 per NFPA 54, Section 5.6.10.

Flex Connectors

Approved Flexible connectors which meet NFPA 54, Section 9.6 and ANSI Z21.75.

<u>Manufacturer</u>	<u>Trade Name</u>
Dormont	Super-Safe
BrassCraft	ProCoat
Tru-Flex	Home-Flex

Wrapping/Coating Black Pipe

Following item ID is for internal use only when ordering wrapping/coating:

<u>Item ID</u>	<u>Description</u>
103426	TAPE,CORROSION,2IN,10MIL BLK P
	Base primer is recommended: 3M Scotchrap Professional Grade Pipe Primer

EXTERNALLY –

All-weather performance and corrosion resistance pipe wrap tape. 10 or 20 mil black tape with pvc backing, resistant to impact and abrasions.

Suggested places to purchase:

Menards and The Home Depot – Pro-Pak pipe wrap tape, available to special order from store or online at menards.com or homedepot.com.



Specialty Plumbing supply stores (PlumBest).

Online at shop3m.com and other online specialty stores.



CONVERSION CHART

**ENERGY
CONVERSION
FACTORS**

<u>1 Cf (Cubic Feet) = Approximately 1,000 Btu</u>	<u>C = Hundred</u>
<u>1 Ccf = 100 Cf = 1 Therm</u>	<u>M = Thousand</u>
<u>1 Therm = 100,000 Btu = 100 Cf = 0.1 Mcf</u>	<u>MM = Million</u>
<u>10 Therms = 1 Mcf = 1 MMBtu</u>	<u>Dth = Dekatherm</u>
<u>1 Mcf = 1,000 Cf = 10 Ccf = 10 Therms = 1 Dth</u>	
<u>1 Quad = 10⁹ Mcf = 10¹⁰ Therms = 10¹⁵ Btu</u>	

Comparative Thermal Values	1.00 million Btu	24.0 million Btu	0.0916 million Btu	0.125 million Btu	0.139 million Btu	0.150 million Btu	0.003412 million Btu
Natural Gas 1,000 Btu / Cf	1,000 Cf	24,000 Cf	91.600 Cf	125.000 Cf	139.000 Cf	150.000 Cf	3.412 Cf
Coal 12,000 Btu /lb	83.333 lb	2,000 lb	7.633 lb	10.417 lb	11.583 lb	12.500 lb	0.2843 lb
Propane 91,600 Btu /Gal	10.917 Gal	262.009 Gal	1 Gal	1.365 Gal	1.517 Gal	1.638 Gal	0.0373 Gal
Gasoline 125,000 Btu /Gal	8.000 Gal	192.000 Gal	0.733 Gal	1 Gal	1.112 Gal	1.200 Gal	0.0273 Gal
Fuel Oil #2 139,000 Btu /Gal	7.194 Gal	172.662 Gal	0.659 Gal	0.899 Gal	1 Gal	1.079 Gal	0.0245 Gal
Fuel Oil #6 150,000 Btu /Gal	6.666 Gal	160.000 Gal	0.611 Gal	0.833 Gal	0.927 Gal	1 Gal	0.0277 Gal
Electricity 3,412 Btu /Kwh	293.083 Kwh	7,033.998 Kwh	26.846 Kwh	36.635 Kwh	40.739 Kwh	43.962 Kwh	1 Kwh



GAS PIPING STATEMENT - SAMPLE



Interstate Power & Light and Wisconsin Power & Light are Alliant Energy Companies

GAS PIPING STATEMENT

Tax District		Work Request No.		Customer Name	
				Owner of Premises <input type="checkbox"/> Same as above	
LOCATION OF PREMISES	County	Town	Range	Section	
	Address		City	State	Zip Code
Contractor Name		Gas Piping Installer's Name		Phone No. ()	
Contractor Address		City	State	Zip Code	

TYPE OF SERVICE:
(check appropriate boxes)

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> Residence | <input type="checkbox"/> New Piping |
| <input type="checkbox"/> Commercial | <input type="checkbox"/> Existing Piping |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Manufactured Home |
| | <input type="checkbox"/> Converted Piping |

DELIVERY PRESSURE

7" W.C. 2 psig Other

APPLIANCES CONNECTED	BTU/HR
<input type="checkbox"/> Furnace	
<input type="checkbox"/> Water Heater	
<input type="checkbox"/> Tankless Water Heater	
<input type="checkbox"/> Range	
<input type="checkbox"/> Dryer	
<input type="checkbox"/> Fireplace	
<input type="checkbox"/> Other	

The undersigned states the above piping was completed or converted for natural gas service and was inspected and pressure tested on the premises described above according to applicable codes and that the gas piping complies with the provisions of all applicable codes and Alliant Energy service rules.

PRESSURE TEST DATE (Required):

Month Day Year

Signature _____

75-0621 ECRM158958 REV. 3 10/08

FROM _____

PLACE
STAMP
HERE

Alliant Energy



RESIDENTIAL ELECTRIC AND NATURAL GAS SERVICE APPLICATION – SAMPLE



RESIDENTIAL ELECTRIC AND NATURAL GAS SERVICE APPLICATION AND AGREEMENT

Page 1 of 2

Interstate Power and Light Company and Wisconsin Power and Light Company are Alliant Energy companies

FOR OFFICE USE ONLY			
Date Received		Electric WR No.	Gas WR No.
Alliant Energy Representative		Work Phone No. () () ()	Map Location
Customer Account No.			
HOME OWNER AND SITE INFORMATION			
Home Owner Name (Last/First/MI)			Social Security No.
New Service Address / Fire No.	Street	City	State Zip
Existing Mailing Address / Fire No.	Street	City	State Zip
Home Phone No. () () ()	Cell Phone No. () () ()	Work Phone No. () () ()	Fax No. () () ()
E-mail Address			
City / Town / Village (check one and enter name) <input type="checkbox"/> City <input type="checkbox"/> Town <input type="checkbox"/> Village (Name)		Subdivision Name	
County		Square Footage of Dwelling	Dwelling Type <input type="checkbox"/> Single Family <input type="checkbox"/> Multi-Unit (Number of Units)
BILLING INFORMATION			
Who should be billed for electric/gas installation? <input type="checkbox"/> Builder <input type="checkbox"/> Building Owner		Who should be billed for electric/gas usage during construction? <input type="checkbox"/> Builder <input type="checkbox"/> Building Owner	
CONTRACTOR INFORMATION			
Builder/Contractor Name		Contact Person Name	Federal Tax I.D. No.
Address / Fire No.	Street	City	State Zip
Home Phone No. () () ()	Cell Phone No. () () ()	Work Phone No. () () ()	Fax No. () () ()
E-mail Address			
Electrical Contractor		Work Phone No. () () ()	Cell Phone No. () () ()
Heating Contractor		Work Phone No. () () ()	Cell Phone No. () () ()
ELECTRIC SERVICE REQUIREMENTS			
Date Permanent Electric Service Needed (MM/DD/YY): / /		Date Temporary Electric Service Needed (MM/DD/YY): / /	
Service Amps <input type="checkbox"/> 100 <input type="checkbox"/> 200 <input type="checkbox"/> 300 <input type="checkbox"/> Other		Service Type <input type="checkbox"/> Overhead <input type="checkbox"/> Underground	
Voltage <input type="checkbox"/> 120/240 <input type="checkbox"/> Other			
Electric Equipment <input type="checkbox"/> Electric Heat _____ Watts <input type="checkbox"/> Water Heater _____ Quantity		<input type="checkbox"/> Central A/C _____ Tons <input type="checkbox"/> Ground Source Heat Pump _____ Locked Rotor Amps (LRA) <input type="checkbox"/> Other (Hot Tubs, etc.) _____	
GAS SERVICE REQUIREMENTS			
Estimated Date Permanent Gas Service Will Be Needed (MM/DD/YY): / /		Delivery Pressure Needed <input type="checkbox"/> 1/4 psi / 7" water column (wc) <input type="checkbox"/> 2 lbs. per square inch (psi)	
Natural Gas Equipment <input type="checkbox"/> Heating _____ Quantity _____ BTU's		<input type="checkbox"/> Water Heater _____ Quantity _____ BTU's	
<input type="checkbox"/> Range _____ Quantity _____ BTU's		<input type="checkbox"/> Dryer _____ Quantity _____ BTU's	
<input type="checkbox"/> Instantaneous Water Heater _____ Quantity _____ BTU's		<input type="checkbox"/> Other (Generator, Pool Heater, etc.) _____ Quantity _____ BTU's	
BUILDING SITE SKETCH AND METER LOCATION REQUIREMENTS			
Customer must include a building site sketch with this application and mark the following information on the map:			
1. Mark a "G" for your proposed gas meter location with a measurement from the nearest corner of the dwelling			
2. Mark an "E" for your proposed electric meter socket/pedestal location with a measurement from the nearest corner of the dwelling			
3. Show all decks, pools, wells, septic, underground tanks/fuel lines, drain tiles/downspouts, customer owned wires, sprinkler systems, yard lighting, etc.			
ITEMS ALLIANT ENERGY WILL NEED PRIOR TO SERVICE INSTALLATION/CONNECTION			
Type an "X" in the following boxes to ensure the steps have been completed. If they do not apply to your installation, type "N/A" in the box.			
<input type="checkbox"/>	1) Application filled out completely and signed	<input type="checkbox"/>	2) Sketch of customer owned facilities included with application
<input type="checkbox"/>	3) Payment of construction charges, if applicable	<input type="checkbox"/>	4) Appropriate inspection form or statement turned into Alliant Energy for gas and electric utilities
<input type="checkbox"/>	4) Electric/gas route within 6 inches of final grade and clear of all obstructions (lumber, machinery, etc.)	<input type="checkbox"/>	5) Recorded copy of certified survey map or platted lot and lot corners staked
<input type="checkbox"/>	6) Expose or locate (with staking, flagging and/or other durable marking) the physical location of any customer owned underground facilities, i.e., wells, septic, underground tanks/fuel lines, drain tiles/downspouts, customer owned wires, sprinkler systems,	<input type="checkbox"/>	7) Other: <div style="border: 1px solid black; width: 150px; height: 20px; display: inline-block;"></div>
NOTE: Alliant Energy and/or its agent will not be held responsible for damage occurring to customer owned underground facilities that are not properly located and marked before the installation of electric and/or natural gas service.			

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RESIDENTIAL ELECTRIC AND NATURAL GAS SERVICE APPLICATION (CONTINUED)



RESIDENTIAL ELECTRIC AND NATURAL GAS SERVICE APPLICATION AND AGREEMENT

Page 2 of 2

Interstate Power and Light Company and Wisconsin Power and Light Company, are Alliant Energy companies

1. The applicant(s) understand(s) and agree(s) that prior to installation of underground electric lines or gas piping, the Landowner shall have established the final grade of the route and that after installation of the line the grade shall not be increased
2. Easement: Right of Access
 - a. The applicant(s), if also the Landowner(s), grant(s) to the Company the right to clear for installation and maintenance of its overhead and/or underground electric line or gas piping and to use any necessary equipment in, on and across the above described
 - b. The applicant(s), jointly with other applicants on the same extension shall, without cost to the Company, maintain a right-of-way, which the Company has the right to clear, adequate for the extension and along a route approved by the Company.
 - c. If requested by the Company, the applicant(s)/landowner shall grant to the Company an easement in recordable form conveying the rights and privileges in (a) and (b) above. If applicant is not the Landowner, the applicant is responsible for obtaining the
3. IOWA ONLY - The applicant(s) do(es) hereby certifies that the structure served by the gas and/or electric service line, if completed after April 1, 1984, and if intended primarily for human occupancy, conforms to the energy conservation requirements add
4. The applicant(s) individually and jointly agree(s) to indemnify and hold harmless the Company from all claims against the Company because of any injury, disease, or death sustained by reason of any act, omission, or negligence of the applicant, or any age
5. This agreement shall become effective when acceptance of the application has been signed on behalf of the Company.
6. The Company agrees to return any deposit, with interest, according to the rules and regulations of the applicable State Regulatory Authority, 12 months from the date of this application unless 1) the customer's service has been disconnected within that ti
7. WISCONSIN ONLY - The applicant(s) acknowledge(s) the right to make written request to the Company that the County Department of Health and Social Services be notified at least 5 calendar days prior to a scheduled disconnection of service for rule violat
8. The customer is responsible for notifying the Company of contaminated media (soil, groundwater, etc.) that may be present on the premises prior to Company commencing installation or extension of service. The Company reserves the right to consider alterna
9. If contaminated media is encountered during the installation or extension of service, the Company shall terminate the installation or extension of service and notify the customer. The customer is responsible for reporting the discovery of contamination to
10. The residential service customer charge on file with the State Regulatory Authority may be billed to the applicant beginning on the date the meter is installed.
11. If a customer requests a gas pressure change (6" to 2 lbs) or if a customer needs to increase meter size (250 to a 425), they will be charged the cost for Alliant Energy personnel to make the change.
12. Failure to Consume Natural Gas
 - a. The applicant(s) agree(s) to begin consuming natural gas within 6 months of installation of the service lateral. If the applicant is not consuming gas by that time, the applicant agrees to pay each month the Residential Service Customer Charge on file wi
 - b. If the applicant(s) do(es) not begin consuming gas within ten years of the installation of the service lateral, the applicant shall be liable for service pipe removal costs.
 - c. After the service lateral has been installed, the applicant(s) may not avoid obligations under these agreements by requesting discontinuance of service or by requesting service under a different rate schedule.
 - d. This agreement obligates the applicant's heirs, successors and assignees. This agreement may not be assigned to a tenant or future purchaser of the premise.
13. The Company agrees to furnish and, and the Customer agrees to take and pay for utility service in accordance with provisions and rates approved by the State Regulatory Authority; subject to all applicable rules of the Company on file with the State Regula

TRENCH MARKING AGREEMENT

The Customer agrees that the Company will dig, trench, plow or bore on the customer's property located at the above address for the installation of utility service. Utility rates are based on rough grade construction meaning the Company will backfill and

Prior to digging, trenching, or boring, the company will identify the route of the proposed excavation. The Company will notify other utility owners to facilitate the marking of existing underground utilities, including electric telephone and cable TV.

The Customer agrees to physically mark the location of any and all customer owned obstacles that lie underground within ten feet of proposed excavation. Such obstacles include, but are not limited to, septic and sewer systems, buried wires for out-buildin

APPROVAL AND ACCEPTANCE (I have read and understand the terms and conditions above)		
Owner/Responsible Party Signature	Owner/Responsible Party Printed Name	Date
ACCEPTED BY APPLICABLE ALLIANT ENERGY COMPANY		
Alliant Energy Representative Signature	Alliant Energy Representative Printed Name	Date

ROUTING: ORIGINAL - Return to Alliant Energy COPY - Customer

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(END)