

Peoples Natural Gas Company LLC

**UNIVERSAL SERVICE
AND
ENERGY CONSERVATION PLAN**

2015-2018

**Amended 1/12/16 to reflect changes provided in the Final Order
issued 12/17/15 at Docket M-2014-2432515**

Peoples Natural Gas Company LLC
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LIST OF ATTACHMENTS

1. Attachment A – Needs Assessment
2. Attachment B - Summary of Major Modifications
3. Attachment C - Joint Settlement Agreement from the Merger Transaction proceeding
4. Attachment D - Customer Referral Guide
5. Attachment E - Income Guidelines
6. Attachment F - Energy Conservation Information

UNIVERSAL SERVICE AND ENERGY CONSERVATION PLAN

Overview

On March 19, 2013, Peoples Natural Gas Company LLC (“Peoples”), Peoples TWP LLC (“Peoples TWP”) and Equitable Gas Company, LLC filed a Joint Application with the Pennsylvania Public Utility Commission (“Commission”) seeking authority to transfer certain assets between the Parties (the “Merger Transaction”). Upon closing of the transaction, Equitable Gas Company, LLC merged into Peoples on December 18, 2013¹. The combined Peoples organization serves more than 640,000 customers in eighteen counties in Southwestern Pennsylvania. For certain regulatory purposes, the former Equitable system is operated as the “Equitable Division” and separate tariffs and accounting of the Equitable Division are maintained (for ease of reference, Peoples and Equitable Division may each be referred to as a “Division” and shall collectively be referred to as the “Company”). Immediately after the closing of the Merger Transaction, the Company began a best practices comparison review of the current components of the Peoples and the Equitable Division Universal Service and Energy Conservation Plans (“USP”). The best practices review included input from Peoples’ newly formed Universal Service Advisory Group as well as thoroughly vetting the Universal Service Programs and associated practices currently in place at both Divisions. Additionally, Peoples considered current practices of its affiliate, Peoples TWP, as well as those of several other regulated utility companies. The goal of the best practices review was two-fold: 1) to identify opportunities to improve existing Universal Service Programs and 2) to achieve efficiencies in program administration.

The Peoples Division’s previous USP was filed May 31, 2011 for the plan years 2012 through 2014². On May 30, 2014, Peoples filed, and subsequently received approval for, a petition with the Commission to extend the due date of its new 2015-2017 plan to July 16, 2014³ in order to provide sufficient time for Peoples to finalize its best practices program development. This Plan was developed by the Company to guide the implementation of Universal Service Programs for the combined organization. Therefore, this Plan, once approved, will replace the currently effective USP approved for the Equitable Division (at the time, Equitable Gas Company LLC) by the Commission on 8/29/2013⁴.

¹ Docket A-2013-2353647 - Joint Application of Peoples Natural Gas Co LLC (Peoples LLC), Peoples TWP LLC (Peoples TWP) and Equitable Gas Company LLC (Equitable LLC) for 1) the transfer of all issued and outstanding Limited Liability Co Membership Interest of Equitable LLC to PNG Companies, 2) to merge Equitable LLC with Peoples LLC, 3) to transfer certain storage and transmission assets of Peoples LLC to affiliates of EQT Corp, 4) to transfer certain assets between Equitable LLC and affiliates of EQT Corp; 5) for certain ownership changes associated with the transaction; 6) certain associated Gas Capacity and Supply Agreements and 7) Certain Changes in Tariff of Peoples LLC.

² Docket No. M-2011-2245355 – Peoples Natural Gas Company LLC Universal Service and Energy Conservation Plan for 2012-2014. Final Order issued December 5, 2012.

³ Docket No. P-2014-2424357 Petition of Peoples Natural Gas Company LLC to Defer Filing Date of Proposed USECP for 2015-2017.

⁴ Docket No. M-2012-2308007 - Equitable Gas Company LLC Universal Service and Energy Conservation Plan for 2013-2015.

Both Divisions' USP includes the following Universal Service Programs: Customer Assistance Program ("CAP"), Low Income Usage Reduction Program ("LIURP"), Emergency Furnace and Houseline Repair Program, Customer Assistance Referral and Evaluation Services ("CARES"), and hardship funds. Additionally, the Peoples Division offers a Community Partnership Weatherization Program. In this Plan, a section entitled 'Best Practices Review' was added under each Universal Service Program in which the best practices review identified a change in current process or program administration that was beneficial. The Company also filed changes to its tariffs to implement a new customer contact model and Pilot E-CAP on July 24, 2015. These changes are incorporated into this Plan.

Plan Submission

This Plan will be in effect during the period from January 1, 2015 through December 31, 2018 and will be implemented upon approval by the Commission.

In accordance with 52 PA Code §62.6 Universal Service Evaluations are to be conducted every six (6) years. Peoples Division's last Universal Service Evaluation was conducted in 2010 and the last evaluation for the Equitable Division was performed in 2011. An independent evaluation of the Universal Service Programs for both Peoples and Equitable will be submitted in 2017 in accordance with the USECP Filing Schedule issued by BCS in June of 2014.

Plan Modifications

The proposed modifications, which are highlighted below, represent best practices that were identified within the Peoples' organization, including Peoples TWP, as well as within the larger Pennsylvania utility industry. In addition, this Plan incorporates key recommendations from the Joint Settlement Agreement in the Merger Transaction proceeding.

Customer Assistance Program

- Management of the Equitable Division CAP consistent with the Peoples Division's use of a third-party administrator.⁵
- Upon integration of the Equitable Division into Peoples' billing system, implement the streamlined CAP bill format for Equitable Division CAP customers.
- Implement a CAP Plus mechanism for Equitable Division customers.
- Establish standardized procedure for establishing the payment based on the percent of income or the customer's budget, whichever is the lower amount.
- CAP Plus for the Peoples Division was implemented effective November 1, 2014.

⁵ On June 20, 2014, the Equitable Division filed Tariff Supplement No. 7 with the Commission, with a proposed effective date of August 19, 2014. The Tariff Supplement reflected an adjustment to Rider D, Universal Service and Energy Conservation, to permit the Equitable Division to utilize Dollar Energy Fund, Inc. to administer the Equitable Division CAP, in accordance with Paragraph 74 Joint Settlement Agreement in the Merger Transaction proceeding.

- In order to apply CAP credits on a consistent basis, thereby eliminating differences in program administration, billing system requirements, and employee training; CAP credits will be applied when the CAP bill is issued for all customers.⁶

Pilot Extended Customer Assistance Program

- Three year pilot program proposed to serve customers with significant balances and annual incomes in the 151 to 200% FPL range.
- The program will be focused on enrolling customers below 175% of FPL, but will be available for customers in need up to 200% FPL.

CARES/Hardship Funds

- Increase participation in events to facilitate referrals and enhance program awareness such as Be Utility Wise, Department of Aging Fairs, Legislative/Senior Fairs, and other like events.
- Investigate partnering with United Way's Southwestern PA 2-1-1 Information and Referral Program to streamline application processes and provide assistance to as many eligible customers as possible.

Low Income Usage Reduction Program (LIURP)

- Standardize program eligibility requirements and program administration across Divisions through the use of Conservation Consultants, Inc. ("Conservation Consultants") as third party administrator.
- Explore means to mechanize and track Department of Community and Economic Development ("DCED") funding with LIURP combined weatherization jobs to achieve maximum benefits.
- As part of Peoples 2012 base rate proceeding, Peoples agreed to allocate up to 25% of Peoples Division budget to provide weatherization services for non-CAP participants.
- Increase LIURP annual budget levels to \$2,050,000.

Merger Transaction Settlement Commitments Incorporated into this Plan

- Continue to fund the Equitable Division CAP consistent with its needs analysis approved in its current USP.
- Establish a Universal Service Advisory Group comprised of community-based organizations, low income advocates, the Office of Consumer Advocate and other interested stakeholders.
- Management of the Equitable Division CAP consistent with the Peoples Division's use of a third-party administrator.
- Increase Peoples' contributions to Dollar Energy Fund, Inc. ("Dollar Energy") by 10% (donations and administration) annually for the next 5 years.

⁶ Peoples Division and Equitable Division Petition to Amend existing Universal Service and Energy Conservation Plans. This Petition requests (1) Temporary Deferment of Equitable Division's requirement to adjust Arrearage Forgiveness Calculation and (2) Adjustment of the Application of CAP Credits in the Peoples Natural Gas Programs. Filed with the Commission on July 10, 2014. Docketed at P-2014-2431703

- Increase LIURP expenditures for the Peoples Division to \$1,250,000 per year. Increase LIURP expenditures for the Equitable Division to \$800,000 per year. These expenditure increases will remain in effect for 4 years (2014 through 2017).

Plan Attachments and Coordination Efforts

A list of attachments to this Plan follows the Table of Contents.

An integral part of the Plan is the coordination of Universal Service Programs both within the Company and through external agencies. Company employees receive training on referral and outreach to encourage customers to apply for assistance. In addition, area agencies are encouraged to refer customers to the Universal Service Programs.

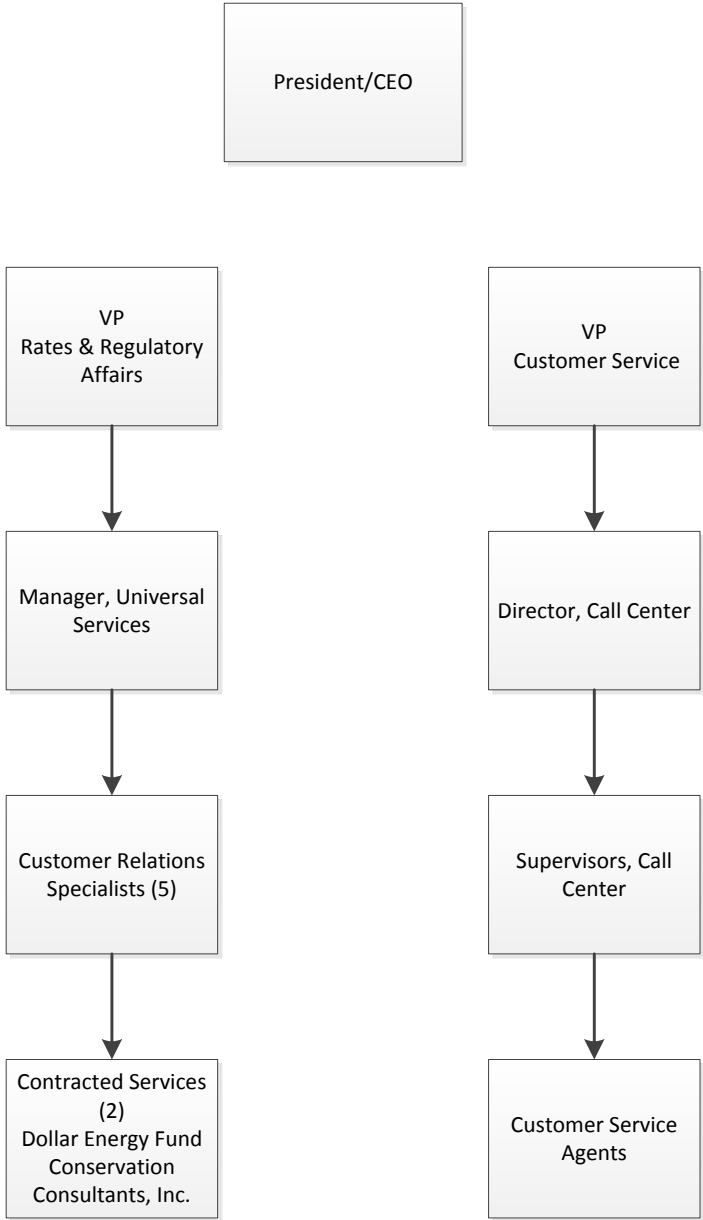
The steps used to identify eligible customers and methods of program coordination can be found listed in the first section, Customer Assistance Program. These steps apply to all of the Universal Service Programs in the Plan.

Organization

Universal Service Programs are managed and directed by the Regulatory Section of the Company; the Manager of Universal Services and the Customer Relations Specialists have the primary responsibility for the administration of these programs. The Customer Relations Staff is reflected in the organization chart. This staff supports the Universal Service Programs of Peoples, including the Equitable Division, and Peoples TWP.

Currently, incoming calls from low income customers are answered by the internal Customer Service Center. Management of the Customer Service Center is provided by the Vice President, Customer Service. All agents receive training on the Company's Universal Service Programs in order to make appropriate referrals. Beginning October 1, 2015, all calls for Universal Service programs coming through the Company's Program Line (1-800-400-WARM) will be answered by a specially trained Universal Service Call Group at Dollar Energy Fund. In addition, known low income accounts, entering the Company's IVR (1-800-764-0111 Customer Service Line), that indicate their call is related to credit, termination or restoration of service will be automatically transferred to Dollar Energy Fund's call group for assistance.

Internal Organization -- Universal Service Program Support



CUSTOMER ASSISTANCE PROGRAM (CAP)

Program Description

Peoples CAP is a special payment plan for low-income, payment-troubled customers. Through CAP, low income customers pay a percentage of their income for natural gas service. The reduced payment amount is designed to improve payment compliance and reduce collection activities.

Eligible customers agree to pay 8%, 9%, or 10% of their verified before-tax monthly income for natural gas service. The household income and family size determine which percentage of income the customer is to pay. In addition to the percentage of income amount, CAP customers will pay \$5 per month toward amortizing the balance that existed before being accepted into the program.

Best Practices Review

Each Division's CAP payment plans are established at 8%, 9%, and 10% of a household's before tax income. However, there were varying practices for minimum payments, budget payments, CAP bills, and recertification between the Divisions. The following changes are made in order to bring the best practices of each Division into a combined CAP:

- Establish minimum payment of \$25 to replace the current minimum payments of \$21 for Peoples Division and \$39 for Equitable Division.
- In cases in which a customer's calculated percentage of income payment amount is higher than the established budget amount for the account, Peoples Division allows the customer to pay the budget amount. This practice will be expanded to the Equitable Division upon conversion of the billing system (estimated implementation–July 2015) to provide the lowest available payment amount to CAP participants, thus encouraging good payment habits.
- The Peoples Division offers a streamlined CAP bill that clearly identifies the customer's payment amount and reinforces the benefits of CAP participation and timely payments. Upon conversion of the Equitable Division to the Peoples Division billing system, the Equitable Division's current traditional customer bill will be replaced with the improved CAP bill.
- In order to enhance the recertification process to ensure only eligible customers remain in CAP, the Peoples Division method of bi-annual recertification for LIHEAP recipients as well as customers on certain fixed incomes from pension, social security and disability will be applied to the Equitable Division as well. Annual recertification of all other CAP customers will be implemented for the Equitable Division upon conversion of the billing system.

- In order to apply CAP credits on a consistent basis, thereby eliminating differences in program administration, billing system requirements, and employee training, CAP credits will be applied when the CAP bill is issued for all CAP customers.⁷
- Standardize the usage monitoring level at 125% of normalized usage for both Divisions.

Modifications Since Last Plan

Arrearage Forgiveness

The Equitable Division USP includes the implementation of an accelerated Arrearage Forgiveness component that provided forgiveness of 1/36th of the customer's balance each month when the customer's required payment was received. Because the Peoples Division already provides the Arrearage Forgiveness benefit in this manner, the Company filed for a Petition for extension of implementation of this program component until the upcoming conversion of the billing system).⁷

Modification of Minimum Payment

The CAP Policy Statement provides for a minimum CAP payment of \$15 to \$25. Peoples Division's minimum CAP payment is currently \$21. Peoples has not increased the minimum CAP payment since the program's inception. The minimum CAP payment for Equitable Division is currently \$39. In order to provide program consistency and to maintain a suitable payment amount in line with the CAP Policy Statement, a minimum payment amount of \$25, plus \$5 to be paid towards the pre-program arrears, will be implemented for both Divisions.

Recertification

Under the Equitable Division's USP, recertification was not required from customers who received LIHEAP or LIHEAP Crisis grants during the program year. An annual recertification benchmark of 10% of the remaining CAP population was established. Following the Company's best practices review, the recertification practice used by the Peoples Division will be implemented for the Equitable Division as well.

CAP Administration

The Joint Settlement Agreement in the Merger Transaction proceeding included a provision for Peoples to partner with a third party for CAP administration for the Equitable Division. The Peoples Division currently utilizes Dollar Energy Fund to administer its CAP Program. The Company proposes to incorporate the administration of CAP for the Equitable Division in the same manner following approval of the tariff filing to implement this change.⁸ Use of Dollar Energy Fund as the administrator for CAP is expected to increase CAP enrollment for the Equitable Division and provide efficiencies for both companies.

⁷ Peoples Division and Equitable Division Petition to Amend existing Universal Service and Energy Conservation Plans. Filed with the Commission on July 10, 2014 at Docket No. P-2014-2431703.

⁸ On June 20, 2014, Peoples' Equitable Division filed Tariff Supplement No. 7 to Tariff Gas PA PUC No. 46 at Docket No. A-2013-2353647 in order to effectuate this modification.

CAP Credits

The Company filed a Petition to modify its existing Peoples Division USP to reflect the application of CAP Credits when a CAP bill is issued. This change will be implemented upon conversion to the billing system.⁹ This application is consistent with Peoples/Equitable's current method of applying CAP credits.

CAP Plus

CAP Plus was implemented for the Peoples Division effective November 1, 2014. CAP Plus for the Equitable Division is proposed through the filing of this Plan.

Usage Monitoring

Usage monitoring for the Equitable Division will be conducted when a customer's annual usage exceeds 125% of normalized historical usage. Under the Equitable Division's current USP, the high bill audit process monitors accounts exceeding 110% of normalized usage.

Eligibility Criteria

The CAP program is available to customers who are at or below 150% of the Federal Poverty Income Level (See Attachment E - Income Guidelines). The customer must have active residential heating service and be classified as "Payment-troubled." The Company defines a customer as payment troubled if any of the following exist:

- A household with a broken payment arrangement or termination notice.
- A household whose housing and utility costs exceed 45% of the household's total income. Housing and utility costs are defined as rent or mortgage, property taxes, gas, electric, water, telephone and sewage.
- A household who has \$100 or less disposable income after subtracting all household expenses from household income.
- A household who has an arrearage.

Prior CAP customers who apply for service within sixty (60) days of service termination or discontinuance with the Division for which service they are reapplying will continue to be considered active participants provided that they pay their CAP bill arrearage. An applicant with an outstanding balance may enroll in CAP upon initiation of service once restoration requirements are met.

Upon contact, a customer may be enrolled in CAP without providing income documentation if he/she is payment troubled and has received a LIHEAP payment within the past two years. Peoples will accept a customer's participation in an electric CAP program as verification of income if the customer provides written authorization for the CAP administrator to utilize income documentation submitted by the customer to enroll in the electric CAP. Customers who would like the CAP administrator to use income information on file for another utility's CAP

⁹ Docket No. P-2014-2431703 -- Peoples Division and Equitable Division Petition to Amend existing Universal Service and Energy Conservation Plans. Filed with the Commission on July 10, 2014 at Docket No. P-2014-2431703.

program will be mailed a form that can be signed and returned to complete CAP enrollment. Customers choosing not to return the form are required to provide income documentation. The Company will follow its collections procedures for customers who fail to meet their CAP payments in a timely manner. In all cases, the Company reserves the right to delay termination based on individual, extraordinary customer circumstances.

Low Income Home Energy Assistance Program – LIHEAP Coordination

The LIHEAP and LIHEAP Crisis Program provide grants to eligible households to help with their utility bills. CAP participants should apply for LIHEAP and the Company provides information on how to apply for the grants. CAP participants are asked to direct payment of any LIHEAP cash benefit grant that they receive to Peoples. The LIHEAP Crisis Grant may be requested contingent upon state developed criteria and would be applied consistent with state guidelines.

Current Program Benefits

- Affordable monthly payments based on ability to pay.
- Monthly CAP credits.
- Monthly arrearage forgiveness when timely CAP payments are received.
- Exemption from late payment charges and waived security deposits for CAP eligible applicants.
- Referrals to other Universal Service programs and assistance programs

Payment Plan

Peoples utilizes a “Percent of Income Payment Plan” to establish a customer’s monthly payment. Applicants must provide proof of household income when applying for the CAP program unless they have received a LIHEAP grant within the past twenty-four months. Household income and family size will place customers in a percent of income matrix (see chart). The monthly income times the 8, 9, or 10 percent equals the minimum monthly payment. Customers who have an existing balance prior to entering CAP will have an add-on of \$5 per month to help offset arrearages.

Federal Poverty Status	Percent of Income
0 - 50%	8%
51 – 100%	9%
101 – 150%	10%

* If the ratepayer's monthly CAP payment, as calculated above, exceeds the otherwise applicable monthly budget payment amount, the monthly budget payment amount will be accepted as the CAP payment. Currently, Peoples reviews the customer's payment amount during recertification to determine if the customer's budget or calculated payment plan continues to be the lowest payment available and provides the most benefit to the customer. Beginning in January 2016, Peoples will initiate a monthly manual CAP payment review process to provide a more timely review of CAP payment amounts. Such review will be based on annual usage to ensure customers maintain an affordable and stable payment amount over a 12-month period. In instances in which a change to the budget and/or calculated payment amount would result in a more beneficial payment amount for the customer, the payment amount will be changed and the customer will be notified through a letter. In order to maintain a stable payment, absent any special circumstances such as billing adjustments, the payment will be changed no more often than once every three months.

Customers reporting 'zero income' can be enrolled or continue to participate in CAP by providing proof of support. Proof of support can be submitted as a letter or other documentation from a friend, family member or social agency that customer is receiving support for essential living expenses. Customers enrolled with 'zero income' will be billed the CAP minimum payment.

Currently, CAP payments received by customers that exceed the CAP amount due are used to reduce the CAP credit portion of the bill. Effective January 1, 2016, payments received from the customer exceeding the current CAP payment due will be used to reduce the following month's CAP payment amount.

Program Dimensions

1. CAP Enrollment

The current number of active CAP participants, as of June 30 2015 is 35,354. This includes 21,012 customers of Peoples Division and 14,342 customers of the Equitable Division. Enrollment is not limited to a predetermined level. Customers must be payment-troubled and low-income to be eligible. Income eligibility is established at or below of 150% of the federal poverty level. See "Customer Referral Guide," Attachment D.

2. Arrearage Forgiveness

CAP customers with pre-program arrearages are eligible for Arrearage Forgiveness credits equal to $1/36^{\text{th}}$ of their pre-program balance when the customer pays the required CAP payment. This program allows CAP participants to fully extinguish their pre-program balance over a three (3) year period. Arrearage Forgiveness credits are provided when the customer provides full payment of their CAP payment. Effective June 1, 2016, Arrearage Forgiveness benefits will be provided for each on-time and in-full monthly CAP payment, regardless of existing CAP arrearages.

3. Calculation of CAP Credits

CAP credits are applied on a monthly basis when the CAP bill is issued to the customer. Per 52 § 69.262, a CAP credit is defined as the difference between the CAP customer's actual usage bill and the CAP monthly bill.

4. CAP Plus Program

LIHEAP receipts for customers participating in the CAP program for the previous LIHEAP heating season will be divided by the total of (1) current active CAP participants; and (2) the projected average number of CAP participants to be added for the projected quarter to arrive at a CAP Plus amount which will be added to the calculated monthly CAP payment amount (as described in 'Payment Plan' above) for all participating CAP customers.¹⁰

5. CAP Administration and Use of Community Based Organizations

As recommended in its 2010 Universal Service Evaluation, Peoples integrated a specialized Universal Service group within its Customer Service Center to pre-screen customers for referrals to Universal Service Programs, including CAP. To further improve this process and to ensure customers can access all available programs in one phone call, beginning October 1, 2015, calls from customers with limited incomes will be answered by Dollar Energy Fund's Universal Service call group and will be referred for LIHEAP, LIHEAP-Crisis, Dollar Energy Fund Hardship Fund and LIURP program and other available programs during their initial call.

Dollar Energy Fund administers Peoples' CAP program which includes verification of eligibility, recertification and day to day account monitoring. The agency has a network of community based organizations that are available to complete CAP applications for eligible customers.

Community-based organizations will be encouraged to provide referrals to the CAP program. Community-based agencies will provide appropriate follow-up, education, budget counseling, and referrals in conjunction with the LIURP program.

CAP applications will be available through the program administrator and the Company's website. The Company is investigating partnering with Southwest PA 2-1-1 to assist customers in the CAP application process as well.

¹⁰ As provided in the Settlement to Peoples' 2012 base rate case (Docket No. R-2012-2285985), the Company withheld implementation of its approved CAP Plus mechanism until such time as clarification of the State LIHEAP Plan regarding the application of LIHEAP funds for CAP recipients was received and the Company met with the Joint Petitioners. DHS's State Plan provides for the application of LIHEAP funds to the CAP ask-to-pay amount. Based on this clarification and the outcome of the Columbia case (*PA Communities Organized for Change d/b/a ACTION United, Carol Collington & Nettie Pelton vs. PA Public Utility Commission*) the Company implemented CAP Plus for its Peoples Division effective November 1, 2014. CAP Plus for the Equitable Division will become effective with the approval of this Plan.

6. CAP Recertification – Recertification for participants is generally completed on an annual basis. Customers who have received LIHEAP in the past 24 months or who have certain fixed income types (pension, social security or disability) are recertified once every two years. Recertification begins with the issuance of a letter to the customer, 60 days in advance of the recertification date, requiring the customer to submit proof of income to remain active in the CAP program. A second, reminder letter, is mailed 30 days later. If at the end of the 60 day period, the customer has not provided the required income documentation. The customer will be dismissed from the CAP program.

Control Features

To limit program costs, Peoples monitors CAP accounts monthly to ensure customers are complying with the terms of the program and are receiving the proper benefits from CAP and other Universal Service Programs.

- The minimum payment for a heating account is \$25 per month plus \$5 for the arrearage for a total minimum monthly payment of \$30.
- CAP participants who qualify for weatherization will receive priority in accordance with the criteria established for the Residential LIURP Program.
- A CAP customer who meets the eligibility criteria for LIHEAP will be encouraged to complete an application.
- Upon enrollment in CAP, participants will be advised of the importance of energy conservation and will receive information on conservation tips and weatherization programs. Customers with a history of high energy usage will be referred to the Company's weatherization program (LIURP) and any other appropriate programs. All participants will be advised that their usage will be reviewed on an ongoing basis and unjustified excess CAP usage may be billed to the CAP customer or the CAP customer may be removed from the CAP Program if such usage is considered by the Company to be outside of the intentions of the CAP program.
- The Peoples Division generates a daily report that allows the Company to identify CAP customers whose weather-normalized annual usage has increased by more than 25%. Upon conversion of the Equitable Division to the Peoples' billing system, the Equitable Division will implement this usage monitoring practice. When a CAP customer's account appears in the report, the Company representative will take the following steps:
 - The account will be reviewed and the customer will be contacted in order to determine if the increase in gas usage is justified. Justified usage may include: increase in household size, serious illness of a family member, or usage was beyond the household's ability to control. Special needs customers identified

through this process will be referred to the CARES program in accordance with 52 PA Code, § 69.261-267.

- Any customer with unjustified excess usage will be contacted and provided with conservation information, tips for decreasing usage, and referred to weatherization programs. Unjustified excess usage may be billed to the CAP customer or the CAP customer may be removed from the CAP Program.
- In addition to usage monitoring, Peoples Division monitors customers who exceed \$1,000 in CAP credits. In advance of reaching the \$1,000 threshold, customers will be notified of their current use of CAP credits and offered information about the LIURP weatherization program when they reach 50% or \$500 in CAP credits and again at 75% or \$750 in CAP credits annually. Such notification will include a description of the customer's responsibility to monitor their gas usage and advisement that the customer may be held responsible for CAP credits exceeding the \$1,000 CAP credit limit. This process will be implemented for the Equitable Division upon conversion of the billing system.
 - When an account exceeds the \$1,000 CAP credit threshold, the account is reviewed and the customer is contacted in order to determine if excess CAP credits are justified. Justification may include: an increase in household size, serious illness of a family member, or usage was beyond the household's ability to control. Special needs customers identified through this process will be referred to the CARES program in accordance with 52 PA Code, §69.261-267.
 - Unjustified CAP credits in excess of \$1,000 may be reversed and the resulting bill will be the responsibility of the CAP participant.

Default, Termination Conditions and Requests for Removal

The Company monitors accounts for changes in family size or income, timely payments, appropriate usage and timely meter readings. A CAP participant's failure to comply with one or more of the following may result in the Company ending the customer's opportunity to receive service under CAP:

- Failure to allow access to or provide customer meter readings in four consecutive months.
- Failure to report changes in income or family size.
- Failure to recertify as requested and/or to meet eligibility requirements.
- Failure to make payments may result in the Company undertaking collection activities which may lead to termination of service. To avoid termination, the customer must pay the amount set forth in the termination notice prior to the scheduled termination date. If a CAP account is terminated, the customer must pay all missed CAP payments to restore service and remain in CAP.

- Use of natural gas, while on the CAP Program, for recreational purposes.

Appeal Process

CAP applicants may appeal the denial of eligibility. If the CAP applicant is not satisfied with the Company’s initial eligibility determination, the Company will follow the dispute procedures at 52 PA. Code §56.151 and 56.152. The CAP applicant may also appeal the denial of eligibility to the PUC’s Bureau of Consumer Services in accordance with 52 PA Code §56.161-56.165.

Needs Assessment

Refer to Attachment A for the Needs Assessment which reflects the estimated number of customers whose household incomes are at or below 150% of Federal Poverty Level for each of the Divisions.

Projected Enrollment	Peoples Division	Equitable Division
2015	21,000	14,000
2016	21,500	15,000
2017	22,000	16,000
2018	22,500	17,000

Program Budget

- The CAP Program is funded by Peoples’ customers and administered by the Company. The chart below contains the projected expenditures for 2015-2018 period. Cost recovery of particular CAP components is provided through Rider F of Tariff 45 for the Peoples Division and Rider D of Tariff 46 for the Equitable Division. Recoverable costs include CAP credits, Arrearage Forgiveness, and third-party administration. The budgets provided below include Rider eligible expenditures as well as non-Rider eligible items. The Riders are subject to an annual reconciliation to actual experience.

	Peoples Division	Equitable Division
2015	\$5,583,793	\$3,606,966
2016	\$5,686,285	\$3,704,236
2017	\$5,790,850	\$3,804,424
2018	\$5,897,531	\$3,907,618

Plans to Use Community Based Organizations

Peoples’ CAP program is managed by Peoples’ staff and administered by Dollar Energy Fund. Dollar Energy Fund will contract with community based organizations throughout PNG’s service

territory. While enrollment over the phone is preferred by most customers, the Company recognizes the need to continue to work closely with community-based organizations to provide appropriate follow up, information on education, budget counseling and referrals in conjunction with LIURP. In addition, Peoples will refer eligible customers to appropriate programs and services including, but not limited to, sources of third-party funding, budget counseling, and consumer education. Peoples will coordinate with the Southwestern PA 2-1-1 referral system to expand program outreach and to accept CAP referrals.

Organizational Structure of Staff responsible for CAP

See Organization Chart on Page 5

Vice President, Rates and Regulatory Affairs
Manager, Customer Relations
Customer Relations Specialists
Dollar Energy Fund-Program Administrators

Outreach and Intake Efforts for CAP

Peoples will provide outreach for CAP and other Universal Service Programs through the Customer Service Center, the Company website and other forms of media as listed below. Fliers are included with termination notices to inform customers of available programs. Bill inserts, press releases and other information are also provided to the public to encourage referrals. Community-based agencies receive information on these programs and are encouraged to make referrals as well. A “Customer Referral Guide” is distributed to social service agencies, community leaders and Company personnel. Meetings are held with social service agencies, elected officials and other community groups to provide current information on available programs. See Attachment D. Information on the programs can also be found on the Company’s website. Peoples will also utilize the Southwestern PA 2-1-1 for referrals and provide updated information to the Company’s Universal Service Advisory Group.

Peoples continues to consider ways to streamline the application and recertification process for all programs so that customers may complete one application to participate in multiple programs and existing proof of income may be used for multiple programs.

Identification of Specific Steps to Identify and Enroll Low-Income Customers

Potentially eligible customers are identified through their income information that is documented in the Company’s billing system. Customer Service Center Representatives receive training on identification of potential referrals to all Universal Service Programs. In the Peoples Division, Universal Service Call Group will pre-screen customers for the program prior to referring them

to the administrator for enrollment. Information on income eligibility and program dimensions is provided in training and employee resource materials.

Integration of Programs

Effective October 1, 2015, the Company's Universal Service Call Group, managed by the Dollar Energy Fund, will pre-screen potentially eligible customers. The customers will be routed to this Call Group by the following methods: internal routing- upon identification of receiving LIHEAP, CAP or Dollar Energy Fund; external routing through calling the Company's Universal Service line: 1-800-400-WARM. All customers who are referred to the Universal Service 800 number are screened to determine eligibility for all available internal and external assistance programs including, but not limited to, CAP, LIURP, LIHEAP, CARES and Hardship Funds.

Field Metering Service Personnel also make referrals to Universal Service Programs. The Company provides Customer Service Center representatives with information and referral mechanisms for all of the Universal Service Programs and includes income guidelines and eligibility criteria. Personnel are provided with "A Customer Referral Guide" that lists all of the program dimensions is disseminated and also available on-line. Refer to Attachment D.

PILOT EXTENDED CUSTOMER ASSISTANCE PROGRAM (E-CAP)

Program Description

Peoples E-CAP is a three year pilot special payment plan for low-income, payment troubled customers with household incomes between 151 and 200% FPL. Eligible customers agree to pay 11% of their verified before tax monthly income for natural gas service. In addition to the percentage of income payment, E-CAP customers will pay \$5 per month toward amortizing the balance that existed before being accepted into the program.

Eligibility Criteria

Pilot E-CAP is available to customers whose household income is between 151 and 200% FPL. The customer may be an active heating customer or an applicant with a prior significant balance. Enrollment will be focused on customers with balances of \$800 or more, but customers with lesser balances may be enrolled if circumstances warrant. The customer must demonstrate they are “payment troubled” through a prior broken payment arrangement, an active termination notice or lack of utility service. Additionally, the customer must apply for a Dollar Energy Grant to reduce the delinquent balance prior to entering E-CAP if such funds are available.

The Company will follow its collections procedures for customers who fail to meet their E-CAP payments in a timely manner. In all cases, the Company reserves the right to delay termination based on individual, extraordinary customer circumstances.

Program Benefits

- Affordable monthly payments based on ability to pay.
- Monthly CAP credits.
- Monthly arrearage forgiveness when timely CAP payments are received.
- Exemption from late payment charges and waived security deposits for E-CAP eligible applicants.
- Referrals to other Universal Service programs and assistance programs.

Payment Plan

The affordable E-CAP payment will be the lower of 11% of verified before tax monthly income or the account specific budget payment. E-CAP participants will be subject to CAP-Plus. In addition to the calculated E-CAP payment, participants will pay \$5 per month towards their pre-program arrears.

Program Dimensions, Control Features, Default Conditions and Appeal Process

All parameters of the existing CAP program, as provided on pages 9 through 13 will be additionally applicable to participants of E-CAP.

Needs Assessment & Program Budget

In preparation for the introduction of Pilot E-CAP through its tariffs, Peoples identified the number of potentially eligible customers based on account specific income and balance information. Based on current account data, the Company projects 2,759 customers from the Peoples Division and 2,200 from the Equitable Division will be eligible to participate in E-CAP.

Participation	Peoples Division	Equitable Division
2015	1,300	1,100
2016	1,400	1,200
2017	1,500	1,300
2018	Beyond Pilot Period	Beyond Pilot Period

Annual Budget	Peoples Division	Equitable Division
2015	\$321,950	\$391,050
2016	\$386,000	\$469,000
2017	\$450,700	\$547,400
2018	Beyond Pilot Period	Beyond Pilot Period

Outreach, Identification of Customers and Integration of Programs

Refer to the information provided on the CAP program on pages 14 through 16 of this Plan.

LOW INCOME USAGE REDUCTION PROGRAM (LIURP)

Program Description

Peoples' LIURP Program is designed to help low income customers who have problems coping with high gas bills. Program goals are to make the home more energy efficient, control high usage and achieve bill reduction through energy savings.

Best Practices Review

The LIURP programs offered by the Peoples Division and the Equitable Division were very similar. The key difference between the two programs was the annual minimum usage and the minimum arrearage required to participate. The Equitable Division required customers to have an annual usage exceeding 160 MCF and \$750 in arrears in order to receive services under its LIURP. The Peoples Division LIURP required 140 MCF in annual usage and an arrearage of \$200. In order to expand the availability of this important program to more customers, Peoples has established a minimum annual usage requirement of 140 MCF. A minimum arrearage is not required, but customers with higher balances and/or have the lowest household income are prioritized to receive services in the program.

Modifications since last Plan

In the Joint Settlement Agreement in the Merger Transaction proceeding, Peoples agreed to increase the spending for its combined LIURP program to a total of \$2,050,000.

Peoples has contracted with Conservation Consultants, Inc. to administer the Equitable Division LIURP program, consistent with program administration for Peoples' existing LIURP.

Peoples and the Universal Service Advisory Group are examining ways to encourage partnerships and increase landlord participation in the LIURP program.

Eligibility Criteria

Note: CAP participants will receive priority to receive LIURP but must meet the following criteria as well:

1. Total family income does not exceed 150% of Federal Poverty Guidelines. (Up to 20% of the annual program budget may be allocated to customers with incomes from 151- 200% of the federal poverty level on a case-by-case basis.) Customers with lowest income and highest arrearages will be prioritized for participation.
2. Residential, gas-heating customer.

3. Customer has not moved and has not had gas service terminated within the last year.
4. Customer has annual consumption greater than 140 MCF.
5. Renters must have the gas account in their name and receive landlord permission to participate.

Note: Rental units must be metered separately and have individual heating systems.

Home Weatherization

An energy auditor visits the customer's home and conducts a thorough investigation. The auditor assesses areas where heat is escaping and cold is entering the house and also notes any previous weatherization measures that were installed and evaluates their effectiveness. The auditor asks customers to provide additional information that can assist them during the home inspection.

The information that is gathered by the auditor determines what measures will most benefit the customers' homes. Measures are installed based on established payback criteria and may include:

- Heating system improvements and replacements
- Attic, sidewall, and other types of insulation
- Caulking and weather-stripping
- Air sealing
- Hot water treatments including tank improvements, wrapping and replacements
- Minor repairs that relate to weatherization

A general guideline of \$500 per job for health and safety is provided. Health and safety measures exceeding this figure will be considered on a case-by-case basis.

Energy Education

In addition to weatherization services, LIURP provides customer education to encourage ongoing conservation. When energy conservation measures are being installed, an educator will explain the weatherization program in more detail and provide conservation and energy efficiency suggestions. The educator may provide "hands on" demonstrations of conservation measures such as lowering the thermostat and, replacement of furnace filters. The educator also provides written reference materials for the customers.

If the customer has had an unusually high increase in consumption, a follow up telephone call or visit may be scheduled one year after the program measures have been completed.

Needs Assessment

Refer to the Needs Assessment provided in Attachment A which reflects the number of low-income customers for both Divisions. Also provided in Attachment A is a listing of the number of known low income customers whose annual usage exceeds 140 MCF.

Projected Enrollment Levels

	<u>Peoples Division</u>	<u>Equitable Division</u>	<u>Total</u>
2015	245	165	410
2016	245	165	410
2017	245	165	410
2018	245	165	410
Total	980	660	1,640

These projections are based on average spending per home for the last three years.

Program Budget

2015	\$2,182,000
2016	\$2,182,000
2017	\$2,182,000
2018	\$2,182,000

The above figures include installation of program measures, Customer Relations Staff, contract labor, administrative expenses, agency meetings, equipment, outreach, and educational materials.

Plans to use Community Based Organizations

Peoples’ LIURP program is managed in-house and administered through Conservation Consultants Inc., a non-profit agency. Conservation Consultants will conduct energy audits, contract with non-profit community action agencies and private contractors as appropriate to install weatherization measures provide consumer education and perform post-installation inspections. In addition, up to 25% of the homes weatherized will be subject to random inspections. See Attachment F for conservation information.

Organizational Structure of Staff responsible for LIURP

See Organizational Chart, page 5.

Vice President, Rates and Regulatory Affairs
Manager, Customer Relations
Customer Relations Specialist
Customer Service Center Representatives
Conservation Consultants, program administrators
Energy Consultants

Outreach and Intake Efforts for LIURP

Customers who participate in the CAP program and meet LIURP eligibility criteria are referred to LIURP during the CAP intake process. Referrals are also made by community-based organizations, CARES, Customer Service Center and field customer service personnel. In addition, Peoples coordinates its LIURP Program with existing community-based programs including Rebuilding Together Pittsburgh, Habitat for Humanity, Re-Energize Pittsburgh and others. Peoples also will join with the electric companies in the service territory to provide extended services to the customer. Outreach efforts for LIURP are listed under the CAP Program.

In addition, the Company will attempt to coordinate and track funding from qualified State funded weatherization programs and electric utility weatherization/conservation programs.

Steps to Identify and Enroll Low Income Customers

Eligible customers are identified through the CAP Program and, in conjunction with the other Universal Service Programs, and enrolled in the LIURP program in accordance with program guidelines.

Integration of Programs

The Low Income Usage Reduction Program will be integrated with the federal and state weatherization programs, electric utilities weatherization programs and with programs offered by Conservation Consultants, Inc. It will also be coordinated with our Community Weatherization Partnership Program when possible. Other integration methods are as outlined under the CAP Program.

CUSTOMER ASSISTANCE REFERRAL AND EVALUATION SERVICES (CARES)

Program Description

The CARES program provides comprehensive services for customers who may have an inability to pay their gas bills and/or have special needs such as a serious medical condition, a mental health condition, limited learning ability, recent unemployment, single parent issues, etc. Customer Relations Specialists address all CARES referrals including those relating to Protection from Abuse Orders as outlined in 66 PA CSA, Chapter 14. Customer Service Center agents (“CSC agents”) refer special needs customers to the Customer Relations Specialists (“Specialists”) for assessment, assistance and additional referrals.

Referrals to the program are received from a variety of sources, including CSC agents, field customer service personnel, social service staff, community based organizations, and the Commission. CSC agents also refer customers who have Protection from Abuse Orders to CARES.

The CARES program is intended for customers with immediate needs. Specialists provide short-term assistance to assure customers not only receive all necessary referrals to other programs, but are able to access those resources. The program referrals include Peoples’ Universal Service Programs, available energy assistance sources, and public assistance such as Supplemental Nutrition Assistance Program (“SNAP”) and Medicaid. Specialists maintain an ongoing caseload and devote a considerable portion of time working with appropriate agencies

Specialists network with community and social service organizations throughout Peoples’ service territory to better enable customers to receive appropriate referrals and third party assistance and funding. Some of these agencies and committees include:

- Health and Welfare Council
- Department of Aging
- Allegheny County Community Services Advisory Council
- Health Department
- Pennsylvania Department of Human Services
- Tri-Valley Energy Partners
- Social Service Agency Providers Council
- Cambria County Energy Crisis Council

Specialists also participate in awareness programs and fairs sponsored by social service agencies and elected officials. They are also active on networking committees such as:

- Be Utility Wise
- Air Conditioner Contractors Association of America (ACCA) Furnace Inspection Program
- Homeless Prevention & Rapid Re-Housing Program
- Southwestern PA 2-1-1

Peoples' Customer Relations Specialists work with area social service agencies to provide third party assistance for our customers. As a result, eligible customers receive a substantial amount of financial assistance from third party social service agencies such as Catholic Charities, Salvation Army, and St. Vincent de Paul Society in addition to traditional energy assistance programs.

Gatekeeper Program

The CARES program also includes the Gatekeeper program which is designed to aid older adults and special needs customers who need help, but may not be able to access it themselves. Customer contact personnel are trained as "gatekeepers" to recognize certain danger signals such as changes in behavior, signs of confusion, or disability. Gatekeepers report the situation to the Specialist, who will make appropriate referrals to third party agencies such as the local Area Agency on Aging, or alert family members as needed.

Thermostats & Alternative Bills for Visually Impaired Customers

Thermostats for vision impaired customers are available for those who have been medically identified as having severe vision impairment. Peoples provides and installs these devices free of charge. Customers can also request large print bills or Braille bills depending upon their circumstances.

Earned Income Tax Credit Educational Outreach

Peoples will promote the Earned Income Tax Credit Program ("EITC") to educate eligible customers on the availability of the EITC and how to obtain the credit through the filing of their income taxes. Customers will be informed about the program through bill inserts, Peoples' website and through referrals from our CSC Agents and Specialists.

Low Income Home Energy Assistance Program Outreach

The Low Income Home Energy Assistance Program or LIHEAP is an important component of the CARES program. Peoples identifies income eligible customers and promotes the program through bill inserts, radio and television ads, press releases, press conferences, and letters sent to

customers. The Company also partners with Columbia Gas Company along with former Steeler Franco Harris to provide outreach to encourage eligible customers to apply for the program. Peoples' customers may call the Universal Service 800 number to request an application.

As previously mentioned, in order to assist customers in accessing all available Universal Service Programs and other forms of assistance, Peoples staffs a Universal Service 800 number. This telephone line is available throughout the year, and referrals are made for programs that are open at any given time including, but not limited to, CAP, LIHEAP, LIHEAP-CRISIS, LIURP, CARES and Dollar Energy Fund.

Peoples continues to partner with state, federal and other advocacy groups to encourage full funding for LIHEAP.

Best Practices Review

While both Divisions provide CARES services to vulnerable populations, income and payment requirements varied between the Divisions. The CARES program for the Peoples Division required customers to have incomes at or below 200% of the Federal Poverty Level and be payment troubled in addition to having demonstrating special needs. The CARES program for the Equitable Division did not have an income requirement. Any special needs customer in danger of losing heating service due to non-payment or heating equipment failure could be served through its CARES program. Recognizing that serving the special needs population is the key component of CARES, Peoples has expanded the eligibility for CARES in its Peoples Division to coincide with the practice of its Equitable Division.

Modifications Since last Plan

Earned Income Tax Credit Educational Outreach

Peoples will increase the outreach for the Earned Income Tax Credit Program through expanded use of bill inserts and website information. Peoples will also investigate partnerships with other organizations such as Southwestern PA 2-1-1 to increase customer awareness of the tax credit.

Low Income Home Energy Assistance Program

Peoples implemented a web portal to enable the PA Department of Human Services and social service agencies to access the Company's system to facilitate determination of program eligibility. Peoples provided training and conducted outreach to increase visibility and encourage usage of the portal.

Eligibility Criteria

Any special needs customer in danger of losing heat due to non-payment or heating equipment failure may be referred to the CARES program for assistance. Customers with PFAs are also

referred to CARES. Customers identified through the Gatekeeper program, regardless of financial need, may be referred to CARES.

Income guidelines for the LIHEAP and Crisis programs are established by the Pennsylvania Department of Human Services and may change annually. LIHEAP eligibility is currently established at 150% of the federal poverty level and is proposed to be 150% for the 2014-2015 heating season.

Needs Assessment

A Needs Assessment by Division is provided in Attachment A which reflects the projected number of customers below 200% of FPL. The number of CARES referrals received in a given year varies, but a historical review of the program reflects that assistance is provided to an estimated 500 customers per year for the Peoples Division and 600 customers per year for the Equitable Division. In addition to these CARES cases, outreach is provided to low-income customers to increase participation in energy assistance programs and EITC.

Program Budget

The total estimated funding amounts for the CARES program including salaries for Customer Relations Specialists, Manager/ Supervisor, contract labor; administrative expenses, outreach, workshops, fairs /festivals and handout materials.

	Peoples Division	Equitable Division
2015	\$212,729	\$159,257
2016	\$216,819	\$163,348
2017	\$221,032	\$167,560
2018	\$223,983	\$171,983

Plans to Use Community Based Organizations

The CARES Program is administered internally through the Specialists who network with agencies throughout the Peoples' eighteen county service territory to stay informed of available programs and to better serve low income customer needs.

Organizational Structure of Staff responsible for CARES

See Organizational Chart, page 5

Vice President, Rates and Regulatory Affairs
Manager, Customer Relations

Customer Relations Specialist
Customer Service Center Representatives
Community Based Organizations

Outreach and Intake Efforts for CARES

The Specialists promote the Universal Service Programs by maintaining contact with community service organizations throughout the Company's service territory. The Company also promotes the programs through focused articles in bill inserts, providing information on its website, conducting informational sessions and distributing the "Customer Referral Guide" for use by the social service agencies, and customer contact employee training. See Attachment D.

Identification and Referral of Low Income Customers

In addition to the steps outlined under the Customer Assistance Program, CARES customers are also identified through the Company's Gatekeeper program.

Program Integration

See Integration Methods as outlined under the Customer Assistance Program.

PEOPLES HARDSHIP FUND

Program Description

The Peoples Natural Gas Company LLC Hardship Fund is a partnership with the Dollar Energy Fund. Dollar Energy Fund was founded in 1983 and currently partners with thirteen utilities in Pennsylvania. Dollar Energy Fund is an independent, non-profit organization that provides utility bill financial assistance to customers who are on a low or fixed income. Dollar Energy Fund receives donations from utility investors and individual customers. Peoples contributes up to \$550,000 annually to match customer donations and contributes up to \$110,000 for administrative costs; of that amount \$330,000 is allocated for Peoples customers and \$220,000 for Peoples/Equitable Division customers with \$66,000 and \$44,000 in administrative costs for each Division.

Effective October 1, 2015, the available funds for the two Divisions will be combined to provide one Hardship Fund for the purposes of providing grants to customers of either Division. This change is made to provide equal opportunities to customers in the combined service territory to access funding as well as to provide administrative efficiencies.

Eligibility

The Dollar Energy Fund reviews and modifies its eligibility guidelines annually. As a fund of last resort, if gas service is off and the applicants are eligible for LIHEAP and Crisis benefits, they must apply for these benefits, when available, before applying for Dollar Energy Fund. The Dollar Energy Fund Program year is open from October 1st to September 30th, and grants are provided until available funds are exhausted. Customers must be at or below 200% of the poverty level to qualify for a grant. In addition, the customer must have made a sincere effort of payment, which is defined as having paid at least \$150 toward their utility bill over a ninety-day time period. Applicants under the age of sixty-two must have a balance of at least \$100 on their account to be eligible to apply. Applicants over sixty-two years of age may have a zero balance or greater to be eligible to apply and must have made at least one \$100 payment in the last six months. The applicant's account must be a residential heating account. Non-heat accounts and commercial accounts are not eligible for assistance from the Dollar Energy Fund.

Modifications since Last Plan

Since the last plan, Peoples has broadened its outreach to increase the visibility of Dollar Energy Fund and to encourage donations to the Fund. Examples include partnerships with the Altoona Curve, Hearth and Home Furnishings, Pittsburgh Pirates, Lernerville Speedway and KDKA Television.

Needs Assessment

Participation in the Hardship Fund is impacted by customer donations. A historical review of both divisions was used to estimate the number of customers who will receive assistance from the Hardship Fund. The Needs Assessment in Attachment A provides the number of potentially eligible customers based on the 200% FPL eligibility guideline for the Hardship Fund. Peoples estimates 1,500 customers from the Peoples Division and 900 customers from the Equitable Division will receive grants from the Hardship Fund annually for the next four years.

Enrollment Levels

During the 2013-2014 program year, Peoples customers, including those of the former Equitable Gas Company, received a total of \$1,000,000 in grants. This includes the matching grant from Dollar Energy Fund.

Budget

Peoples contributes up to \$550,000 annually for the program and can provide up to \$110,000 for administrative costs. The Company continues to explore ways to increase customer donations to assist in meeting the matching funds as well as to encourage Dollar Energy Fund to increase its fund raising programs.

	Peoples Division	Equitable Division
2015	\$396,000	\$264,000
2016	\$396,000	\$264,000
2017	\$396,000	\$264,000
2018	\$396,000	\$264,000

Community Based Organizations

Dollar Energy Fund partners with community-based organizations to accept applications. Peoples' customers may be referred to any Dollar Energy Fund community based screening agency to complete an application. Dollar Energy Fund developed an on-line application process entitled "I-Partner" which enables the Company to review grant applications more quickly. Peoples plans to continue to use Dollar Energy Fund Community Based Organizations as a means for customers to apply for Dollar Energy Fund grants. These agencies work closely with the Company and refer eligible customers to CAP, LIURP and CARES as well. The Company will continue to explore ways to streamline the application process for its customers.

Organizational Structure of Staff responsible for Hardship Funds

See Organizational Chart, page 5

Vice President Rates and Regulatory Affairs
Manager Customer Relations
Customer Relations Specialists
Dollar Energy Fund

Outreach Efforts

Peoples promotes Dollar Energy Fund and encourages customer donations in a number of ways including:

- Providing information about the program in bill inserts new customer welcome packet, press releases, and bill messaging to encourage customers to contribute to the Dollar Energy Fund by adding a dollar or more to their utility payment.
- A Dollar Energy Fund Pledge form is provided on the back of the bill to allow customers to designate a particular donation amount to be added to their bills on a monthly basis.
- Dollar Energy Fund is promoted on the Company's website and is available for customers who elect to receive their bills electronically.
- Sponsorship of the Dollar Energy Fund Warmathon, FAN Golf Outing Classic and Annual Luncheon. Warmathon activities included an advertisement to encourage donations and participation in the Warmathon "Call-in" campaign.
- Promotional activities with Lernerville Speedway including radio interviews, advertisements and special recognition during the races.
- Sponsorship of promotional events at the Altoona Curve, Minor League Baseball Team.
- Development of a signature event in partnership with Hearth and Home entitled the Warm Your Hearth...Touch a Heart Campaign featuring television advertisements, annual reception, silent auction and matching donations from Hearth and Home.
- Peoples employee support is encouraged through donations that are made on "Casual Fridays."
- Pittsburgh Pirates "Bring on the Heat" campaign where Peoples pledges a donation to Dollar Energy Fund for each strikeout.

Customers referred to the Universal Service Programs are screened for Dollar Energy Fund eligibility and referred to the program. Training is conducted for Customer Service Supervisors and representatives so that they can make referrals to eligible customers.

Identification of Eligible Customers

See information outlined under Customer Assistance Program.

Integration of Programs

See Integration Methods as outlined under the Customer Assistance Program.

LIURP PILOT -- EMERGENCY FURNACE / SERVICE LINE REPAIR ASSISTANCE

Peoples Division

Program Description

The Peoples Division Emergency Furnace/House and Service Line Repair Program has been operational since June 2011. Since that time, the program has provided assistance to 239 customers.

Many low income customers are faced with the prospect of going through the winter months without heat because they cannot afford to have their furnace or service lines repaired and there are very few programs to provide assistance and support. While the Peoples/Equitable Division offers a similar program, funding is extremely limited and is expected to be exhausted within the next two years.

Through the LIURP Pilot, this program will be reported upon annually in conjunction with the annual LIURP report. Coordination of weatherization benefits through LIURP with participation in this program will be prioritized. Customers seeking assistance for heating and service related emergencies will be evaluated for LIURP participation. Minimum usage standards for LIURP participation may be waived for participants in order to provide access to weatherization services through this emergency program. Participation and cost details will be provided annually to BCS through an appendix to the LIURP report. Participants who are LIURP eligible and receive weatherization services initiated by their emergency heating need will be fully included in the LIURP report for the purposes of calculating savings.

Eligibility Criteria

Customers must be at or below 200% of the federal poverty level and have a need for emergency repairs to their heating system or house/service lines.

Needs Assessment

The Needs Assessment Provided in Attachment A includes a projection of the number of customers served by the Divisions with incomes at or below 200% of FPL. Based on historical data, an average of 140 customers per year receives either furnace or line repair services through this program. Because equipment and line failures cannot be predicted and funding for the program is capped at \$400,000 annually, Peoples assumes the number of participants in this program will continue to be consistent with historical figures.

Projected Enrollment Levels

It is expected that this program will assist approximately 140 customers per year; or 560 customers over the next four years.

Program Budget

	Peoples Division
2015	\$400,000
2016	\$400,000
2017	\$400,000
2018	\$400,000

Organizational Structure

See Organizational Chart on page 5.

Outreach and Intake Efforts

Peoples will coordinate the emergency program with existing programs through Department of Community Economic Development (“DCED”) and LIHEAP Crisis and will accept referrals from community based organizations, Company representatives and other third parties.

Identification of Low Income Customers

As this is an emergency assistance program, customers self-identify or are referred by local community service agencies or Company field personnel.

Program Integration

The program will be administered by Conservation Consultants, Inc. In order to realize efficiencies and better coordinate with other programs, the agency will utilize subcontractors who are currently working to implement the Peoples’ LIURP program. Peoples requires that all contractors received appropriate clearances prior to participating in the Company’s program.

Equitable Division

Program Description

The Equitable Division has a limited fund to support customers with heating appliance or line emergencies. Eligible customers can receive assistance of up to \$750 for a line repair or \$1,250 towards a furnace repair or replacement. The balance in the fund as of August 2015 is \$103,000. Based on historical needs, we expect the fund to fully deplete in 2 to 3 years.

Many low income customers are faced with the prospect of going through the winter months without heat because they cannot afford to have their furnace or service lines repaired and there are very few programs to provide assistance and support.

Through the LIURP Pilot, this program will be reported upon annually in conjunction with the annual LIURP report. Coordination of weatherization benefits through LIURP with participation in this program will be prioritized. Customers seeking assistance for heating and service related emergencies will be evaluated for LIURP participation. Minimum usage standards for LIURP participation may be waived for participants in order to provide access to weatherization services through this emergency program. Participation and cost details will be provided annually to BCS through an appendix to the LIURP report. Participants who are LIURP eligible and receive weatherization services initiated by their emergency heating need will be fully included in the LIURP report for the purposes of calculating savings.

Eligibility Criteria

Customers must be at or below 200% of the federal poverty level and have a need for emergency repairs to their heating system or house/service lines.

Needs Assessment

The Needs Assessment Provided in Attachment A includes a projection of the number of customers served by the Divisions with incomes at or below 200% of FPL. Based on historical data, an average of 30 to 40 customers per year receive either furnace or line repair services through this program. Because equipment and line failures cannot be predicted and funding for the program is limited, Peoples assumes the number of participants in this program will continue to be consistent with historical figures.

Projected Enrollment Levels

It is expected that this program will assist approximately 30 to 40 customers per year; or 105 customers over the next three years.

Program Budget

	Equitable Division
2015	\$35,000
2016	\$35,000
2017	\$33,000
2018	\$---

Organizational Structure

See Organizational Chart on page 5.

Outreach and Intake Efforts

Peoples coordinates the emergency program with existing programs through Department of Community Economic Development (“DCED”) and LIHEAP Crisis and will accept referrals from community based organizations, Company representatives and other third parties.

Identification of Low Income Customers

Customers will be identified through the receipt of LIHEAP, Dollar Energy Fund and other assistance programs.

Program Integration

The program is administered internally. In order to realize efficiencies and better coordinate with other programs, the Company attempts to use subcontractors who are currently working to implement the Peoples’ LIURP program. Peoples requires that all contractors received appropriate clearances prior to participating in the Company’s program.

LIURP PILOT -- PEOPLES DIVISION COMMUNITY WEATHERIZATION PARTNERSHIP PROGRAM

Program Description

The Community Weatherization Partnership Program was approved as part of the Settlement in Peoples Base Rate Case, June 2011. Conservation programs have become increasingly important in our communities. In order to best leverage funding with existing programs and to better reach out to our customers, Peoples expanded its weatherization/conservation programs in its service territory. While Peoples Equitable Division does not currently offer a Community Partnership Program, the Company proposes to review the existing program to determine if this program should be implemented for Equitable Division customers.

Through the LIURP Pilot, this program will be reported upon in conjunction with the annual LIURP report. Such reporting will include the number of events/programs sponsored, costs and participation levels. Quality of energy conservation education and opportunity to increase knowledge of and participation in LIURP will be prioritized in the determination of which events/programs the Company will sponsor.

Eligibility Criteria

To offer a program for the benefit of Peoples' low income customers, interested agencies or organizations must submit a proposal that includes the number of expected participants, the outreach plans, the proposed venue and an overview of the topics covered as well as any weatherization materials that may be shared. These programs are designed to impact low income customers in vulnerable neighborhoods. The Company requires that agencies or organizations that are presenting an event funded by the Program conduct outreach to low income customers to identify participants. Participants are not required to provide income information in order to participate in an event.

Needs Assessment

Refer to the Needs Assessment for Peoples' programs for identification of low income populations in Peoples' service territory which will be served by these programs.

Projected Enrollment Levels

It is expected that 50-100 customers per year will receive education through this program for a total of 200-400 participants over the next four years.

Program Budget

	Peoples Division
2015	\$50,000
2016	\$50,000
2017	\$50,000
2018	\$50,000

Organizational Structure

See Organization Chart, page 5 and Organizational Structure for LIURP, page 22.

Outreach and Intake Efforts/ Identification of Low Income Customers

See LIURP outreach efforts and Identification of Low Income Customers, page 22.

Program Integration

The company will build partnerships with organizations that fill the gaps for customers whose needs cannot be served by other programs currently available.

Such organizations are publicly and privately funded and will include Re-Energize Pittsburgh, Habitat for Humanity, Rebuilding Together Pittsburgh, Allegheny County's Office of Sustainability, and area utility companies including Duquesne Light and First Energy. These partnerships will leverage Company resources to provide energy conservation and efficiency and a comprehensive assistance to low income customers. At the present time, this program is only available for Peoples Division customers. The Company proposes to conduct a best practices evaluation to determine if this program should be replicated for customers located within the service area of the Equitable Division.

ATTACHMENT A

Peoples Division

					Households at or below 150% FPL	
County	Peoples Division Customers	Households in County (Census)	% Households Served by Peoples		Households in County (Census)	Estimate of Households Served by Peoples
1 Allegheny	138,807	522,238	26.6%		133,670	35,528
2 Armstrong	11,180	28,735	38.9%		8,376	3,259
3 Beaver	17,321	70,787	24.5%		19,128	4,680
4 Blair	29,577	50,990	58.0%		16,134	9,359
5 Butler	12,322	73,147	16.8%		15,473	2,607
6 Cambria	25,753	58,197	44.3%		18,052	7,988
7 Clarion	50	16,027	0.3%		5,869	18
8 Fayette	3,058	54,372	5.6%		20,392	1,147
9 Greene	493	14,222	3.5%		4,366	151
10 Indiana	11,165	34,652	32.2%		12,699	4,092
11 Jefferson		18,637	0.0%		6,469	0
12 Lawrence	3,843	36,752	10.5%		11,698	1,223
13 Mercer	4,255	46,345	9.2%		14,969	1,374
14 Somerset	1,487	29,626	5.0%		9,077	456
15 Venango	77	22,956	0.3%		7,761	26
16 Washington	4,770	83,920	5.7%		19,617	1,115
17 Westmoreland	66,846	152,022	44.0%		38,247	16,818
Total	331,004	1,313,625	25.2%			89,841
						Less Than 150% Poverty

Equitable Division

				Households at or below 150% FPL		
County	Equitable Division Customers	Households in County (Census)	% Households Served by Equitable Division		Households in County (Census)	Estimate of Households Served by Equitable Division
Allegheny	213,870	522,238	41%		133,670	54,741
Armstrong	2,596	28,735	9%		8,376	757
Beaver		70,787	0%		19,128	0
Blair		50,990	0%		16,134	0
Butler	4,420	73,147	6%		15,473	935
Cambria	0	58,197	0%		18,052	0
Clarion	220	16,027	1%		5,869	81
Fayette	112	54,372	0%		20,392	42
Greene	8,750	14,222	62%		4,366	2,686
Indiana	61	34,652	0%		12,699	22
Jefferson	172	18,637	1%		6,469	60
Lawrence		36,752	0%		11,698	0
Mercer		46,345	0%		14,969	0
Somerset		29,626	0%		9,077	0
Venango		22,956	0%		7,761	0
Washington	42,027	83,920	50%		19,617	9,824
Westmoreland	6,876	152,022	5%		38,247	1,730
Total	279,104	1,313,625	21%			70,878
						Less Than 150% Poverty

Peoples Division

COUNTY	Customers in County (PNG)*	Households in County (Census)	% Households Served by	Households at or below 200% FPL	
				Households (Calc.)	PNG Customers (Calc.)
C2	C3	C4	C5	C8	C9
Allegheny	138,807	522,238	26.6%	146,419	38,917
Armstrong	11,180	28,735	38.9%	10,412	4,051
Beaver	17,321	70,787	24.5%	19,907	4,871
Blair	29,577	50,990	58.0%	17,759	10,301
Butler	12,322	73,147	16.8%	18,335	3,089
Cambria	25,753	58,197	44.3%	21,424	9,481
Clarion	50	16,027	0.3%	6,029	19
Fayette	3,058	54,372	5.6%	23,285	1,310
Greene	493	14,222	3.5%	5,543	192
Jefferson	11,165	34,652	32.2%	13,505	4,351
Indiana		18,637	0.0%	7,541	0
Lawrence	3,843	36,752	10.5%	12,620	1,320
Mercer	4,255	46,345	9.2%	14,076	1,292
Somerset	1,487	29,626	5.0%	11,213	563
Venango	77	22,956	0.3%	8,102	27
Washington	4,770	83,920	5.7%	23,975	1,363
Westmoreland	66,846	152,022	44.0%	42,073	18,500
Total	331,004	1,313,625		402,218	99,646

Equitable Division

COUNTY	Customers in County (PNG)*	Households in County (Census)	% Households Served by	Households at or below 200% FPL	
				Households (Calc.)	PNG Customers (Calc.)
C2	C3	C4	C5	C8	C9
Allegheny	213,870	522,238	41.0%	146,419	59,962
Armstrong	2,596	28,735	9.0%	10,412	941
Beaver		70,787	0.0%	19,907	0
Blair		50,990	0.0%	17,759	0
Butler	4,420	73,147	6.0%	18,335	1,108
Cambria	0	58,197	0.0%	21,424	0
Clarion	220	16,027	1.4%	6,029	83
Fayette	112	54,372	0.2%	23,285	48
Greene	8,750	14,222	61.5%	5,543	3,410
Jefferson	61	34,652	0.2%	13,505	24
Indiana	172	18,637	0.9%	7,541	70
Lawrence		36,752	0.0%	12,620	0
Mercer		46,345	0.0%	14,076	0
Somerset		29,626	0.0%	11,213	0
Venango		22,956	0.0%	8,102	0
Washington	42,027	83,920	50.1%	23,975	12,007
Westmoreland	6,876	152,022	4.5%	42,073	1,903
Total	279,104	1,313,625		402,218	79,555

LIURP Needs Assessment

Low-income residential customers with annual usage above 140 MCF

Peoples Division	14,604
Equitable Division	9,319

Total Potentially Eligible Population **23,923**

Note: Due to colder than normal weather, the number of customers exceeding the 140 MCF threshold for the historical 12 month period may be increased.

ATTACHMENT B

SUMMARY OF MAJOR MODIFICATIONS

Below is a summary of the major modifications that were implemented since Peoples last Universal Service and Conservation Plan, 2011-2014.

Modifications based on Peoples 2012 Base Rate Settlement (Docket No. R-2012-2285985)

Customer Assistance Program-CAP

- Implement streamlined CAP bill for Peoples CAP participants.
- Withheld implementation of CAP Plus mechanism pending clarification that the process of applying LIHEAP grants to CAP accounts would not change. CAP Plus was subsequently implemented November 1, 2014.
- Modify income verification for recertification process; conduct an annual recertification unless the customer has received LIHEAP or is on a fixed income such as a pension, social security or social security disability.

Low Income Usage Reduction Program

- Allocate up to 25% of overall budget to provide weatherization services to non-CAP customers.
- Increase budget for Peoples by \$150,000 per rate settlement, 2012

Furnace/House/Service Line Program

- Increase budget for furnace house/service line to \$400,000.

Modifications based on best practices/ efficiencies

Low Income Usage Reduction Program-LIURP

- Contracted with Conservation Consultants, Inc. to administer the LIURP program for Equitable Division customers consistent with the administration of Peoples LIURP Program.

Hardship Funds

- Increase methods of outreach for Dollar Energy Fund, including promotions at the Lernerville Speedway and Pittsburgh Pirates.

ATTACHMENT C

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Joint Application of Peoples Natural Gas	:	
Company LLC, Peoples TWP LLC, and	:	
Equitable Gas Company, LLC for All of	:	
the Authority and the Necessary	:	
Certificates of Public Convenience (1) to	:	Docket Nos. A-2013-2353647
Transfer All of the Issued and Outstanding	:	A-2013-2353649
Limited Liability Company Membership	:	A-2013-2353651
Interest of Equitable Gas Company, LLC to	:	
PNG Companies LLC, (2) to Merge	:	
Equitable Gas Company, LLC with	:	
Peoples Natural Gas Company LLC, (3) to	:	
Transfer Certain Storage and Transmission	:	
Assets of Peoples Natural Gas Company	:	
LLC to Affiliates of EQT Corporation, (4)	:	
to Transfer Certain Assets between	:	
Equitable Gas Company, LLC and	:	
Affiliates of EQT Corporation, (5) for	:	
Approval of Certain Ownership Changes	:	
Associated with the Transaction, (6) for	:	
Approval of Certain Associated Gas	:	
Capacity and Supply Agreements, and (7)	:	
for Approval of Certain Changes in the	:	
Tariff of Peoples Natural Gas Company	:	
LLC.	:	

JOINT PETITION FOR APPROVAL OF SETTLEMENT OF ALL ISSUES

TO THE HONORABLE MARK A. HOYER, ADMINISTRATIVE LAW JUDGE (“ALJ”):

I. INTRODUCTION

Peoples Natural Gas Company LLC (“Peoples”), Peoples TWP LLC (“Peoples TWP”), and Equitable Gas Company, LLC (“Equitable”),¹ the Bureau of Investigation and Enforcement (“I&E”) of the Pennsylvania Public Utility Commission (“Commission”), the Office of Consumer Advocate (“OCA”), the Office of Small Business Advocate (“OSBA”), Pennsylvania

¹ Hereinafter, Peoples, Peoples TWP, and Equitable will collectively be referred to as the “Joint Applicants.”

Independent Oil & Gas Association (“PIOGA”), Dominion Retail, Inc. and Interstate Gas Supply, Inc. (collectively “NGS Parties”), Snyder Brothers, Inc. (“Snyder Brothers”), United States Steel Corporation (“US Steel”), and Citizens for Pennsylvania’s Future (“PennFuture”), all parties to the above-captioned proceeding (hereinafter, singularly “Signatory Party” and collectively “Signatory Parties”), hereby file this “Joint Petition for Approval of Settlement of All Issues” (“Settlement”) and respectfully request that ALJ and the Commission approve the above-captioned Joint Application (“Joint Application”) consistent with the terms and conditions set forth in this Settlement.² This Settlement represents a full settlement of all issues in the instant proceeding. In support of the Settlement, the Signatory Parties state the following:

II. BACKGROUND

1. Peoples is a “public utility” and a “natural gas distribution company” as those terms are defined in Code Sections 102 and 2202 66 Pa.C.S. §§ 102, 2202. Peoples provides natural gas services to approximately 360,000 customers throughout its certificated territory, which includes all or portions of the following Pennsylvania counties: Allegheny, Armstrong, Beaver, Blair, Butler, Cambria, Clarion, Fayette, Greene, Indiana, Lawrence, Mercer, Somerset, Venango, Washington, and Westmoreland.

2. Peoples TWP is a “public utility” and a “natural gas distribution company” as those terms are defined in Code Sections 102 and 2202, 66 Pa.C.S. §§ 102, 2202. Peoples TWP provides natural gas services to approximately 60,300 customers throughout its service territory,

² The Pennsylvania State University (“PSU”), Peoples-Equitable Merger Intervenors (“PEMI”), Utility Workers Union of America, Local 666 (“UWUA”), International Brotherhood of Electrical Workers, Local 1956 (“IBEW”), and United Steelworkers International Union, Local 12050 (“Steelworkers”) are not parties to the Settlement but have indicated that they do not object. As more fully explained below, certain Signatory Parties join in specific provisions of this Settlement and do not object to other provisions.

which includes all or portions of the following Pennsylvania counties: Allegheny, Armstrong, Beaver, Butler, Cambria, Clarion, Clearfield, Indiana, Jefferson, and Westmoreland.

3. Equitable is a “public utility” and a “natural gas distribution company” as those terms are defined in Code Sections 102 and 2202, 66 Pa.C.S. §§ 102, 2202. Equitable provides natural gas services to approximately 260,000 customers throughout its Pennsylvania certificated territory, which includes all or portions of the following Pennsylvania counties: Allegheny, Armstrong, Beaver, Butler, Clarion, Greene, Indiana, Jefferson, Washington, and Westmoreland.

4. On March 19, 2013, the Joint Applicants filed with the Commission the Joint Application requesting all necessary approvals authorizing: (1) the transfer of 100% of the issued and outstanding limited liability company membership interests in Equitable, an indirect subsidiary of EQT Corporation (“EQT”),³ to PNG Companies LLC (“PNG”), an indirect subsidiary of SteelRiver Infrastructure Fund North America LP (“SRIFNA”); (2) the merger of Equitable with Peoples, a wholly-owned subsidiary of PNG, and the operation of Equitable as an operating division of Peoples; (3) the transfer of certain storage and transmission assets of Peoples to EQT; (4) the transfer of certain assets and/or the exchange of certain services between EQT and Equitable; (5) certain PNG ownership changes associated with the transaction; (6) the associated gas capacity, storage, interconnects, leases, and supply service agreements among Peoples, Peoples TWP, Equitable, and/or EQT set forth in the Joint Application; and (7) certain changes in Peoples’ tariff necessary to carry out the transactions (hereinafter, collectively the “Transaction”).

5. On March 21, 2013, a Secretarial Letter was issued directing the Joint Applicants to publish notice of the Transaction once in a newspaper having a general circulation in the area

³ Unless otherwise specified in this Joint Application, all references to “EQT” shall be deemed to also include all of its subsidiaries and affiliates.

involved and file proof of publication with the Commission. The Joint Applicants filed Proof of Publication with the Commission on April 2, 2013.

6. On April 8, 2013, I&E entered a Notice of Appearance. On April 10, 2013, the OSBA filed a Notice of Intervention, Protest, Public Statement, and Notice of Appearance. On April 11, 2013, the OCA filed a Notice of Intervention, Protest, and Public Statement.

7. Protests and Petitions to Intervene were filed by the following: the NGS Parties; UWUA, PSU, Snyder Brothers, Steelworkers, IBEW, PEMI, PIOGA, and PennFuture.⁴

8. On April 17, 2013, the Joint Applicants served the following prepared direct testimonies and accompanying exhibits: Direct Testimony of Christopher P. Kinney, Joint Applicants Statement No. 1; Direct Testimony of Morgan K. O'Brien, Joint Applicants Statement No. 2; Direct Testimony of Fredrick K. Dalena, Joint Applicants Statement No. 3; Direct Testimony of Joseph A. Gregorini, Joint Applicants Statement No. 4; Direct Testimony of Jeffrey S. Nehr, Joint Applicants Statement No. 5; Direct Testimony of Kenneth M. Johnston, Joint Applicants Statement No. 6; Direct Testimony of Ruth Ann DeLost, Joint Applicants Statement No. 7; Direct Testimony of James I. Warren, Joint Applicants Statement No. 8; and Direct Testimony of John M. Quinn, Joint Applicants Statement No. 9.

9. On April 23, 2013, the Commission issued a notice scheduling a prehearing conference in the above-captioned matter on May 9, 2013.

10. The active parties undertook extensive formal and informal discovery, prior to and subsequent to the initial prehearing conference.

⁴ The Retail Energy Supply Association and Dominion Transmission Inc. also filed and subsequently withdrew Petitions to Intervene. As a result, Retail Energy Supply Association and Dominion Transmission Inc. are no longer parties to this proceeding.

11. An initial prehearing conference was held before the ALJ on May 9, 2013. The active parties filed prehearing memoranda identifying potential issues and witnesses. A litigation schedule was established.

12. On May 29, 2013, the Joint Applicants served the following direct testimony and accompanying exhibits: Supplemental Direct Testimony of Christopher P. Kinney, Joint Applicants Statement No. 1-S; Supplemental Direct Testimony of Jeffrey S. Nehr, Joint Applicants Statement No. 5-S; Direct Testimony of Bruce Grabiec, Joint Applicants Statement No. 10; and Direct Testimony of Christine S. Mayernik, Joint Applicants Statement No. 11.

13. On July 24, 2013, the parties other than the Joint Applicants served direct testimony. I&E served the Direct Testimony of Ralph Graeser, I&E Statement No. 1, and the Direct Testimony of Ethan H. Cline, I&E Statement No. 2. The OCA served the Direct Testimony of Richard S. Hahn, OCA Statement No. 1, and the Direct Testimony of Nancy Brockway, OCA Statement No. 2. The OSBA served the Direct Testimony of Brian Kalcic, OSBA Statement No. 1. The NGS Parties served the Direct Testimony of James L. Crist, NGS Statement No. 1. PIOGA served the Direct Testimony of Louis D. D'Amico, PIOGA Statement No. 1. Snyder Brothers served the Direct Testimony of Benjamin T. Snyder, Snyder Brothers Statement No. 1. PennFuture served the Direct Testimony of John Plunkett, PennFuture Statement No. 1. No other party served direct testimony.

14. On August 19, 2013, the Joint Applicants served the following rebuttal testimony: Rebuttal Testimony of Morgan K. O'Brien, Joint Applicants Statement No. 2-R; Rebuttal Testimony of Fredrick K. Dalena, Joint Applicants Statement No. 3-R; Rebuttal Testimony of Joseph A. Gregorini, Joint Applicants Statement No. 4-R; and Rebuttal Testimony of Jeffrey S. Nehr, Joint Applicants Statement No. 5-R. The following rebuttal testimony also was served by

parties other than the Joint Applicants: the OSBA served the Rebuttal Testimony of Brian Kalcic, OSBA Statement No. 2; and the NGS Parties served the Rebuttal Testimony of James L. Crist, NGS Statement No. 2.

15. On September 6, 2013, the Joint Applicants served the following surrebuttal testimony: Surrebuttal Testimony of Fredrick K. Dalena, Joint Applicants Statement No. 3-SR; Surrebuttal Testimony of Joseph A. Gregorini, Joint Applicants Statement No. 4-SR; and Surrebuttal Testimony of Jeffrey S. Nehr, Joint Applicants Statement No. 5-SR. The parties other than the Joint Applicants also served surrebuttal testimony on September 6, 2013. I&E served the Surrebuttal Testimony of Ralph Graeser, I&E Statement No. 1-SR, and the Surrebuttal Testimony of Ethan H. Cline, I&E Statement No. 2-SR. The OCA served the Surrebuttal Testimony of Richard S. Hahn, OCA Statement No. 1-SR, and the Surrebuttal Testimony of Nancy Brockway, OCA Statement No. 2-SR. The OSBA served the Surrebuttal Testimony of Brian Kalcic, OSBA Statement No. 3. The NGS Parties served the Surrebuttal Testimony of James L. Crist, NGS Statement No. 3. PIOGA served the Surrebuttal Testimony of Louis D. D'Amico, PIOGA Statement No. 1-S. Snyder Brothers served the Surrebuttal Testimony of Benjamin T. Snyder, Snyder Brothers Statement No. 1-S. PennFuture served the Surrebuttal Testimony of John Plunkett, PennFuture Statement No. 2.

16. As a result of extensive settlement discussions, all active parties other than PennFuture reached a settlement in principle prior to the September 11, 2013 evidentiary hearing that fully resolved all issues related to the Transaction ("Transaction Issues"), except for PennFuture's proposal that the Joint Applicants be required to implement a five-year, \$220 million demand side management ("DSM") plan as a condition of the Commission's approval of

the Transaction (“PennFuture Issues”). Therefore, PennFuture was the only active party that took no position on the settlement in principle of the Transaction Issues.⁵

17. An evidentiary hearing was held on September 11, 2013. At the evidentiary hearing, the active parties also moved their respective testimonies and exhibits into the record. The remaining PennFuture Issues also were litigated at the evidentiary hearing.

18. Following the conclusion of the evidentiary hearing, the Joint Applicants and PennFuture continued to engage in additional settlement discussions in an effort to resolve the remaining PennFuture Issues. As a result of these efforts, the Joint Applicants and PennFuture reached a settlement in principle that fully resolved all of the remaining PennFuture Issues.⁶

19. As a result of the extensive efforts described above, the active parties have fully resolved all of the issues raised in this proceeding.

20. The Settlement agreed to by the Signatory Parties is set forth in the following Section III.

III. SETTLEMENT

21. The following terms of this Settlement reflect a carefully balanced compromise of the interests of all of the Signatory Parties in this proceeding. The Signatory Parties unanimously agree that the Settlement, which resolves all the Signatory Parties’ issues, is in the public interest. The Signatory Parties respectfully request that the approvals sought in the above-referenced Joint Application should be granted subject to the terms and conditions that follow.

⁵ PSU, PEMI, UWUA, IBEW, United Steelworkers, and PennFuture are not parties to the settlement of the Transaction Issues but do not oppose the settlement of the Transaction Issues. PennFuture’s non-opposition is contingent on the ALJ’s and the Commission’s approval of Paragraphs 107 through 114.

⁶ I&E, OCA, OSBA, PIOGA, NGS Parties, Snyder Brothers, US Steel, PSU, PEMI, UWUA, IBEW, and Steelworkers are not parties to the settlement of the PennFuture Issues but do not oppose the settlement of the PennFuture Issues.

22. For purposes of this Settlement, references to “Peoples” shall include the merged assets of Peoples Natural Gas Company LLC and Equitable Gas Company LLC following the Closing of the Transaction (the “Closing”) to be operated as the Peoples Division and Equitable Division of Peoples.

23. The Signatory Parties agree to the following, which fully resolve all the issues raised in this proceeding:

A. SETTLEMENT OF TRANSACTION ISSUES

24. The Joint Applicants, I&E, OCA, OSBA, PIOGA, NGS Parties, Snyder Brothers, and US Steel join in Paragraphs 24 through 106 of this Settlement, which fully resolve all the Transaction Issues related to the Transaction proposed in the Joint Application.⁷

1. Financial Conditions

25. The existence of an acquisition premium for ratemaking purposes will be determined under the Uniform System of Accounts (Account 114).

26. Any acquisition premium recorded on Peoples’ books will be permanently excluded from rate base in establishing future rates subject to the Commission’s jurisdiction. Regarding storage and pipeline assets transferred from Peoples to EQT that will provide services to Peoples pursuant to FERC-regulated agreements, the Joint Applicants will not include any acquisition premium in such rates.

27. Peoples will not claim, in any future rate proceedings, Transaction and Transition Costs to complete the transaction and any related tax effect for such items shall also be excluded in setting rates. Regarding storage and pipeline assets transferred from Peoples to EQT that will

⁷ PSU, PEMI, UWUA, IBEW, and United Steelworkers do not join in Paragraphs 24 through 106 of this Settlement, but have no objection to these provisions. As set forth in Paragraph 108, PennFuture does not object to Paragraphs 24 through 106 provided the ALJ and Commission also approve Paragraphs 107 through 114.

provide services to Peoples pursuant to FERC-regulated agreements, the Joint Applicants will not include any Transaction or Transition Costs in such rates.

28. Peoples' debt costs will be established in future rate proceedings. It will be Peoples' burden to demonstrate that its debt costs are reasonable. All parties reserve their right to review and challenge any debt cost claim.

29. Peoples will not defer any Transaction or Transition Costs identified in Paragraph 27 above, such costs shall be borne exclusively by Peoples' shareholders.

30. The existing base rates of the Peoples Division shall be reduced on one day's notice following the Closing to reflect the transfer of Peoples' transmission and storage assets to EQT as set forth in the Application Appendix K (Exhibit MKO-1) ("Peoples Adjusted base rates") consistent with Paragraph 34 and as set forth in "**Appendix A**" to this Petition. Peoples agrees that post-closing the capital structure of Peoples will be maintained at an approximate level of 50% debt and 50% equity.

31. The Peoples Adjusted base rates as defined herein and Equitable's current base rates adopted for the Equitable Division will be capped until January 1, 2018, unless there are substantial changes in regulation or federal tax rates or policy. This paragraph shall not prohibit changes in rates pursuant to the State Tax Adjustment Surcharge, the Universal Service Charge, Distribution System Improvement Charge ("DSIC") or Purchased Gas Cost ("PGC") Charges. If Peoples determines that it needs to file a general base rate case with new rates becoming effective after the expiration of the rate cap ending January 1, 2018, but prior to January 1, 2019, Peoples agrees to demonstrate, consistent with the reports required by Paragraph 45, that its claim includes at least \$15 million of synergy savings resulting from the Transaction. If such

demonstration is not made, any difference will be imputed in setting rates in the general base rate case.

32. If the Commission determines in the Investigation at Docket No. I-2012-2320323, that all natural gas distribution companies that offer discounted distribution rates must absorb all or a portion of gas on gas discounts by the effective date of Peoples' or Peoples TWP's next general rate proceeding, Peoples and Peoples TWP agree to impute revenues for those competitive service customers whose rate discounts are solely the result of competition between the Joint Applicants (Peoples, Peoples TWP and Equitable), to the extent required, and at the levels proscribed, by the Commission's action at Docket No. I-2012-2320323, in the test period used to establish rates. Nothing in this paragraph shall be construed to prohibit Peoples or Peoples TWP from contending in such proceeding that the tariff rates for classes of customers receiving such discounts be set at the cost to serve tariff rate.

33. Peoples agrees to phase out gas-on-gas competition consistent with the rebuttal testimony of Peoples' witness Gregorini in this proceeding.

34. Effective with the Closing, the Peoples Division and Equitable Division rates for collections under the DSIC mechanism will be frozen at the current levels until such time as Peoples files a new combined Long Term Infrastructure Improvement Program ("LTIIIP") plan or Asset Optimization plan for 2015 through 2019 that addresses the effects of the Transaction including how redundant facilities will be handled. Peoples revised LTIIIP will take into account the transferred assets and the improvements to be made to those assets. Peoples' DSIC rate will be reduced at Closing to reflect any amounts included in DSIC related to improvements to plant transferred to EQT. This clause must be read in conjunction with Paragraph 62 as to the additional threshold that must be met for Equitable Division to employ its DSIC.

35. The Peoples Division PGC rates to sales and transportation customers will be adjusted on one day's notice following the Closing to reflect the charges for services to be provided by Equitrans, L.P. ("Equitrans") on the Allegheny Valley Connector ("AVC") and adjustments to retainage rates approved in Peoples 1307(f)-2013 proceeding to remove retainage to be charged on the transferred assets as set forth in "**Appendix B**". The Peoples Division rates shall be adjusted to reflect costs under the new agreements for capacity and supply on an actual basis in quarterly PGC filings and in the next Peoples' Division annual PGC filing pursuant to Section 1307(f) of the Public Utility Code. The Peoples rates shall continue to be subject to reconciliation to actual costs pursuant to Section 1307(f) of the Public Utility Code. Peoples agrees to demonstrate that it is managing these agreements to comply with its least cost procurement obligation in its annual Section 1307(f) filings. Peoples will have the right to conduct an annual audit of the computation of any charges under the AVC agreement with the cooperation of EQT and provide that report to I&E, OCA and OSBA.

36. PNG/Peoples and EQT agree that the AVC agreement for the services to Peoples from the transferred assets shall have an initial term of 20 years and shall provide Peoples with a Right of First Refusal.

37. Peoples or PNG shall issue and maintain separately issued debt held by investors not affiliated with SteelRiver or its affiliates, unless the Commission determines that ratepayers will experience a net benefit from any other Company proposal.

38. Peoples will not request a capital structure for ratemaking purposes which is outside the range of capital structures employed by comparable gas distribution companies. All Signatory Parties reserve their right to review and challenge any proposed capital structure.

39. For a four-year period following Closing, Peoples will provide thirty (30) day's prior notice to the Commission, the OCA, I&E, and OSBA if it intends to make a distribution to PNG which distribution will cause its actual debt ratio, excluding working capital facilities, to exceed 55% of total capitalization.

40. LDC Holdings' consolidated long term debt ratio as a percent of total capitalization shall not exceed 60% for any period longer than one year absent approval from the Commission. Any request for approval will be considered on an expedited basis, if so requested.

41. Peoples and Peoples TWP will be ring fenced from other companies owned by SteelRiver managed funds as described in the Joint Application.

42. Peoples' dividends to PNG shall be limited to a level that maintains a maximum debt ratio of 55%, excluding working capital facilities, unless approved by the Commission.

43. Peoples shall not do the following except as approved by the Commission upon a showing of net benefit to retail customers:

- (a) guarantee the debt or credit instruments of PNG, LDC Holdings, LDC Funding, or any affiliate not regulated by the Commission;
- (b) mortgage utility assets on behalf of PNG, LDC Holdings, LDC Funding, or any affiliate other than in conjunction with financing provided by PNG to Peoples; or
- (c) loan money or otherwise extend credit to PNG, LDC Holdings, LDC Funding, or any affiliate for a term of one year or more.

44. SteelRiver will seek approval of the Commission of any future consolidation or merger of Peoples and Peoples TWP.

45. Prior to the first base rate filing after Closing, Peoples shall provide annual reports to the Commission and the parties to this proceeding describing and quantifying the levels of merger savings actually being achieved.

2. Books and Records

46. Peoples shall maintain reasonable accounting controls and pricing protocols to govern transactions with affiliates, and provide the Commission, I&E, OCA and OSBA reasonable access to the books, records and personnel of Peoples' affiliates where necessary for the Commission to adequately review Peoples' purchases of goods or services from those affiliates.

47. Peoples will maintain separate accounting for the Peoples Division and Equitable Division operations sufficient to provide all Commission required financial statements. Separate accounting records also will be maintained for operations in West Virginia and Kentucky.

48. Upon written request, PNG and its subsidiaries will provide the Commission, I&E, OCA and the OSBA reasonable access to the books and records, officers and staff of PNG and its subsidiaries. However, nothing set forth herein shall constitute or be interpreted as a waiver by PNG or its subsidiaries of its right to raise traditional discovery objections to any such requests, including, but not limited to, objections on the basis of relevance and privilege. In addition, before responding to any such requests, PNG and its subsidiaries shall be permitted to require the imposition of protections they deem necessary to prohibit disclosure of proprietary or confidential information.

49. Peoples and its parents will provide, upon request, to the Commission, I&E, OCA and OSBA, in connection with rate proceedings and other proceedings before the Commission presentations given to common stock, bond, or bond rating analysts, that directly, or indirectly pertain to Peoples.

50. Peoples will seek Commission approval of all new or amended agreements with affiliates consistent with Chapter 21 of the Public Utility Code.

51. PNG and its subsidiaries shall provide the I&E, OCA and OSBA with a copy of any reports filed with the US Securities and Exchange Commission upon request.

52. For the five (5) calendar years following Closing, Peoples will provide an annual report to the Commission as to the status of all material commitments made in any settlement.

3. Corporate Cost Allocations

53. Peoples' cost allocations between its Peoples and Equitable Divisions and affiliates will follow the standards and allocation methodologies that have been previously approved by the Commission, at Docket No. G-2012-2290014, with regard to affiliate charges under the Peoples Service Corporation, LLC Agreement.

54. Peoples' corporate cost allocations will include a rent charge for the percentage of space occupied by employees who provide services to an affiliate, and a supplies charge for supplies the employee may use in providing services to affiliates.

55. Peoples' corporate cost allocations will provide that all charges by PNG to Peoples will be at cost, provided that nothing herein shall affect Peoples' burden of proof under 66 Pa. C.S. § 2106.

4. Management

56. SteelRiver will not permit a change in ownership in Peoples or Peoples TWP without prior Commission approval if such change would result in a change in control under the then-applicable Commission standards.

57. The CEO of Peoples will continue to be a member of the governing board of PNG.

58. SteelRiver will continue to maintain Peoples' corporate headquarters in Peoples' service area and in or near Pittsburgh, Pennsylvania. Peoples agrees not to move its headquarters outside of Peoples' Pennsylvania service territory for at least a ten year period after Closing and will only do so after that time upon application to and approval by the Commission.

59. Peoples commits to maintain field offices in its service territory and staffing levels that are sufficient to provide safe and reliable service. Peoples will provide annual reports to the Commission, I&E, OSBA, and OCA regarding field offices and staffing levels in its service territory for a period of five years.

60. Peoples commits to the protection of jobs for workers covered by collective bargaining agreements, as set out and discussed in the Direct Testimony of Mr. O'Brien.

61. For a period of four years after Closing, Peoples will commit to offering one year of job placement assistance from date of termination for any employees of Equitable or Peoples who will be in need of such assistance due to the planned reorganizations of the workforce. Such job placement assistance will be consistent in kind and quality with the best practices of similar industries.

5. Reliability, Pipe Replacement and Lost and Unaccounted For Gas

62. Peoples commits to continue its acceleration of replacing higher risk pipe with a revised focus solely on its distribution and gathering assets. Peoples revised LTIIP to be filed in 2014 pursuant to Paragraph 34 will provide for a level of investment for the Peoples Division for the period 2015 through 2019 that is consistent in aggregate amount with the annual average amount of \$80 million under Peoples' Commission approved current LTIIP. Peoples will accelerate capital expenditures for the Equitable Division from \$33 million in 2014 to at least \$45 million in 2017, 2018 and 2019 as evidenced by the filing of a revised LTIIP or Asset

Optimization Plan. This clause must be read in conjunction with Paragraph 34 herein. Peoples will annually provide updates to those plans consistent with the Commission requirements.

63. Until the effective date of Peoples next general rate proceeding, Peoples will continue operating expenditures for the Peoples and Equitable Divisions for leak detection and repair at least at 2012 levels unless it is appropriate to reduce such expenditures due to development and acquisition of improved and/or lower cost methods of leak detection. Peoples' and Equitable's best practices to reduce lost and unaccounted for gas will be adopted.

64. Joint Applicants agree that Section 5.7 of the Asset Exchange Agreement concerning EQT's option to acquire rights of way will be removed from the Transaction and EQT acknowledges that it has none of the rights set forth therein.

65. The Goodwin and Tombaugh Gathering Systems ("Gathering Systems") will be transferred in the following manner:

- (a) EQT will continue to repair leaks on the Gathering Systems before Closing, provide to the Bureau of Investigation and Enforcement's Gas Safety Division ("Gas Safety Division") monthly reports of leaks repaired within 10 days of the end of each month and provide the Gas Safety Division with access to verify leaks repaired.
- (b) The Gas Safety Division will be provided access to the Gathering Systems to inspect for safety concerns during the period up to Closing.
- (c) On Closing, the Gathering Systems will be transferred to a new subsidiary of PNG ("PNG Gathering LLC").

- (d) At Closing, EQT will provide \$5 million to PNG Gathering for use in connection with the Gathering Systems as described further in subparagraph e. below (the “EQT Contribution”).
- (e) Peoples and PNG Gathering will use the EQT Contribution to assess and improve the Gathering Systems facilities as described below.
 - (i) Peoples will assess the Gathering Systems facilities and develop and implement an initial plan, in conjunction with the Gas Safety Division, to address improvements;
 - (ii) The Gas Safety Division will be permitted to access the Gathering Systems facilities to conduct safety inspections and to observe and verify improvements.
 - (iii) A summary of activities Peoples expects to be able to complete is provided in “**Appendix C.**”
- (f) After completion of the assessment, Peoples and PNG Gathering will present a plan to the Commission, after consultation with the Gas Safety Division, OCA and OSBA, estimating the additional funds necessary, if any, to provide safe and reliable service from the Gathering Systems. At the time it presents the plan to the Commission, Peoples also will serve PIOGA. In such filed plan, Peoples and PNG Gathering will make a recommendation whether to proceed with rehabilitation of all or some of the Gathering Systems and/or with abandonment of some or all of the customers served off the Gathering Systems.

- (i) The Signatory Parties agree that the Gathering Systems may be transferred to Peoples if the amount of additional investment necessary to provide safe and reliable service from the Gathering Systems is equal to or less than the sum of the remaining portion of the EQT Contribution, the estimated \$12 million cost to convert customers to alternative fuels, the estimated incremental rate base investment of \$6 million that would be supported by revenues from the approximately 1,500 customers served by the Gathering Systems, and any additional investment supported by incremental revenues on the Gathering Systems facilities. The parties agree that the remainder of the EQT contribution, the \$12 million conversion cost and the estimated \$6 million in customer revenues comprise the economic test of whether the Gathering Systems are transferred to Peoples. If the economic test is satisfied and the Commission approves transfer of the Gathering Systems, Peoples Equitable Division will be permitted to include in rate base the investments it makes to improve the Gathering Systems other than the EQT Contribution.
- (ii) If the economic test is not satisfied because the amount of additional investment necessary to provide safe and reliable service from the Gathering Systems is more than the sum of the remaining portion of the EQT Contribution, the estimated \$12 million cost to convert customers to alternative fuels, the estimated incremental

rate base investment of \$6 million that would be supported by revenues from the approximately 1,500 customers served by the Gathering Systems, and any additional investment supported by incremental revenues on the Gathering Systems facilities, Peoples will make a recommendation not to further invest in the Gathering Systems. In such a scenario, all other parties expressly reserve the right to present their own recommendations to the Commission as to the disposition of the Gathering Systems.

- (g) If the Commission does not approve the transfer of the Gathering Systems to Peoples, Peoples reserves the right to recover costs to convert customers served by the Gathering Systems facilities to alternative fuels on approval of abandonment by the Commission.

6. Customer Service

66. Peoples will commit to achieve and maintain the following levels of performance in the following customer service metrics in each of the next five years for its Peoples and Equitable Divisions:

- (a) percent of calls answered within 30 seconds of at least 82%,
- (b) busy-out rate of no more than 0.25%,
- (c) call abandonment rate that is no higher than 3% for 2014, 2015 and 2016, and 2.5% for 2017 and 2018,
- (d) percent response within 60 minutes to emergency calls of at least 98.5% for 2014, 2015 and 2016 and 99% for 2017 and 2018.
- (e) Peoples TWP agrees to extend for an additional two years commencing January 1, 2014, the customer service metrics from the Joint Settlement of

the Steel River acquisition of Peoples TWP, at Docket No. A-2010-2210326, which are attached hereto as “**Appendix D.**”

67. Peoples will provide a report to OCA, I&E, and OSBA each calendar year following assumption of such functions by the staff of Peoples or its affiliates regarding its achievement of the service quality metrics. Such reports shall continue for three calendar years after assumption of such functions by the staff of Peoples or its affiliates. The report will outline the actual metrics achieved and additional actions expected to be taken in the following year to further improve customer service. If the Company has not achieved an identified metric, the report will also include the reasons for the failure and the Company’s detailed plan to reach the service quality metric. Peoples will then convene a collaborative with OCA, I&E and the OSBA to discuss such report. If, following such a collaborative, I&E, OCA or OSBA request a proceeding before the Commission, Peoples will not oppose the initiation of such a proceeding. The Commission may, upon motion of any Signatory Party or upon its own motion, open a formal proceeding.

68. Peoples will commit to assess and identify areas of necessary improvement to customer service for Equitable customers and submit that analysis to the Commission, OCA, I&E and OSBA within 180 days of Closing for their review and comment. This review will additionally outline cost effective systems for improvement of customer service and expected service improvements.

69. Nothing in this Settlement is intended to restrict Peoples’ right to request recovery of new systems to improve service, including as a consequence of an existing system’s age, obsolescence or other requirements, as appropriate, in future rates. Any such request will be subject to review for reasonableness and prudence in accordance with rate making principles.

70. No party waives any right to request that the Commission order penalties in any proceeding convened to investigate Peoples' noncompliance with the service metrics.

71. Nothing contained herein is intended to limit the authority of the Commission, the Bureau of Consumer Services, the Gas Safety Division, or other Bureaus of the Commission from performing their duties and making recommendations, including recommendations regarding fines, for failure of Peoples to perform in any of the areas covered by the service quality metrics.

7. Universal Service

72. Peoples will continue to fund Equitable's Customer Assistance Program ("CAP") consistent with its needs analysis approved in conjunction with Equitable's currently approved Universal Services Plan.

73. Peoples will commit to establishing a Universal Service Advisory Group, consistent with the recommendations provided in the Direct Testimony of OCA witness Brockway. The Group will include community based organizations ("CBOs"), Low-Income Advocates, the OCA and other interested stakeholders and will meet quarterly to discuss all universal service issues including recommendations concerning Low Income Usage Reduction Program ("LIURP"), LIURP eligibility, Earned Income Tax Credit ("EITC") concerns and landlord issues that may present a barrier to customer participation.

74. Peoples will manage Equitable's CAP program similar to that of Peoples in that it will partner with an agency that: (a) can substantially increase the number of intake sites; (b) is an administrator of utility CAP programs for the electric distribution companies ("EDCs") or natural gas distribution companies ("NGDCs") in their territory; (c) recruits and partners with multi-service agencies; and, (d) uses a case management system to track and monitor referrals and enrollments into utility programs.

75. Peoples will be permitted to continue to recover CAP costs under Equitable's existing recovery mechanism for CAP costs. Peoples may propose changes to the recovery mechanism, which any Signatory Party to the Settlement may oppose, for review by the Commission. The provisions of Paragraph 31 shall not limit implementation of any change to Peoples' recovery mechanism.

76. Peoples agrees that the shareholders of Peoples and Peoples TWP will commit to increase its total donation (administrative and matching) to the Dollar Energy Fund by 10% for the next 5 years following Closing. Peoples will review possible ways to increase outreach to customers to attempt to increase customer contributions and will provide a report to the Commission and OCA.

77. Peoples will commit that it will increase expenditures on LIURP in the first 4 years after Closing. Specifically, commencing January 1, 2014, the Peoples Division LIURP will be funded at the level of \$1,250,000 per year (an increase of \$150,000 per year). The Equitable Division will add \$100,000 per year for the first 4 years after the merger closes to the funding of its LIURP program, for a total LIURP budget of \$800,000 per year in each of those 4 years. These increases will be funded by shareholders for the 4 year period. For Peoples TWP, shareholders will fund an additional \$25,000 per year over the LIURP budget approved and recoverable in the current Peoples TWP base rate proceeding for a period of four years, 2014 through 2017. Any funds not used in one year will roll-over into the next calendar year. Funding on this basis will continue until the effective date of rates set in the next base rate proceeding.

8. Community Commitment

78. For a period of not less than five years, Peoples will provide corporate contributions and community support in southwestern Pennsylvania in a total amount that is at

least equivalent to the amount provided by Peoples (\$1.0 million) and Equitable (\$400,000) in 2012.

79. Services that are currently performed for Equitable outside of the Equitable service area in Pennsylvania, such as call center support, customer billing and payment and customer relations, will be returned to the Peoples service area within 5 years.

80. Peoples will continue to comply with the Commission's diversity policy, 52 Pa. Code §§ 69.801-69.809.

9. Retail Supply Competition

81. Peoples will convene a collaborative conference with interested parties, including the OCA, I&E, OSBA and interested natural gas suppliers ("NGSs"), within 12 months of Closing in order to develop a strategy to further promote retail natural gas supply competition in the Peoples/Equitable service areas.

10. Gas Purchasing and Interconnections

82. Priority One ("P-1) Program – Gas Supply Assignment. Peoples agrees that in order to encourage and support customer choice, the Company's upstream pipeline capacity and certain gas commodity supplies shall be made available for release by Peoples and Equitable Divisions to suppliers serving priority one customers. Consistent with its current methodology, all demand related costs for its gas supply contracts shall be assessed to all retail customers and P-1 transportation customers. Peoples further agrees that the actual pipeline capacity path upstream of Peoples, other than the AVC system, shall be designated by the Company from its available capacity and Peoples will endeavor to accommodate a P-1 supplier's request for particular upstream pipeline capacity on a first-come first-served basis. To the extent that the P-1 supplier receives an assignment of Peoples' Equitrans Sunrise pipeline capacity, Peoples shall also provide P-1 suppliers with an option to purchase from Peoples firm gas supplies under the

Peoples and Equitable - EQT NAESB Agreements. This will allow P-1 suppliers to purchase supplies at DTI South Point prices.

83. AVC Receipt and Delivery Points.

- (a) *Maintain Existing Points* - All existing upstream interstate receipt and delivery points that flow in and out of the AVC, including Truittsburg and Rural Valley, will be maintained and not taken out of service by Equitrans. To the extent EQT seeks to discontinue any of the existing points, it will provide Peoples with adequate advance notice of such action and reasonably demonstrate that said receipt or delivery points are no longer used or useful, prior to seeking any necessary approvals from the Federal Energy Regulatory Commission (“FERC”).
- (b) *Primary Firm Points* - All existing AVC receipt and delivery points that are used to serve the Peoples Division on-system customers and Peoples’ Production Enhancement Services (“PES”) agreements will be assigned an MDQ, the sum of which will not exceed the specified total contract MDQ for services under the Peoples Asset Transportation and Storage Agreement, and designated as primary firm points as defined by the Equitrans FERC gas tariff and will not be subject to interruption by a lower priority status as set forth more fully in that tariff. The Peoples firm delivery points and associated MDQs will be aggregated under a single city gate nomination point for contractual and administrative purposes. Prior to adding new receipt and delivery points, EQT will evaluate the proposed facilities in accordance with Section 6.34 of the Equitrans FERC

gas tariff, including an analysis of the impact of its ability to meet its existing service obligations, and EQT will seek any approvals from FERC that are necessary.

(c) *Interconnection Point Listing* - Peoples and EQT agree to add the existing receipt points and delivery points and capacities as an addendum to the AVC Transportation and Storage Agreement.

(d) MAOP and Operating Pressures.

(i) EQT confirms that it has no immediate plans to increase the operating pressures or regulator set points on the AVC system. To the extent in the future, EQT plans to modify AVC system operating pressures or regulator set points, EQT will provide AVC shippers with advance notice of four months for any projects that are projected to increase operating pressures greater than 15%.

(ii) EQT agrees that it will provide AVC shippers one month prior notice of any planned filing with the FERC to increase the MAOP of AVC transmission pipelines. Peoples agrees that it will intervene as needed in any such FERC filing to protect its interests and the interests of its customers concerning the delivery of gas supplies into AVC receipts points that are fed from the Peoples' upstream facilities.

(iii) In response to a prior notice of a planned increase or an actual increase in operating pressure, regulator set points or MAOP on the AVC transmission pipeline system, Peoples agrees to construct

or modify the Peoples Division facilities to ensure that locally produced gas delivered at AVC receipts points - that are fed from the Peoples Division pipeline system - is able to flow into the AVC pipeline system. Peoples also agrees to construct or modify its dehydration and other related facilities to ensure that the quality of the locally produced gas delivered at AVC receipts points - that are fed from the Peoples Division pipeline system – meet the required gas quality standards contained in the AVC tariff.

- (iv) Peoples agrees to construct or modify such facilities, as described in iii. above, using Peoples Division PES PRC funds. The first funds spent or allocated shall be sourced from the current Peoples Division PES PRC capital spending shortfall. If additional funds are required, Peoples shall utilize available annual funding from the PES revenues that was established and approved in Peoples’ 2012 rate case for gathering lost and unaccounted for gas (“UFG”) remediation efforts or gathering system upgrades (“2012 PA PES Funding”) provided that such funding also qualifies as “gathering UFG remediation efforts or gathering system upgrades” as established in the 2012 rate case. Further, to the extent that PRC or 2012 PA PES Funding is insufficient to cover the costs of these facilities, Peoples agrees to make the necessary expenditures, provided they are necessary to ensure continued compliance with a

least-cost procurement policy and enhanced retail supply competition on the Peoples' system.

- (e) *Negotiated Rates* - Peoples and EQT agree to modify the AVC Transportation and Storage Agreement so that all currently existing interconnection points used to serve the Peoples Division on-system and existing Peoples Division PES commitments will be subject to the negotiated rates under the Peoples Asset Transportation and Storage Agreement and will not be subject to maximum recourse rates.
- (f) *Charges on AVC*
 - (i) Other than the release of AVC storage (former Rate ST and ST-SW storage) to NP-1 suppliers, suppliers on the Peoples Division will receive a net zero cost release of AVC storage and transportation capacity required to supply their on-system customers and off-system PES requirements. Per the FERC AVC tariff, suppliers will be responsible for the ACA charge and fuel charges on AVC. Shippers on AVC will be assessed a fuel charge for use of AVC storage and an AVC transportation fuel charge of 2.5% on volumes transported on AVC. These fuel rates will be subject to periodic adjustment to reflect actual UFG, fuel and losses on the AVC system. Effective upon Closing, the Peoples Division retainage rates will be adjusted to remove the volumes of fuel that will be recovered on the AVC system.

- (ii) Peoples agrees to assign and release AVC storage to NP-1 suppliers of the Peoples Division at a rate of \$.83/Mcf. Peoples agrees that this release rate will not be subject to change until the effective date of new rates resulting from Peoples' next base rate case.

- (iii) Peoples and NGSs acknowledge that there may be situations whereby suppliers have existing contracts to sell commodity supplies to their customers at the Peoples Division existing city gates. Peoples and suppliers further acknowledge that as a result of the transfer of Peoples' midstream assets to EQT and the resulting alteration in city gate delivery points, it will be necessary, during the present term of such contracts, for Peoples to adjust the monthly commodity sales volumes charged by the affected suppliers to reflect the retainage volumes assessed to suppliers by EQT on the transferred assets, for the limited purpose of preserving the pre-asset transfer delivery points, and thus the benefits of the sale of such commodity supplies for customers and suppliers. Peoples agrees that it will also work with the NGSs to explore other alternatives to effectively address the situation described above and modify its tariff if required. Peoples further agrees that prior to Closing it will notify affected customers in writing of this situation, and that it will work with the affected suppliers and their customers on an ongoing basis to support and

justify the monthly volumes adjustments described above. In the event that a customer challenges any such adjustments, Peoples will assist the affected supplier in defense of the adjustment.

(g) *Existing DTI and Equitrans Interstate Points* – Subject to Paragraph 83(a) above, Peoples and EQT agree that the following existing interstate supply points will not be eliminated during the term of the Peoples Asset Transportation and Storage Agreement.

- (i) DTI- City Gate 20200
- (ii) TGP- Pitt Terminal 20199
- (iii) Equitrans- Ginger Hill- 11142
- (iv) Tetco M2- Rockwood 70051
- (v) Tetco M3- Ebensburg 70323
- (vi) National Fuel- PNGCG
- (vii) Truittsburg
- (viii) Rural Valley

11. NP-1 Supplier Balancing Service

84. In order to address the perceived change in balancing flexibilities and increase in cash-out risk as a result of the transfer of the storage assets, Peoples agrees to offer to NP-1 suppliers of the Peoples Division a new service that will allow NP-1 suppliers, at the end of the calendar month following the monthly trading period, to transfer in-place AVC storage volumes with Peoples using the NP-1 supplier's assigned and available storage capacity. Peoples agrees to work with NP-1 suppliers to develop allowable parameters governing such storage transfers with the intent to provide NP-1 suppliers with a similar level of balancing flexibilities currently provided to NP-1 suppliers today.

12. Local Gas Opportunities

85. Peoples agrees that it will endeavor, wherever operationally feasible, to utilize locally produced gas supplies.

86. In the event a new tap request or tap volume increase into the Peoples Division system is unavailable due to capacity restraints in the Peoples Division system, Peoples agrees to:

- (a) Identify opportunities to displace gas that is being sourced from interstate pipelines with local supplies produced into the Peoples Division system;
- (b) Identify areas of possible new production for redelivery to an alternate section of the Peoples Division distribution system through the AVC or other means to displace gas sourced from interstate pipelines.

87. Immediately upon Closing, Peoples agrees to undertake an initiative using the Peoples Division PES PRC funds to create interconnections between the Equitable and Peoples Divisions that are designed to increase the use of local gas supplies and add more flexibility for suppliers on both systems. Peoples also agrees that it will, consistent with its least cost mandate and where operationally feasible, examine ways to facilitate the movement of incremental local gas supplies between the Peoples and Equitable Divisions through gas displacement arrangements.

13. BB&A Service

88. Peoples agrees to implement a restructured banking, balancing, and advancing (“BB&A”) service to allow NP-1 suppliers of the Peoples Division to maintain access to the same benefits from the BB&A storage service that they receive today. Peoples agrees to modify its proposed tariff (Tariff Page 34 and 34A of Joint Applicants Exhibit No. JAG-3) so that the carrying costs charged to NP-1 suppliers shall be based on Peoples’ actual short-term debt cost

rate. Peoples also agrees to provide the NGSs with an example and an estimate of the benefits to be derived under Peoples' proposal.

14. Peoples PES Program

89. Peoples agrees to extend the term of the existing PES and Equitable Gas AGS producer agreements until the effective date of new base rates in Peoples' next base rate case filing. After Closing, Peoples agrees to collaborate with PIOGA and its members to review information regarding both systems, use of moisture control equipment, pipeline maps, current producer bottlenecks, areas needed for expansion due to additional gas, and to allocate its modeler resources for utilizing the agreed PES/Equitable Project Review Committee annual expenditure.

90. Six months prior to the filing of Peoples' next base rate case, Peoples agrees to initiate discussions with PIOGA regarding a revised PES program on the Peoples, Peoples TWP and Equitable systems, (including PES/Rate AGS or other related fees). Notwithstanding this commitment, Peoples and Peoples TWP agree after Closing: (i) that Peoples will seek approval through the 1307(f) process to apply to the Peoples TWP and Equitable systems the PES agreement provisions permitting the release of older low-producing wells (Section 4.04.a.,b. & c. and Section 4.05, as applicable) and (ii) that prior to enforcing Peoples TWP gas quality requirements on individual PIOGA member producers, Peoples will initiate discussions with PIOGA for addressing gas quality issues on a system-wide basis.

91. Peoples agrees that prior to termination of the existing off-system capacity agreement (Rural Valley and Truittsburg) between Peoples and DTI on April 1, 2016, it will work with PIOGA to replace the DTI capacity contract with a lower cost capacity contract or explore other off-system alternatives that will eliminate the need for an off-system DTI capacity

contract. These options will result in lower overall pipeline capacity costs and an associated decrease in fees charged to PES participants effective April 1, 2016.

15. Enhanced Retail Choice

92. Peoples agrees that following Closing, it will begin a review of the existing transportation program process on Equitable and convene a collaborative, that will include all interested stakeholders, within 12 months following Closing to develop a strategy to promote retail supply competition on the Peoples/Equitable service areas. Peoples agrees that this collaborative will consider the adoption of a local gas aggregation service on Equitable and changes to the Equitable Division balancing provisions. Peoples further agrees to a target filing date of possible tariff changes resulting from this collaborative within three months following the date the collaborative is convened.

93. Peoples agrees that within six months following Closing, Peoples will implement an Energy Choice outreach program for Equitable customers and begin using the Peoples' Electronic Data Transfer/Electronic Bulletin Board/Nominations System and related processes.

94. Peoples agrees that within 30 days following Closing, it will provide Aged Receivables reporting on behalf of suppliers that are receiving commodity billing services from the Peoples Division.

95. Peoples agrees that within 6 months of approval of this settlement it will convene a collaborative to include input of interested stakeholders, to discuss all aspects of a proposed new and moving customer referral program within 12 months of Closing that is substantially similar to those approved by the Commission in the recent Retail Markets Investigation. If there is substantial agreement among the stakeholders, Peoples will file a proposed new and moving customer referral program with the Commission within 14 months of Closing. All stakeholders and other interested parties will have the right to file comments in response to the filing.

96. Peoples agrees that within one year of the date of Closing, it will review and seek to revise the Purchase of Receivables program of Equitable and take steps necessary to make it consistent in design and rate structure, with that of the Peoples Division. To the extent the adoption of certain aspects of Peoples' Purchase of Receivables Program requires billing system modifications for the Equitable Division, those aspects of the Peoples' Purchase of Receivables Program will not be implemented until the planned conversion of the Equitable Division to Peoples' billing system.

16. Carnegie Gathering System

97. Effective upon Closing, PIOGA's confidential Rate AGS agreement with Equitable will apply to the Carnegie Gathering System, which shall be owned and operated by Equitable. The confidential Rate AGS agreement does not apply to the Goodwin and Tombaugh Systems.

17. Goodwin Gathering System

98. Peoples agrees that the existing Goodwin gathering rates will apply, but parties moving gas on the Goodwin system will be charged on the "net" deliveries after gas is retained by Peoples and Equitable Divisions. Peoples also agrees to begin implementing immediately after Closing its UFG reduction measures on the Goodwin system that are outlined in the Joint Applicants Statement No. 5S or other measures otherwise agreed to by Peoples in the settlement of this proceeding. These UFG reduction measures including leak detection, leak repair and resolving meter issues will be prioritized to drive meaningful results that will be reflected in the ongoing monthly retainage charges on the Goodwin system. Peoples will provide PIOGA with information gathered and provided to Commission's Gas Safety Division. All gathering fees collected will be used to maintain and improve the Goodwin and Tombaugh systems.

18. EQT Asset Exchange Agreement

99. EQT agrees that those assets identified in the EQT Asset Exchange Agreement in Schedules A-1, A-2, A-3, A-4, A-5, A-13, A-14 and A-17 will be transferred to Equitable Gas Company, LLC, if the Transaction is consummated.

19. Retainage on Transferred Assets

100. See Paragraph 83(f).

20. Capacity on the Transferred Assets

101. Peoples agrees to assign sufficient AVC capacity to NGSs and Producers on the transferred Peoples' transmission and storage assets, considering producer meters and customer volumes, for both system supply and off-system transportation. Specifically, Peoples agrees to the following:

- (a) Suppliers that have access to AVC system storage will be provided with sufficient AVC transportation and storage capacity to fill and empty their allocated share of AVC storage;
- (b) Suppliers that are purchasing existing local gas that is delivered directly into the AVC system without first moving through the Peoples Division lines, will be provided with sufficient AVC system transportation capacity to move their estimated supplies to the Peoples Division city-gates; and
- (c) Suppliers that are moving excess local production to off-system points at Truittsburg or Rural Valley, consistent with the terms of the existing PES agreement, will be provided with sufficient AVC system transportation capacity to move gas to these points.

21. Homeworks

102. Peoples agrees that it shall maintain separate accounting records for Equitable Homeworks, LLC (“Homeworks”)⁸ and to allocate costs and expenses to Homeworks in accordance with the standards and allocation methodologies that have been previously approved by the Commission, at Docket No. G-2012-2290014, with regard to affiliate charges under the Peoples Service Corporation, LLC Agreement.

103. Peoples agrees that it will not use the name of Peoples or Equitable in any Homeworks related marketing materials provided to customers.

104. Within six months after Closing, Peoples agrees to provide Product and Services Billing on behalf of other NGSs on the Peoples Division system. Any customer specific information for Product and Services customers that are billed by Peoples on behalf of other NGSs shall not be shared with any individual that is responsible for the sales or marketing of Homeworks products. Also, Peoples agrees that it will not provide any preferential treatment to Homeworks regarding any customer leads received through the Peoples Division or Equitable Division call center and will not offer Homeworks services to customers for warranty or other related services in calls received from customers for other purposes without also offering the same information and/or opportunities to other providers of the same or similar services. Peoples will not provide any customer information or marketing opportunities to Homeworks without also offering the same information and/or opportunities to other providers of the same or similar services.

⁸ Equitable Homeworks, LLC offers various heating and cooling protection programs, line protection programs and restoration programs within Pennsylvania. As part of the transaction, Holdco also will sell, convey, transfer, assign, and deliver to PNG all of the issued and outstanding membership interests in Equitable Homeworks, LLC, an unregulated entity.

105. Peoples also agrees that following the Closing, it will undertake a review of the Equitable billing system to determine if Product and Services Billing on behalf of other NGSs on Equitable Division system is feasible.

22. New Tap Requests

106. Peoples agrees to continue to work with suppliers on the Peoples Division to resolve any ongoing tap requests on a reasonable and expedited basis.

B. SETTLEMENT OF PENNFUTURE ISSUES

107. The Joint Applicants and PennFuture join in Paragraphs 107 through 114 of this Settlement, which fully resolve all PennFuture Issues.⁹

1. Settlement of the Transaction Issues

108. Subject to the Commission's approval of Paragraphs 107 through 114 of this Settlement, PennFuture does not oppose Paragraphs 24 through 106 of this Settlement.

2. Study of DSM Programs

109. Within 36 months of Closing, Peoples will organize and engage in a collaborative of demand side management ("DSM") stakeholders. This group will include OCA, OSBA, I&E, PennFuture, any interested party to this proceeding, and any interested large customer of Peoples.

- (a) Notice of the commencement of the collaborative and of an opportunity to participate will be provided.

⁹ I&E, OCA, OSBA, PIOGA, NGS Parties, Snyder Brothers, US Steel, PSU, PEMI, UWUA, IBEW, and Steelworkers do not join in Paragraphs 107 through 114 of this Settlement, but have no objection to these provisions.

- (b) The stakeholders will provide recommendations concerning the scope of the study and qualifications of a third-party independent contractor to perform the study.

110. No later than 42 months after the Closing, Peoples will select and retain an experienced, third-party independent contractor to conduct a study and develop recommended approaches to a cost-effective Energy Efficiency and Conservation Plan for Peoples' customers. The cost of the study will be funded by Peoples, and Peoples will not seek recovery of the study cost in rates. The study will:

- (a) Identify potential programs for each rate class of customers;
- (b) Evaluate different levels of funding and the expected benefits derived by the various levels;
- (c) Include analysis of programs offered by other gas program administrators, either utility or non-utility, including but not limited to, Philadelphia Gas Works, Columbia Gas, National Grid operating in New York and Massachusetts, Northeast Utilities, UIL, Vermont Gas, Wisconsin Focus on Energy, Pacific Gas & Electric, and Southern California Gas; and
- (d) Include a review of actual costs to implement programs as well as the actual energy savings realized in these programs.

111. No later than 45 months after the Closing, Peoples will provide a copy of the study to the DSM stakeholders and the parties to this proceeding.

3. DSM Filing

112. No later than 48 months after the Closing, Peoples will make a filing with the Commission that will seek approval to implement an Energy Efficiency and Conservation Plan

that falls within the range of recommendations supported by the DSM study and provides a cost recovery mechanism acceptable to Peoples.

113. A copy of the filing will be served on the DSM stakeholders and the parties to this proceeding.

114. Any party to this proceeding will be free to support the filing, seek modifications to the filing or oppose the filing before the Commission.

IV. TARIFFS

115. “**Appendix E**” to this petition contains the pro-forma tariff pages showing the proposed revisions to Peoples’ Retail and Supplier tariffs that were filed with the Joint Application and modified by the terms of this Settlement.

V. THE SETTLEMENT IS IN THE PUBLIC INTEREST

116. Commission policy promotes settlements. *See* 52 Pa. Code § 5.231. Settlements lessen the time and expense the parties must expend litigating a case and, at the same time, conserve precious administrative resources. The Commission has indicated that settlement results are often preferable to those achieved at the conclusion of a fully litigated proceeding. *See id.* § 69.401. In order to accept a settlement, the Commission must first determine that the proposed terms and conditions are in the public interest. *Pa. Pub. Util. Comm’n v. York Water Co.*, Docket No. R-00049165 (Order entered Oct. 4, 2004); *Pa. Pub. Util. Comm’n v. C.S. Water and Sewer Assocs.*, 74 Pa. P.U.C. 767 (1991). As will be detailed in the Signatory Parties’ Statements in Support, the instant Settlement is in the public interest because, with the conditions imposed herein, the Transaction will provide substantial affirmative public benefits.

117. Approval of the Settlement will lessen the time and expenses that the Signatory Parties, and the Commission, must expend on the proceedings.

118. There were no customer Protests against the Joint Application. The Settlement resolves all issues in the instant proceeding.

119. The Signatory Parties will further supplement the reasons that the Settlement is in the public interest in their Statements in Support, which are attached hereto as “**Appendices F through N.**”

VI. CONDITIONS OF THE SETTLEMENT

120. The Settlement is conditioned upon the Commission’s approval of the terms and conditions contained in this Settlement without modification and the Closing. If the Commission modifies the Settlement, any Signatory Party may elect to withdraw from the Settlement and may proceed with litigation and, in such event, the Settlement shall be void and of no effect. Such election to withdraw must be made in writing, filed with the Secretary of the Commission and served upon all Signatory Parties within five (5) business days after the entry of an Order modifying the Settlement.

121. This Settlement is proposed by the Signatory Parties to settle all issues in the instant proceeding. If the Commission does not approve the Settlement and the proceedings continue, the Signatory Parties reserve their respective procedural rights to evidentiary hearings, submission of additional testimony and exhibits, cross-examination of witnesses, briefing, and argument of their respective positions. The Settlement is made without any admission against, or prejudice to, any position that any Signatory Party may adopt in the event of any subsequent litigation of these proceedings, or in any other proceeding.

122. The Signatory Parties acknowledge that the Settlement reflects a compromise of competing positions and does not necessarily reflect any Signatory Party’s position with respect

to any issues raised in this proceeding. This Settlement may not be cited as precedent in any future proceeding, except to the extent required to implement this Settlement.

123. If the ALJ adopts the Settlement without modification, the Signatory Parties waive their right to file Exceptions on those issues that are resolved by this Settlement.

VII. CONCLUSION

WHEREFORE, the Joint Applicants, I&E, OCA, OSBA, PIOGA, NGS Parties, Snyder Brothers, US Steel and PennFuture,¹⁰ by their respective counsel, respectfully request as follows:

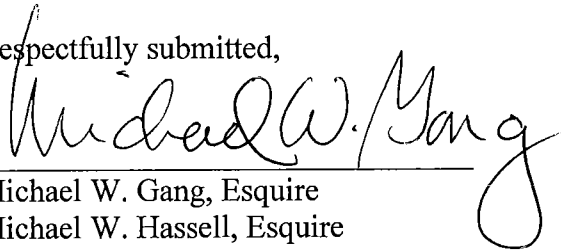
(a) That the Honorable Administrative Law Judge Mark A. Hoyer recommend approval of, and the Commission approve, this Joint Petition for Approval of Settlement of All Issues including all terms and conditions thereof without modification; and,

(b) Subject to the terms and conditions set forth herein that the Commission issue all approvals requested in the Joint Application, as modified by the terms and conditions set forth herein, and necessary approvals, pursuant to Sections 1102(a)(3), 1317(d), 2102(a), and 2204(e)(4) of the Public Utility Code (“Code”), 66 Pa.C.S. §§ 1102(a)(3), 1317(d), 2102(a), and 2204(e)(4), authorizing and approving: (1) the transfer of 100% of the issued and outstanding limited liability company membership interests in Equitable, an indirect subsidiary of EQT, to PNG, an indirect subsidiary of SRIFNA; (2) the merger of Equitable with Peoples, a wholly-owned subsidiary of PNG, and the operation of Equitable as an operating division of Peoples; (3) the transfer of certain storage and transmission assets of Peoples to EQT; (4) the transfer of certain assets and/or the exchange of certain services between EQT and Equitable; (5) certain PNG ownership changes associated with the transaction; (6) the associated gas capacity, storage,

¹⁰ PSU, PEMI, UWUA, IBEW, and United Steelworkers are not parties to the Settlement but have indicated they do not object.

interconnects, leases, and supply service agreements among Peoples, Peoples TWP, Equitable, and/or EQT set forth in the Joint Application; and (7) certain changes in Peoples' tariff necessary to carry out the transactions.

Respectfully submitted,

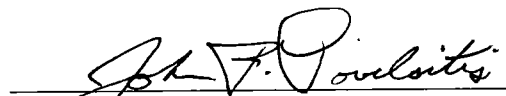


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Date

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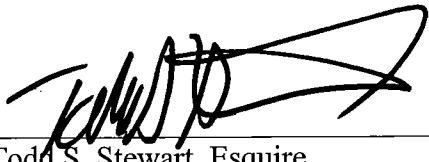
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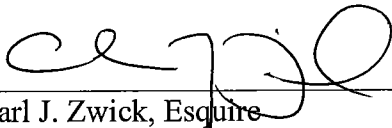
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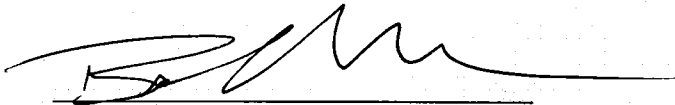


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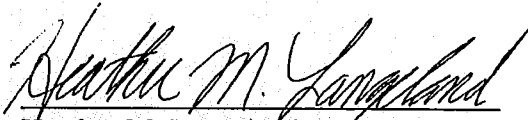
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Corporation*



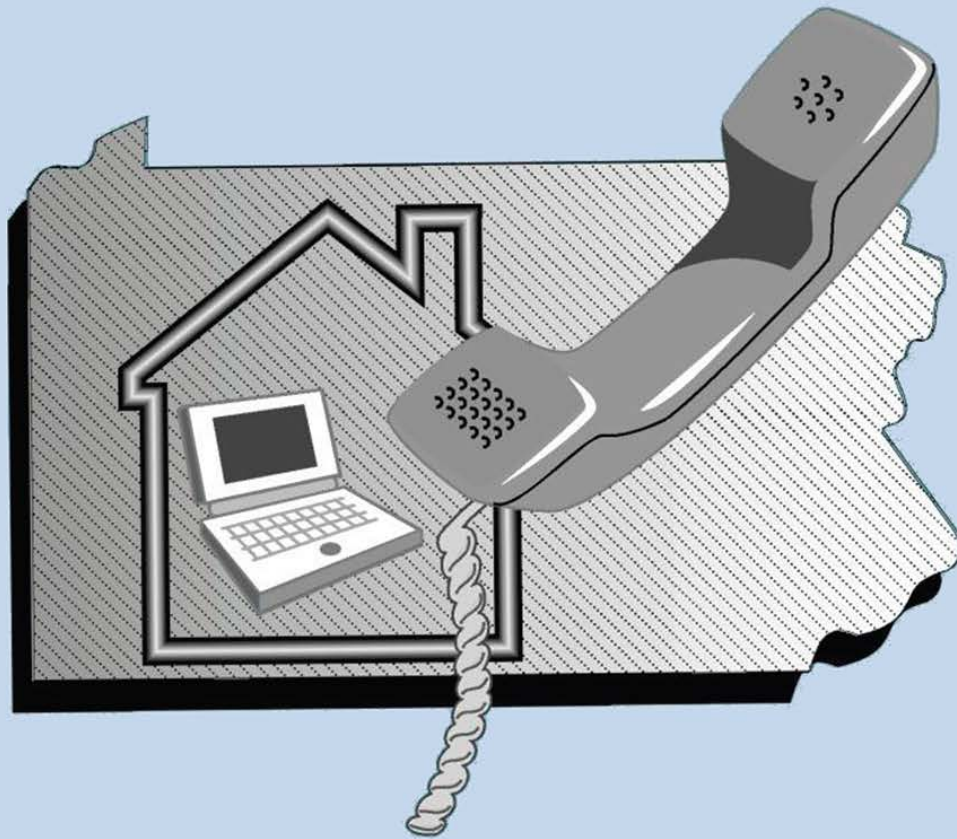
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10/7/13
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ATTACHMENT D

Customer Referral Guide



Peoples Natural Gas Company LLC
375 North Shore Drive, Suite 600
Pittsburgh, PA 15212-5322

Dear Colleague:

Thank you for your continued support as we reach out to assist our neighbors in need. We remain committed to the community that we serve and offer a number of programs for income eligible customers.

We hope that you will find our Customer Referral Guide a valuable resource. The Guide provides information on the programs and services offered by Peoples as well as other community resources. We hope this Guide will enable you to better work with your clients and to provide useful referral information.

More information about Peoples Gas and our programs can be found on our website: www.peoples-gas.com. As always, feel free to contact us if we can be of any assistance. Please call: 1-800-400-WARM (9276).

Sincerely,
Sadie John Kroeck
Director, Customer Relations

UNIVERSAL SERVICE PROGRAMS

Customer Assistance Program (CAP)

Peoples offers a Customer Assistance Program (CAP). CAP is a special payment plan for income eligible, payment-troubled customers. Ratepayers who qualify will agree to pay 8%, 9%, or 10% of their verified monthly before-tax income. The household income and family size determine which percentage of income the customer is to pay. In addition to the percentage of income amount, CAP customers who make their CAP payment on time each month can also receive the benefit of an arrearage program that pays off pre-program arrearages.

CAP customers are required to make regular monthly payments to continue the service. The following criteria are required to qualify for CAP:

- Household income is verified at or below 150% of the Federal Poverty Income Guidelines. (See CAP income guidelines on page 11).
- Status as a utility ratepayer with active, residential heating service.
- The applicant is a low-income, payment-troubled customer.

For current CAP Income Guidelines/Household Monthly Income/Yearly Income, please refer to Income Guidelines.

Low Income Usage Reduction Program (LIURP)

Peoples offers a free program called the Low Income Usage Reduction Program (LIURP). This program is designed to help income eligible customers who have had problems coping with high gas bills. A team of “energy auditors” will visit the home and thoroughly inspect it from the basement to the attic. They will be looking for areas where heat is escaping and cold air is entering the home and also note any previous weatherization measures and evaluate their effectiveness. The customer can also provide information to the energy auditors that will be beneficial during the inspection.

The information that is gathered by the auditors determines what measures will be most beneficial to the customer’s homes. Measures are installed based on established payback criteria and may include:

- Heating System Improvements
- Attic, sidewall, and other types of insulation
- Caulking and Weather-stripping
- Air sealing
- Minor repairs that relate to weatherization

Energy savings booklets will be provided to the customer during these education visits. (See Income Guidelines).

Peoples Emergency Furnace/ Line Repair Program

Peoples offers an Emergency Furnace and Line Repair Program to assist income eligible customers with furnace and houseline repair issues. (See Income Guidelines).

Customer Assistance Referral and Evaluation Services (CARES)

The CARES program (Customer Assistance Referral and Evaluation Services) helps customers who have a true inability to pay their utility bills and who are facing other problems as well. Customer Relations Specialists review the customer's situation and provide referral information about other programs and agencies that may be able to help the customer. The Customer Relations Specialists also work with the family to provide information and referral to fuel assistance programs and social service agencies.

PAYMENT ASSISTANCE PROGRAMS

Low Income Home Energy Assistance Program (LIHEAP)

LIHEAP is a federally funded program to help low-income households meet their home heating needs. LIHEAP is administered by the PA Department of Public Welfare (DPW) and consists of cash benefits to help eligible low-income households pay for their home-heating fuel and crisis payments, if needed, to resolve weather-related, and other household energy-related emergencies.

Although DPW administers LIHEAP, it is not a public assistance program. Eligible low-income households will not have liens placed on their property, nor will other assets affect their eligibility for LIHEAP benefits. In addition, eligibility for public assistance and grant amounts is not affected by receipt of LIHEAP benefits. See page 11 for Income Guidelines.

Customers receiving LIHEAP in the previous year will automatically receive a new application by mail. Others can get applications by calling Peoples Universal Service Hotline at 1-800-400-9276 or the Equitable Division LIHEAP line at 1-800-644-8090. Customers can also visit their local County Assistance Office, or apply online at www.compass.state.pa.us (Commonwealth of Pennsylvania Access to Social Services).

LIHEAP Crisis Program – Emergency Energy Assistance

Additional money is available if you have an emergency situation **or** are in danger of losing your heat. Emergency situations include:

- Being without fuel.
- Utility service termination.
- Danger of being without fuel or of having utility service terminated.
- Broken heating equipment or leaking lines which must be fixed or replaced.

Assistance with emergency situations is available 24 hours a day. Call your local County Assistance office for more information.

Dollar Energy Fund (DEF)

Dollar Energy Fund (DEF) is an independent, non-profit organization that provides assistance to people who are on low or fixed incomes. Dollar Energy Fund receives donations from utility customers, shareholders and employees. For every dollar donated by Peoples' customers, the company matches it through shareholder/investors contributions. In addition, Peoples donates funding for program administration.

To be eligible for a Dollar Energy Fund grant, a customer must meet the following requirements:

- Dollar Energy Fund is a fund of "last resort".

- Households whose gas or electric service is OFF and who appear to be eligible for LIHEAP and Crisis benefits must apply for these benefits, when available, before applying for Dollar Energy Fund.
- Total household income for the past 30 days or one year, before taxes or deductions, cannot be more than the amount shown on the income guidelines chart. (See page 11 for Income Guidelines)
- Account must be for residential service, a single home or apartment. “Cooking-only”, commercial, industrial, or multiple unit dwellings where service is shared are not eligible.
- The name on the account must be that of an adult who is currently living in the household.
- Older adults age 62 and over must have paid at least \$100 and may have zero balance as long as there is no existing credit on the account.
- Applicants age 61 or under must have paid at least \$150 on their account in the last 90 days.

LIHEAP Cash & Crisis benefits, FEMA grants, and other charitable assistance are not personal payments.

For more information on how to apply for Dollar Energy Fund, customers can call Peoples at 1-800-400-WARM (9276) or the Equitable Division at 1-877-577-8735. Customers can also access the Dollar Energy Fund website at www.dollarenergyfund.org.

For questions, call Agency Support: 1-800-375-1388.

(This number is for agency or utility use only. Please do not share this number with clients.)

SPECIAL SERVICES

Gatekeeper Program

The Gatekeeper program aids older customers and customers with special needs who need help, but may not be able to get it themselves. Through this program, Peoples’ employees are trained to recognize certain danger signals – a change in behavior, signs of confusion, or disability. Our Gatekeepers include customer service personnel, meter readers and other customer contact personnel. Gatekeepers report possible problems to Customer Relations Specialists, who may refer the customer to a program coordinated by the local Area Agency on Aging. Through these programs, older adults can receive additional help with social and health services, medical and personal care, household chore services, food and transportation. Peoples’ representatives follow up with our older customers to make sure they are getting the help they need.

When a potential problem is spotted, company customer contact personnel refer special needs customers to the Customer Relations Specialists. You may contact the Universal Service Hotline at 1-800-400-WARM (9276) or the Equitable Division at 1-877-577-8735.

Thermostats for the Visually Impaired

A special large numbered thermostat is installed in the customer’s home at no charge to the visually impaired customer. The large numbers allows vision impaired customers to adjust their household temperature to fit their needs and comfort.

To request a special thermostat the customer can contact Peoples at 1-800-400-WARM (9276) or Pittsburgh Vision Services at 1-800-706-5050 or Equitable Division at 1-800-654-6335. Proof of vision impairment is required.

Large Print Bill

Peoples' customers who have vision impairment may request to receive a large print bill summary. The customer will receive the current monthly bill and in addition, they will receive an enlarged summary page. To request a large print bill the customer may contact 1-800-400-WARM (9276) or Equitable Division at 1-800-654-6335.

BRAILLE Bill

Visually impaired customers may request to receive a BRAILLE bill at no cost. The customer will receive the current monthly bill and in addition, they will receive a BRAILLE bill. To request a BRAILLE bill the customer may contact 1-800-4000-WARM (9276).

Pennsylvania Relay Service

Hearing-impaired or speech disabled customers can use The Pennsylvania Relay service to communicate with Peoples. This service allows users to utilize a Communications Assistance person to relay the message to the other person. The Pennsylvania Relay Service number is 711 or 1-800-654-5988.

Third Party Notification

Peoples Third Party Notice lets any customer designate a friend, relative, clergy person or even Social Service agency to be notified before service is terminated for non-payment. A third party (such as a relative, neighbor or friend) will receive a copy of any shutoff notice. Although this service will not stop a shutoff, it will alert the third party that the person needs help. The third party is under no obligation to pay the bill. Landlords are not eligible for this service. Both the customer and the third party must sign the notification form. Applications are available via the internet at www.peoples-gas.com billing options, then select Peoples Gas Third Party Notice request. Or, you may call Peoples at 1-800-764-0111 or the Equitable Division at 1-800-654-6335.

Budget Counseling

Budget counseling is available for Peoples customers who have missed payments and have ability to pay. Referrals are made and accepted from non-profit budget counseling agencies.

Protection from Abuse Order

If a customer has a valid Protection from Abuse Order (PFA) from a court, service cannot be terminated during the winter without PUC permission and there are some additional protections available. Please call us at 1-800-400-9276 or the Equitable Division at 1-877-577-8735. (You must provide a copy of the order.)

Energy Saving Tips

Here are 16 tips that can help save gas and money during the winter heating season. For more tips, see our web site at **www.peoples-gas.com**.

1. Have the furnace “tuned-up” annually. A heating system “tune-up” could save from 3 to 18 percent in energy costs.
2. When it is time to replace the natural gas furnace, consider a new high efficiency gas furnace. New gas heating systems are as much as 30 percent more energy efficient.
3. Insulate the home. Any insulation will help reduce heat loss, but adequate insulation in the ceiling is most important. Ceiling insulation and attic vents could reduce fuel usage by up to 20 to 30 percent.
4. Install storm windows and doors. A less expensive alternative is to cover windows with clear plastic, which can be purchased in rolls. If the home does not have storm windows and doors, as much as 6 to 10 percent of the heat might be lost to the outside.
5. Caulk cracks between window frames or door frames and walls, both inside and outside the home. Press putty into smaller cracks seal larger crevices with a caulking gun.
6. Weather strip drafty crevices under doors and around windows. Make sure the garage door has a reasonably tight seal around the bottom edge. Remember to weather-strip around doors that lead to the attic and garage. Caulking and weather-stripping doors and windows could reduce fuel usage by as much as 7 to 10 percent.
7. Seal cracks in chimney and foundation bricks and mortar. Caulk where foundation bricks meet the house siding.
8. Check heating ducts for cracks, holes or separations at joins. This is especially important where ducts pass through unheated garages, crawl spaces or attics. Repair leaks with adhesive tape or a more durable tape designed especially for repairing heating ducts (available at hardware, discount or department stores). Sealing and insulating ducts and pipes could reduce fuel usage from 2 to 15 percent.
9. Check furnace air filters once a month during the heating season. If they become clogged, clean or replace with new filters and save 2 to 5 percent in fuel costs.
10. Keep the thermostat set at the lowest possible comfort setting during the day and set it back at night. Setting the thermostat back at night for a period of eight hours or more will reduce the heating consumption by approximately one percent for each degree below the daytime setting.
11. On sunny days, open shades, draperies and blinds to let the sun help to heat the home. Close blinds and draperies block radiators or heating ducts. Fuel consumption could be reduced by 3 to 7 percent.
12. Close the vents/registers and doors in unused rooms and save up to 8 percent of the heat.
13. Install a humidifier. It will keep the home at the proper humidity level and keep everyone comfortable at lower temperatures.
14. If the house has radiators, vacuum all surfaces including hard-to-reach areas once a month. Do not use radiators as shelves.
15. Arrange furniture with the heating system in mind. Don’t restrict air flow from registers or cold air returns. Position furniture away from drafts.
16. Do not open and close outside doors needlessly. Reduced traffic means warmer, draft free home.

**Peoples Natural Gas
2014 - 2015 Federal Poverty Income Guidelines**

	150% of poverty level- Program Year 2013-2014		150% of poverty level-Program Year 2014-2015		200% of the poverty level - Program Year 2014-2015	
Family Size	Month	Year	Month	Year	Month	Year
1	\$1,436	\$17,232	\$1,459	\$17,505	\$1,945	\$23,340
2	\$1,939	\$23,268	\$1,966	\$23,595	\$2,622	\$31,460
3	\$2,441	\$29,292	\$2,474	\$29,685	\$3,298	\$39,580
4	\$2,944	\$35,328	\$2,981	\$35,775	\$3,975	\$47,700
5	\$3,446	\$41,352	\$3,489	\$41,865	\$4,652	\$55,820
6	\$3,949	\$47,388	\$3,996	\$47,955	\$5,328	\$63,940
7	\$4,451	\$53,412	\$4,504	\$54,045	\$6,005	\$72,060
8	\$4,954	\$59,448	\$5,011	\$60,135	\$6,682	\$80,180
For Each additional person, add:	\$503	\$6,036	\$507	\$6,090	\$677	\$8,120
>>>>>>> Programs According to Guidelines: >>>>>>>	LIHEAP LIHEAP/Crisis		Peoples LIURP CAP		Peoples LIURP (Special Needs) CARES Dollar Energy Fund	

UNIVERSAL SERVICE PROGRAMS - PEOPLES NATURAL GAS and PEOPLES Formerly EQUITABLE GAS

Program Name	Income Eligibility	Program Requirements	Service Provided
CARES - Customer Assistance Referral and Evaluation Service	Special needs - elderly, low income, handicapped, etc.	Must have special needs, serious medical condition, mental health condition, learning disability, recent unemployment, single parent issues, ect.	Eligible customers receive assessments, referrals and assistance as appropriate.
CAP - Customer Assistance Program	Below 150% of Federal Poverty Level	Income at or below 150% of federal poverty level, broken payment agreement.	Customers pay a percentage of bills based on income and family size.
LIHEAP - Low Income Home Energy Assistance Program	Based on the Federal Poverty Level income guidelines	Must meet income guidelines. Crisis component is available for emergency help for customers with a heating related emergency.	Federal cash grant program. Call for applications or assistance in completing applications.
DEF – Dollar Energy Fund	Below 200% of Federal Poverty Level	Residential heating customer, balance over \$100, made a "sincere effort" to pay, and has exhausted all available energy assistance funds. Program is funded by investor and customer contributions.	Cash grant applied to gas account. Contact the company for a list of Dollar Energy Fund screening agencies. Dollar Energy Fund will be able to help with other available Funds.
LIURP - Low Income Usage Reduction Program	Below 150% of Federal Poverty Level and minimal percentage below 200% of Federal Poverty Level	High CAP gas user (Usage > 140 MCF/YR), Equitable Division ≥ 160% FPL . Poor payment history, arrearage above \$200, if renting must have landlord's approval.	Weatherization measures, including audit, conservation measures, heating equipment repairs/replacement at no cost to the customer.
Gatekeeper Program	None	None	Company customer contact personnel refer special needs customers to Company Customer Relations representative if need is perceived while in contact with customer.
Thermostats for the Visually Impaired/Large Print Bill/Braille Bill	None	Must document visual impairment and if renting must have landlord's approval.	Special large numbered thermostats are installed in customer's home at no charge. Special bill is provided.
Pennsylvania Relay Service	None	Hearing impaired or Speech disabled customers.	PNG-Pennsylvania Relay Service 711 or 1.800.654.5988. This service allows users to utilize a Communications Assistance person to relay the message to the other person.
Peoples Emergency Furnace/Service line Repair Program (PEOPLES customers only)	Below 200% of the Federal Poverty level. Equitable Division customers below 170% FPL.	FUNDS ARE LIMITED. Must be homeowner, single family, residential heat, and must need for emergency repairs to their heating system. Must apply for the Federal LIHEAP/Crisis program if eligible.	Financial assistance to repair/ replace heating system, including furnace and customer service lines.

PEOPLES CALL: 1-800-400-WARM OR 1-800-400-9276

Peoples Gas/ Equitable Division --Universal Service Referrals and CAP call 1-877-577-8735

ATTACHMENT E

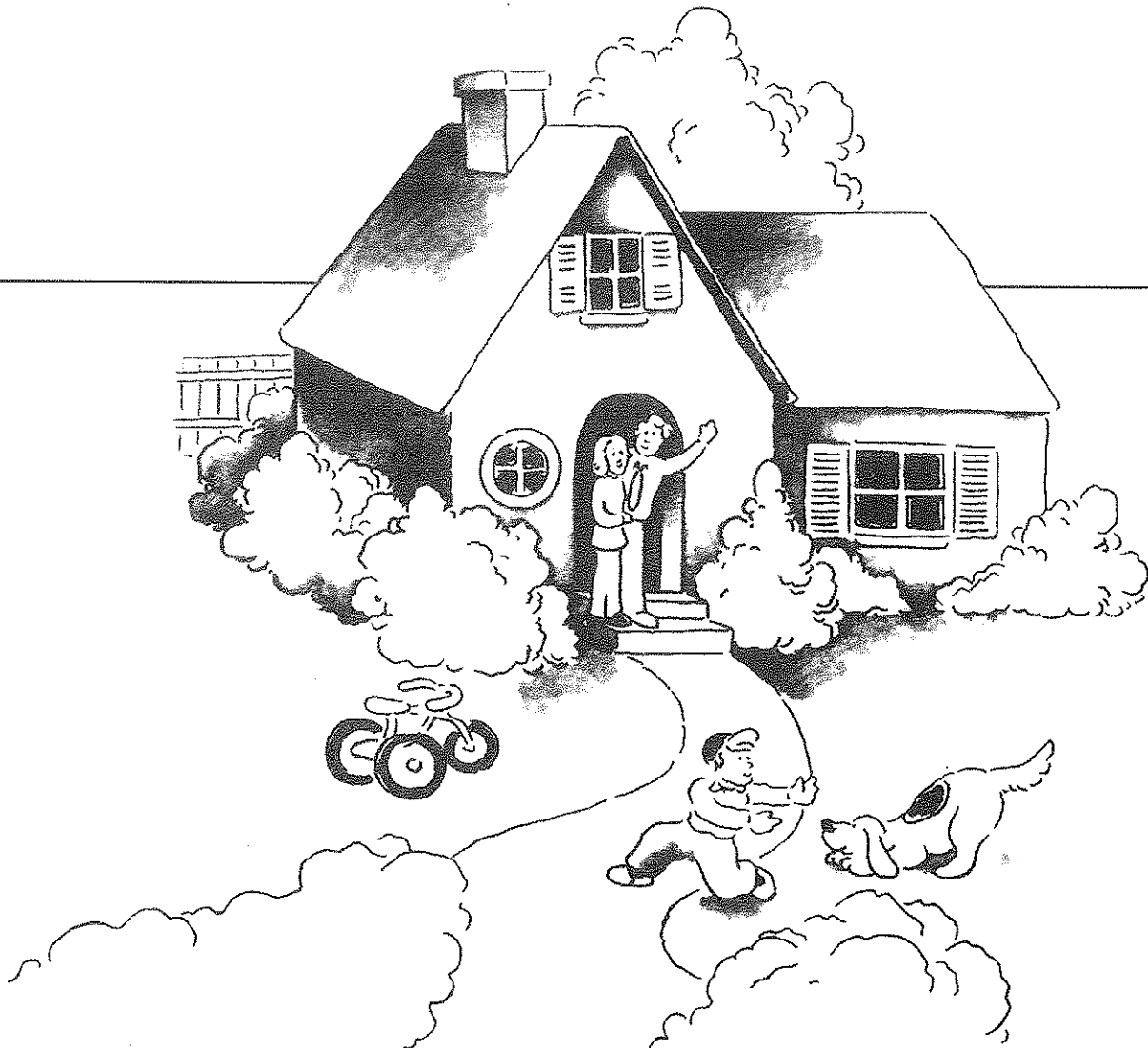
Peoples Gas/ Peoples TWP 2015-2016 Program Eligibility Guidelines

CAP
LIHEAP
CARES
LIHEAP Crisis
LIURP and State Weatherization
Dollar Energy Fund Hardship Grant
Emergency Furnace/Line Repair Assistance

E-CAP
CARES
LIURP (Special Needs)
Dollar Energy Fund Hardship Grant
Emergency Furnace/Line Repair Assistance

Family Size	Eligible Incomes		Eligible Incomes	
	Month	Year	Month	Year
1	\$1,471	\$17,655	\$1,962	\$23,540
2	\$1,991	\$23,895	\$2,655	\$31,860
3	\$2,511	\$30,135	\$3,348	\$40,180
4	\$3,031	\$36,375	\$4,042	\$48,500
5	\$3,551	\$42,615	\$4,735	\$56,820
6	\$4,071	\$48,855	\$5,428	\$65,140
7	\$4,591	\$55,095	\$6,122	\$73,460
8	\$5,111	\$61,335	\$6,815	\$81,780
9	\$5,631	\$67,575	\$7,508	\$90,100
10	\$6,151	\$73,815	\$8,201	\$98,420
For Each additional person, add:	\$520	\$6,240	\$693	\$8,320

ATTACHMENT F



HOW TO SAVE ENERGY AND MONEY IN YOUR HOME



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Where to Start?

An energy survey (an analysis of how well your home uses energy) is the most important step you can take to decide the best ways to save energy and money in your home. All homes are not the same. They vary in size, age, type of heating system, and material and structural characteristics. Only through an energy survey can you really determine what energy saving measures are right for your particular home.

Free on-site energy surveys are available to you provided you are a Peoples customer.

The energy survey evaluates things such as ceiling, attic, wall and basement insulation, storm windows and doors; night set-back thermostats; caulking; weatherstripping; pipe, duct and hot water heater insulation; and improvements to your heating system including replacement systems.

If you decide you want to make some energy conservation improvements, your utility energy specialist will give you a list of contractors in the area.

See “Getting The Work Done”, beginning on page 35 of this book for more information on how to arrange for a Peoples energy survey.

A Quick Energy Tour

• Are you doing everything you can to save energy in your home?

Before you can answer this question you must know how to identify the areas in your home where additional energy-saving improvements can be made. In addition, you must become aware of just how the amount of energy you use is affected by how you and your family use and care for your home.

• What can you do now?

First, take a quick energy tour of your home by answering the following questions. Your answers here will tell you whether you need to look more closely at what's involved in energy-saving retrofit of that item, and where to go in this book to learn more. If you check a box, it means you have an energy-saving opportunity.

QUICK SAVERS

Does your house feel drafty and cold even when the thermostat says it's warm inside?

yes no - go to page 6

Are you aware of all the ways you can save energy simply by using your lights and appliances more efficiently?

yes no - go to page 7

Do you know how to save on your hot water bill without spending any money?

yes no - go to page 8

Are your heating pipes and ducts in good repair?

yes no - go to page 9

Do you know how to turn windows and doors from energy-loser to energy-savers?

yes no - go to page 10

Do you turn down your thermostat at night and have your heating system serviced regularly?

yes no - go to page 11

INSULATION INSPECTION

1

Is your attic floor or roof/ceiling structure well-insulated?

yes no

If it is not insulated at all, or if less than 4" of insulation exists, adding insulation could pay for itself within four to seven years. To determine exactly what's right for your attic, read more on **1** on page 17.

2

Are your exterior walls insulated? yes no

If you don't know, you can find out by:

- Drilling small holes through inconspicuous interior walls (such as in a closet), and looking inside;

- Removing a switchplate or outlet cover on an exterior wall and **carefully** probing on the outside of the electrical box where it meets the wall covering, or

- If you have aluminum or vinyl siding outside, looking underneath siding where it meets the foundation wall, to determine whether insulation board exists beneath the siding.

- If no insulation exists, it is wise to consider adding insulation; the energy savings would outweigh the costs. If no insulation exists, go to **2** on page 19.

3

Are any of your floors cold or drafty? yes no

If so, one solution may be:

- To insulate the underside of the floor, which is your basement or crawl space ceiling, **or**

- To insulate the walls of your crawl space or basement.

What's right for you depends on several factors. Before you decide, read pages 20-22.

4

Is your free-standing, domestic hot water heater warm to the touch? _____ yes _____ no

If you answer "yes", you should insulate our water heater storage tank. Find out how on page 23.

5

Do you have uninsulated hot air ducts, steam or hot water heating pipes in unheated spaces? _____ yes _____ no

Look in your basement, crawl space, garage - even in your attic. If you do, read 5 on page 24.

WINDOW AND DOOR INSPECTION

Are your exterior doors and windows creating uncomfortable cold drafts? Can you rattle your windows in their frames or see daylight between storm frames and your house? _____ yes _____ no

If any of this is true for you, there are one or more ways to correct the situation - and save energy dollars:

6

Install new tight-fitting storm windows or doors.

7

Install weatherstripping.

8

Caulk window and door frames on the outside of your home.

To decide what's right for you, begin on page 28.

HEATING SYSTEM INSPECTION

9

Do you turn down your thermostat at night and when you're not at home for a day or more? _____ yes _____ no

If you don't, find out how much you could save by installing an automatic clock thermostat. See what's involved and how much you could save beginning at 9 on page 30.

10

Do you know how well your central heating system is running and what options you have to improve it?

11

If you're like most people, you probably rely on the judgement of your serviceperson or utility, and haven't considered making any energy-saving improvements to that system. Find out what options you have to improve your

heating system efficiency by reading items **10-14** beginning on page 30. Implementing these options could mean a direct savings of between **5% - 25%** of your heating portion of your gas bill per year.

Quick Savers

“Quick Savers” are measures that cost little or nothing to implement and which pay back very quickly, usually within a year or so. Dollar savings will vary considerably depending on the characteristics of your home, fuel costs, and your lifestyle.

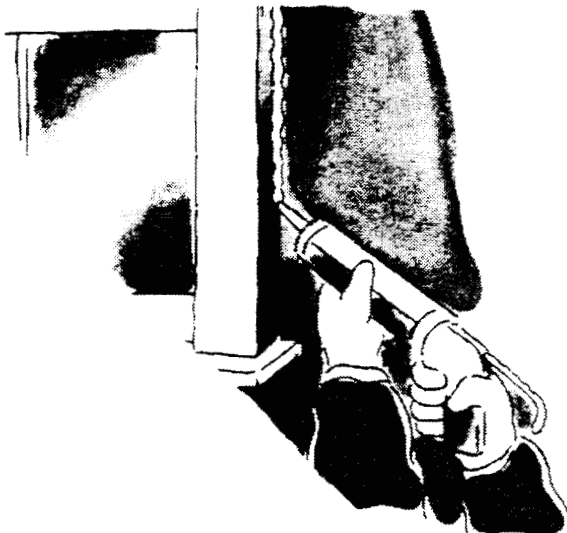
TIGHTENING YOUR HOUSE

Cold air which seeps into your house through small holes and cracks and heated air which leaks out can cost you lots of money. Since you must pay to heat up the cold air coming in, and you have paid to heat the hot air leaking out, taking care of those “small cracks” can save a large part of your fuel bill.

- **Install Rope Caulk Weatherstripping**

Rope caulk is an inexpensive, flexible, clay-like material which you can install with little effort. Available at local hardware stores, it comes coiled in a box. Press it into cracks between the sash and frame. Since it dries out over time, check it once or twice during the heating season to make sure that it is still tight. You’ll need new rope caulk in the fall and must remove the old caulk in the spring.

- **Caulk Cracks and Gaps Around the House**



As much as 80 percent of air leakage gets in through areas **other than** windows and doors:

- where the wooden sill of the house meets the foundation,
- where dryer vents and fan covers pass through the wall,
- where plumbing pipes and telephone wires enter the house,
- where any two different outside materials meet, and
- where the fireplace chimney meets the siding.

Fill these cracks in the interior and exteriors of your house with caulk. Use only caulking compounds which are flexible over large temperature ranges and that will last for many years. These include acrylic-latex, acrylic-terpolymer, phenolic, latex, monomer, butyl and silicone caulks. They may cost a little more, but are worth it. If cracks are larger than 1/2 inch, stuff them with bits of insulation or oakum before caulking them.

See **8** Caulking on page 28 for more information on materials, how to caulk, and caulking of windows and doors.

- **Install Switch and Outlet Gaskets**

Stop drafts around electric light switches and wall outlets with inexpensive styrofoam or foam rubber gaskets, which fit behind the cover plates. Buy only U.L.-approved products, available at most hardware and discount stores. Remember to turn off the electricity to the outlets or switches before you install the gaskets.

- **Seal Air Leaks in the Attic**

Weatherstrip around the edges of the attic hatch or door to reduce warm air leaking into the attic from the living space. This increases the effectiveness of your insulation significantly, at very little cost. Also, insulate the back of the hatch or door with a piece of fiberglass or rigid board insulation.

Stuff gaps around chimneys with **UNFACED** fiberglass batt. Seal any connections between the heated space and the attic, such as plumbing, vent stack openings, and the tops of interior and exterior walls or stairway framing, using fiberglass batt.

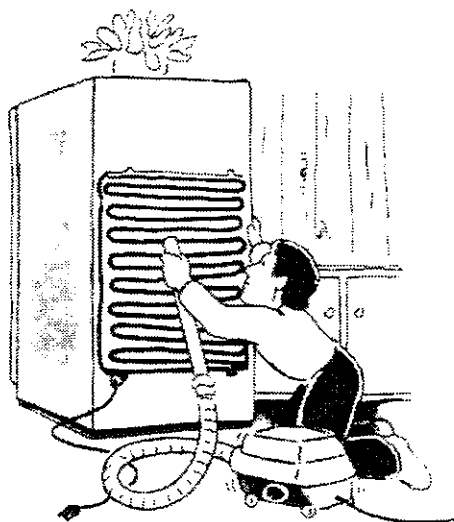
LIGHTS AND APPLIANCES

Save money on your household electrical bill by using less electricity and by using your lights and appliances more efficiently. Here are some tips to help you reduce your energy bill for appliances.

• Maintain Your Appliances

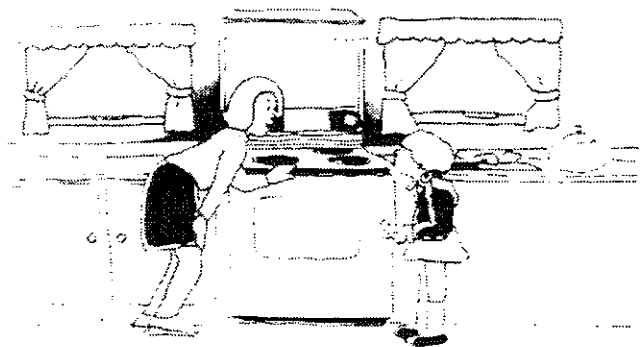
Keep appliances, particularly large energy users, in top working order. For instance;

- Test the fit of your refrigerator or freezer door by closing the door over a piece of paper so it is half in and half out of the refrigerator. If you can pull the paper out easily, the latch may need to be adjusted or the gasket replaced.



- Keep the fan coils clean on refrigerators, space heaters, and air conditioners.
- Make sure your refrigerator and freezer are located in a cool spot; direct sunlight or heat from an adjacent appliance can place a harmful - and expensive! - strain on cooling appliances.

• Purchase Only Energy-Efficient Appliances



If you are planning to replace or add to your home appliances, buy only those that offer maximum energy efficiency for your dollar. Look for the Federal Trade Commission "Energy Guide" label to guide your choice of appliances. These labels are pasted on refrigerators, refrigerator-freezers, freezers, clothes washers, water heaters, and room air conditioners manufactured after May of 1980. Compare appliances carefully before you buy, and make sure that they are clearly labeled as to the following:

For gas appliances: only those which feature an energy saving feature called an **electronic ignition system**. This feature saves fuel by replacing the continuously burning pilot light.

For dishwashers: those featuring a heating element that automatically comes on for drying after the rinse cycle may use additional energy unless the appliance also has a clearly-marked switch to let you turn off the drying cycle. Save energy by opening your dishwasher door to help dry dishes.

Refrigerators and Freezers: that feature a continuously energized electrical heating unit (use more energy) and should have a clearly marked manual override switch before purchasing same.

Television receivers: which maintain a continuous flow of electricity to components ("instant-on" sets) use energy and considerable thought should be given before purchasing same.

• Use Lights Wisely

There are several tips here which may help you save on your electric bill.

- Turn off incandescent lights when they are not in use.
- Turn off fluorescent fixtures if you won't be using them for more than 15 minutes. Fluorescent lamps use as much energy in starting as they use during 15 minutes of operation;
- Substitute fluorescent lamps or lower-wattage, long-life bulbs for those you currently use, making sure that the **lumen output** (the amount of light) is adequate for the task;
- Use task lighting (lighting directed at a specific area) instead of overhead or general lighting, which may light areas of the room which are not in use;
- Finally, keep in mind that light colored rooms and furnishings reduce the need for artificial lighting; consider this when you choose your decor.

• Use Appliances Wisely

The most obvious way to save here is to use your appliances **less often**. In addition, it saves money and reduces wear. For example, dishwashers, washers and dryers all use as much energy to wash a partial load as a full load. Try to schedule your washing according to full loads only. The same principle applies to cooking appliances.

DOMESTIC HOT WATER HEATING

The money you spend to heat hot water for showers, dishwashing and washing clothes is probably your next largest expense for energy after space heating/cooling costs. Here are five low-cost ways to save on your hot water heating bills.

• Install Water Flow Reduction Devices



Install new low-flow showerheads in your showers, and low-flow sink aerators in all the faucets in the house. These devices will reduce your water bill by limiting the flow of water to about two gallons per minute (normally five gallons per minute!) Since you will no longer use as much hot water, your hot water heating bill could be reduced significantly. Showerheads cost about ten dollars each and aerators cost only about a dollar. These measures can save five to fifteen dollars in the first year.

• Save on Your Hot Water Bill

Water heaters keep hot water available 24 hours-a-day, every day. Significant savings will occur if:

- (1) you turn down the hot water temperature, and

(2) you regularly turn off your water heater when you're away for extended periods of time, such as weekend trips.

NOTE: If you find that after reducing the temperature that you have insufficient hot water for showers, and have already installed a low-flow showerhead, turn the temperature back up a notch. Similarly, if you have a dishwasher and you find that the temperature of the water is too low to clean the dishes satisfactorily, turn the temperature back up a notch (often a thorough rinse of the dishes first will also solve the problem).

For Free-Standing Gas and Oil Heaters:

(1) Turn the dial at the bottom of the tank down to 120°F or "low",

(2) Turn the temperature control to "pilot only" when you are away for two days or longer. **DO NOT BLOW OUT THE PILOT LIGHT.** If you do not know how to turn it down, consult your water heater serviceperson.

For Electric Water Heaters: (1) Two separate dials are located behind cover plates. Unscrew these and turn down the same way as for gas systems.

NOTE: TURN OFF THE ELECTRICITY TO THE HEATER BEFORE YOU ATTEMPT THIS. (2) Turn off the heater by removing the fuse at your electrical fuse panel, or by turning off the appropriate circuit breaker.

For Tankless Water Heaters:

(1) Find the **aquastat** or **mixing valve** which is attached either to the tankless unit or to the body of the boiler. With a screwdriver, turn back the setting until you reach a position which provides just enough hot water for your normal needs.

(2) To achieve significant savings in the summer, use the **burner cut-off switch** to turn off the system while you are at work, or out of the house.

• **Drain Sediment from Your Hot Water Heater**

Drain a half-bucket of water from the faucet at the bottom of your hot water heater every two months to remove impurities, rust, and sludge that can collect at the bottom of the tank. Doing this makes the heat transfer from the flame to the water in the tank much more efficient and extends the life of the unit two to three years by reducing corrosion.

• **Use Your Clothes Washer More Efficiently**

1. Wash only full loads of clothing or adjust water level to load size to save water.

2. Lower the temperature settings on your washing machine. One hot wash and warm rinse

combination uses 25 gallons of hot water. If you have an electric water heater, one load a day on this setting can cost \$200 a year. By changing the rinse water to cold, which should not affect your wash results, you will save eight gallons of heated water with every washload, or \$65 a year. By changing the wash setting from hot to warm, you can save another \$65. If you have a gas or oil water heater, the savings is \$35 and \$50 respectively for each strategy. For maximum savings, use a cold water detergent, and wash and rinse with cold water.

PIPES AND DUCTS

The pipes or ducts which deliver heating, cooling, and hot water throughout your home should be kept in good condition. This will not only save money on fuel bills, but also guard against costly repairs or disruption of service. Here are some tips on how to take care of them.

• **Seal Leaky Pipes**

Tighten or plug leaking joints in hot water or steam pipes. A leaking joint or faucet can lose 1 to 10 gallons of hot water a day! Also, repair or replace leaking valves. You may be able to repair these kinds of problems if you have tackled them successfully before and if you have the proper tools. Otherwise, have your plumber fix them.

• **Seal Leaky Ducts**

On hot air heating system ducts, leaky joints will send hot air where it may not be needed. You can easily fix duct leaks yourself using duct tape, available at most hardware stores.

• **Guard Against Freezing Pipes**

It often makes more sense to keep water pipes warm with insulation and "heat tape" rather than to heat the space around the pipes. "Heat tape" is a tape-like piece of plastic which turns on when the temperature falls below a preset level. It is available at most hardware stores with installation instructions. For best results, fiberglass pipe insulation must be installed over the heat tape.

• **Tape and Repair Existing Insulation**

If the existing insulation on your pipes and/or ducts is in poor condition, and if it is not asbestos, you can save most of it with a little repair time. Use duct tape to cover cracks which have developed between insulation pieces and cover gaps left at exposed end sections of insulation to prevent cool air from circulating beneath the insulation. Wear protective clothing, a dust mask and gloves to avoid contact with the irritating substances which are frequently found in older insulation.

WINDOWS AND DOORS

Windows and glass doors can be good sources of free energy by admitting sunlight, but can also be one of the worst offenders when it comes to heat loss. Get maximum energy value from your windows by observing these low and no-cost measures.

• **Maintain Your Windows**

Keep your windows clean and in good repair. It will pay off by reducing leaks and greatly extending the life of the window. Replace or repair broken sash cords, missing parting beads, and old window putty (glazing compound). Replace broken or cracked panes; a piece of clear tape over the crack will work temporarily. Paint the window sashes to prevent wood rot and seal leaks. All the necessary materials can be found at your local hardware store.

Clean your windows in the fall. Dirty glass can block as much as 40 percent of the solar energy coming through during the day, which could contribute to as much as 3 to 4 percent of your heating bill.

• **Close Your Storm Windows**

As soon as the heating season begins in the fall, close all storm windows and lock all your inside sashes. For aluminum combination storm windows, the pane of glass that rides in the middle track should be at the bottom and the outer pane should be at the top to get the best seal at overlapping edges.

• **Use Your Sash Locks**

For wood double-hung windows, it is important that the lock both pull together the edges where the top and bottom sashes meet, and push the upper and lower sashes tightly into the frame. The lock which does this is called a "clamshell" lock and is available

at most hardware stores. If there are no locks now, or if you need to replace them, buy this kind of lock.

• **Use Your Curtains, Draperies, and Shades**

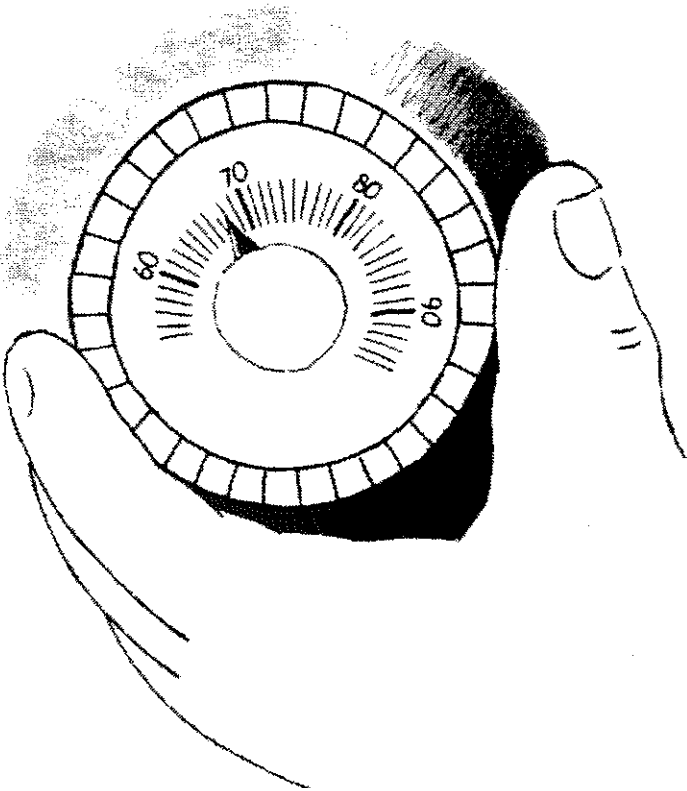
Most curtains, blinds, shades, and drapes provide some insulating value when they are closed over a window; close them tightly in the evening. During sunny winter days, keep windows which are receiving direct sun uncovered, because they will let in more heat (in the form of solar energy) than they will lose. In a typical home, you can achieve 3% to 10% fuel bill savings by taking advantage of window insulating and solar opportunities.

Protect south-facing windows from the summer sun to avoid the extra heat gain. Consider covering your north-facing windows on winter days if they do not have an important lighting or viewing function.

HOME HEATING AND COOLING HABITS

These low and no-cost measures, discuss important adjustments you can make to your heating and cooling systems. For instance, changing your thermostat setting **costs nothing**, takes only minutes to change, and can save as much on fuel bills as insulation, storm windows, or weatherstripping. Maintaining your heating/cooling system regularly is as important as maintaining your car. Just as a tuned-up car will last longer and get more miles for every gallon of fuel, your heating system will give you longer service and more heat for every unit of fuel. A more efficient heating system saves you money because you need to buy less fuel to get the same amount of heat.

Change Your Thermostat Setting



68°F in winter

If you have a regular schedule, and/or can't remember to change the setting all the time, read about automatic thermostats on page 30.

Winter: Set your thermostat no higher than 65° to 68°F during the day and 55°F during sleeping hours. If the house is empty during the day, set it back to 55°F during that period, too. A 10-degree night setback could save 8 to 12 percent of your heating bills.

Summer: Keep your central air conditioner thermostat at 78°F or higher. When you leave the house for 4 hours or more, **turn off** the system. If you have room air conditioners, turn them off if you are out of those rooms for more than an hour.

Remember that the more you turn down (and, in the summer, turn up) your thermostat, the larger the savings will be. You can still stay comfortable

by wearing more or less clothing. Changing the thermostat setting can become as automatic as turning out the lights at night.

If your home is electronically heated, and zoned by room, close off rooms that you do not intend to heat. Otherwise, the thermostat in adjacent rooms may turn on the heat for the cold room.

If you heat your home with a heat pump, thermostat setbacks of five degrees or less are recommended. Otherwise, during high demand periods (such as very cold weather or after a thermostat setback), the much less efficient back-up resistance coils may be required to meet the home's heating needs. This can cause **increased** energy consumption.

CAUTION: Some people, especially the elderly, may require higher indoor temperatures - about 65 degrees at all times - to avoid a possibly fatal drop in body-temperature. People with circulatory problems or those taking certain types of drugs may also be vulnerable. In such instances, follow your doctor's advice on both winter and summer thermostat settings in your home.

• Tune Up Your Oil Burner

Have a qualified technician from your fuel dealer, or the company with whom you have a service contract, tune up your burner and service the system on an annual basis. A burner tune-up is usually different from the cleaning and servicing offered by most companies.

When you schedule a tune-up, ask your service company about reducing the firing rate of the burner. Most burners are oversized and significant savings can be achieved by downsizing the nozzle. The burner nozzle controls the firing rate (the rate of oil flow in gallons per hour). Only your fuel supplier has the records necessary to determine if this is applicable. Make sure your serviceperson leaves a tag attached to the heating system which records the final **combustion efficiency**, smoke reading, percent carbon dioxide (CO₂), net stack temperature, and any other work done. Combustion efficiency indicates what percentage of fuel your burner turns into heat.

The items listed here are those that most frequently require attention during a tuneup; however, all may not apply to your specific situation.

- Combustion chamber cleaned or replaced;
- Heat exchanger cleaned;

- Oil pump pressure checked and regulated;
- Oil filter replaced (installed if not present);
- Operating and safety controls (thermostat, aquastat, on/off switches, etc.) checked;
- Pumps and blower motors checked and oiled;
- Barometric draft regulator checked, adjusted, or replaced as necessary;
- Burner fan, motor, electrodes, and transformer cleaned and lubricated;
- Oil pump bled (if necessary);
- Nozzle replaced (must be done annually);
- Leaks into the unit sealed;
- Potential of “baffling” installation assessed (especially if older unit);
- Final combustion tests completed.

For additional information on oil burners, see page 30.

• Tune Up Your Gas Burner

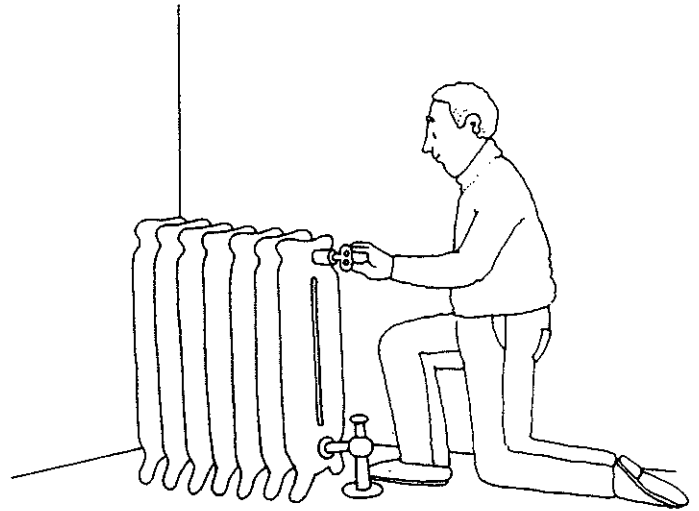
Have a qualified heating contractor tune up the burner and service your system. As with a normal service call, you will be charged a nominal fee. Make sure that the serviceworker leaves a tag attached to the heating system which records the final combustion efficiency, percent carbon dioxide (CO₂) or percent carbon monoxide (CO), age, net stack temperature, and any other work done.

Some older equipment cannot be turned to efficiencies above 60%. Newer units can reach efficiencies of up to 98%. Your serviceworker should be able to determine this.

The items listed here are those most frequently required during a tune-up; however, all may not apply to your specific situation.

- Heat exchanger cleaned;
- Air inlets cleaned, adjusted;
- Operating and safety controls (thermostat, aquastat, on/off switches, etc.) checked;
- Venting systems, gas lines and valves checked for leaks, corrosion;
- Pumps and blower motors checked and lubricated;
- Pilot safety device, automatic gas valve, and pressure regulation unit inspected and serviced as necessary.

• Take Care of Your Hot Water Heating System



Radiators: “Bleed” air trapped in your radiators regularly to improve heat flow from the radiator. To do this, use the knob at the top of the radiator or a key (available at hardware stores) to open the valve. Keep it open until water spurts out. It will be **hot** and should be caught in a pan or bucket. Then close it securely.

Dust or vacuum radiators frequently. Don’t cover them with boxes, books, or anything else that might block the heat flow.

• Take Care of Your Warm Air Heating System

Air Filters: Replace every one to two months during the heating season.

Registers: Keep clean and unobstructed by rugs or furniture.

Dampers: Located within the supply ducts coming from the furnace, can be adjusted to ensure even heat throughout the house. To do this, position handles on the side of each duct near the furnace to the desired heat flow.

If your system is gas-fired, you can turn off the pilot light in the summer, using the pilot control knob. **DO NOT BLOW OUT THE PILOT FLAME.** If you do not know how to turn it off, contact your heating system service company for assistance.

• **Take Care of Your Steam Heating System**

Radiators: Replace air vents that don't work.

As the system is warming up you should hear air coming out of the vent and then a click, after which the air will stop rushing out. Another way to check for proper functioning is to unscrew the vent when the radiator is cold and blow through it. Install a new vent if you can't blow through it. Dust or vacuum the radiators frequently. Don't cover them with anything that might block the flow of air around them.

Boiler: Prevent sediment buildup by draining, once or twice a month, half a bucketful of water from the low water cut-off valve (looks almost like a faucet and is usually mounted near the bottom of the boiler with a piece of hose attached to it). Once you have drained off the sediment, open another valve located near the ceiling, to let water flow to the boiler.

IMPORTANT: You **must** add enough water to keep the level adequate to fill the boiler jacket, usually shown in the glass type (sight glass) as its midway point. Do not add too much water at any one time if the unit is on, because the sudden temperature change can crack the boiler. If you have any questions, consult your heating system serviceperson.

• **Take Care of Your Air Conditioning System**

There's a lot you can do to improve your window a/c unit or central air conditioning system efficiency. If you are replacing or purchasing a new unit, ask your appliance salesperson for one that has a high energy efficiency ratio (EER).

Window Units: Every year, at the beginning of the cooling season, unplug the unit, remove the access cover, and check the:

- **air filter:** Clean or replace as needed; check several times during the cooling season;
- **evaporator** (finned tubing behind the front cover): Vacuum as needed;
- **condenser coils** (finned tubing at the rear of the unit, outdoors): Vacuum as needed; and
- **blower** (fan): Clean as needed. If the blower motor has access holes for lubrication, follow the manufacturer's recommendations for lubricating. If directions are not available, a few drops of general purpose oil should be sufficient.

During winter, remove or cover window units, which can offer an almost unrestricted pathway for cold air to flow into a house. If the unit is too large to move or is a permanently mounted, cover the inside **and** outside with plastic or with a special cover which is available at most hardware stores. Also, block cracks around the unit and stuff foam weatherstripping between the two sashes of the window.

Central Air Conditioning Systems: Make sure you get maximum cooling for your dollars here; keep return air grilles and supply air diffusers clear of furniture and draperies, and clean or replace air filters as needed, usually several times during the cooling season.

In addition, at the beginning of each cooling season, have a serviceperson check the air filters, evaporator coil, condenser coil, evaporator and condenser fan motors, and centrifugal fan.

• **Use Your Fireplace Damper**

Fireplaces are very **inefficient** heating systems. To get the most out of yours you should remember several tips:

- An open or missing damper can allow as much heat to escape as an open door does! Close it whenever your fireplace is not in use;
 - When you are using the fireplace, carefully close the damper down as far as it will go while still maintaining sufficient draft. The wood will burn much longer;
 - Have your chimney cleaned at least once a year, more often if soot and creosote build up;
 - Consider a variety of products on the market which will improve the operating efficiency of your fireplace when in use, such as glass doors and heat circulating devices.
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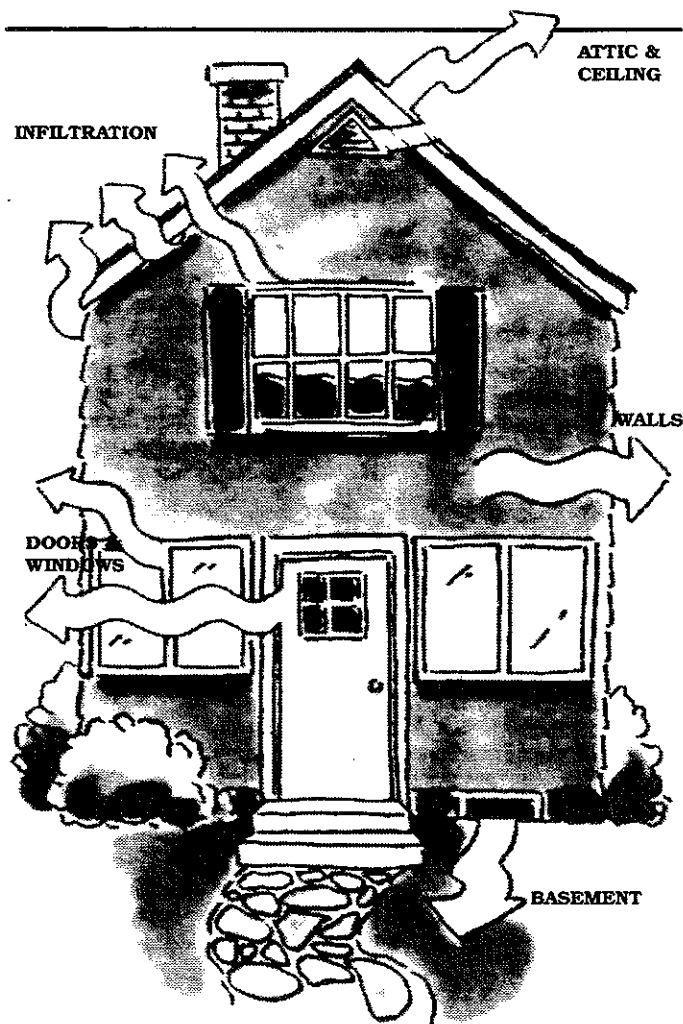
Energy Saving Home Improvements

YOUR HOME AND HEAT LOSS

Your home has many energy-using characteristics, many of which can be reduced by the simple changes in lifestyle suggested in the previous section. This section presents home improvement options as solutions to two major sources of heat loss:

- Heat loss through the building envelope,
- Heat loss resulting from inefficiencies in your heating system mechanical equipment.

Heat is lost through the building envelope in two ways: by **conduction** and **infiltration**. Heat lost by conduction passes directly through the building materials which make up your walls, windows, ceilings, roofs and floors. Infiltration is heat lost by cold air coming in and warm air moving out



through cracks around windows and doors, through cracks in wall materials, through key holes, mail chutes, chimneys, etc.

The diagram illustrates the areas where heat is lost through the building envelope.

Heat loss through the building envelope increases your home's **demand** for fuel, but the efficiency of your heating system determines how much fuel you will buy given the same demand. For example, an efficient heating system may consume only two-thirds the fuel of an inefficient system, and still provide you with the same amount of heat.

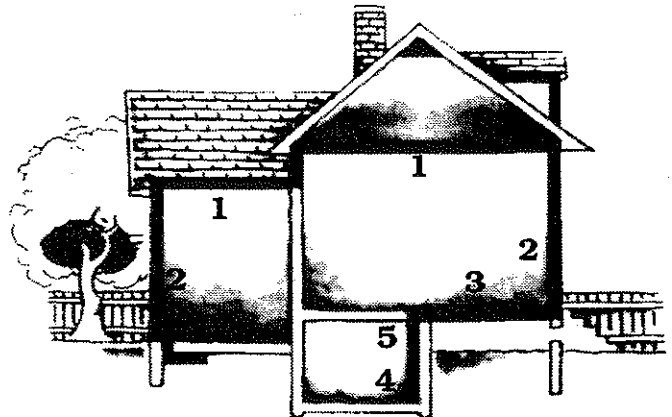
Once you've read through items 1-13 in this section that apply to your home situation, continue to the corresponding number in the next section, "Estimating Your Energy Savings", to find out how much you can save as a result of implementing each one.

INSULATION

You should insulate any surface that separates a heated space from an unheated space, or from the outside:

1. Ceilings with cold spaces above
2. Exterior walls or walls between heated and unheated spaces
3. Floors over unheated or outside spaces
4. Walls of finished or heated basement
5. Top of foundation or basement wall

The illustration below shows these surfaces in an average house.



• What You Should Know First

How much insulation should you have? Insulation works by resisting heat transfer. The measure of this resistance is called the “**R**” value. The higher the R-value, the more resistance the material has. Before you decide how much insulation you need, check what you already have. To do this, follow the procedures outlined with each measure in this section.

TABLE 1: Typical R-values of different kinds of Insulation:

R-Values	11	13	19	22	30	38
Loose Fill						
Fiberglass	3"	3 1/2"	5"	6"	8"	10"
Rock Wool	4"	4 1/2"	6 1/2"	7 1/2"	10"	13"
Cellulose	3"	3 1/2"	5 1/2"	6"	8 1/2"	10 1/2"
Vermiculite	5"	6"	9"	10 1/2"	14 1/2"	18"
Batts/Blankets						
Fiberglass	3 1/2"	4"	6"	7"	9 1/2"	12"
Rock Wool	3 1/2"	4"	6"	6 1/2"	9"	11 1/2"
Rigid Board						
Polystyrene (extruded)	3"	3 1/2"	5"	5 1/2"	7 1/2"	9 1/2"
Urethane	2"	2"	3"	3 1/2"	5"	6"
Polystyrene (bead board)	3"	3 1/2"	5 1/2"	6"	8 1/2"	10 1/2"
Fiberglass	3"	3 1/2"	5"	5 1/2"	7 1/2"	9 1/2"

R-values computed from values given in the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE) Handbook of Fundamentals, 1981 Edition.

To determine the best investment for your home, compare the amount you would initially spend for insulation to your potential savings on energy costs.

What Type of Insulation Should You Use? There are three main types of insulation you can install yourself: loose fill, batts or blankets, and rigid board. As you can see in Table 1, some require greater thickness than others to reach the same R-values. They also vary in price and ease of installation.

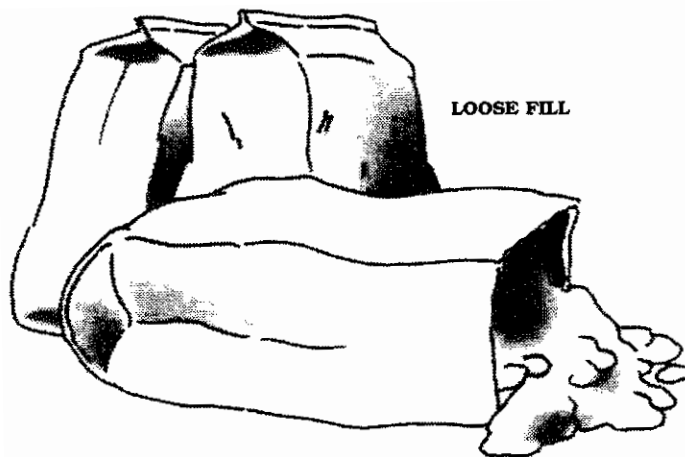
To assure you of the quality of different insulation types, the Federal government has assigned a Federal specification number to those products which meet their standards. Check that the insulation packaging is clearly labeled with the appropriate Federal specification number from Table 2.

TABLE 2: Federal Specifications Numbers

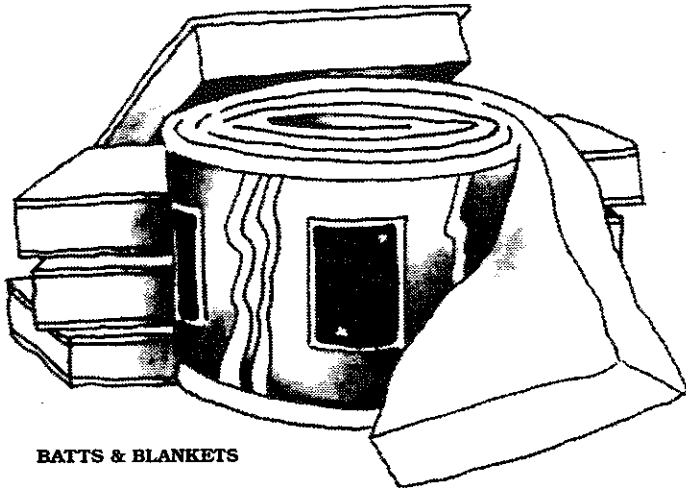
Loose Fill	
Fiberglass	HH-I-1030B
Rock Wool	HH-I-1030B
Cellulose	HH-I-515D (UL Listed)
Vermiculite	HH-I-585C (amendment 1)
Batts/Blankets	
Fiberglass	HH-I-521F
Rock Wool	HH-I-521F
Rigid Board	
Polystyrene (extruded)	HH-I-524B
Urethane	HH-I-00530B
Polystyrene (bead board)	HH-I-524B
Fiberglass	HH-I-526C

The specification numbers listed above are the most recent available. However, they may change periodically due to upgraded testing procedures.

Loose Fill (fiberglass, rock wool, cellulose, vermiculite) is a common type of insulation that is sold in bags by weight and doesn't include an attached vapor barrier. It can be poured by hand (which you can do yourself) or blown into place (usually by a contractor). Installation often requires using **baffles** or **blocking** to contain the loose-fill within the desired areas.

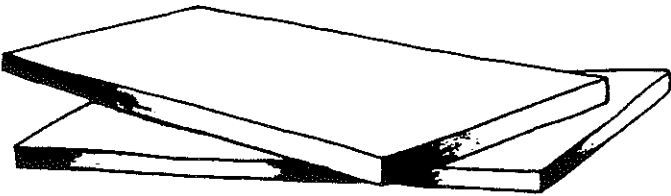


Batts and Blankets (fiberglass, rock wool) are sold in widths for installation between regular 16" or 24" on center joist spacings. Batts are pre-cut in four and eight foot lengths. Blankets come in continuous rolls and usually waste less during installation than batts. Batts and blankets can be bought faced (with a vapor barrier) or unfaced (without a vapor barrier).



BATTES & BLANKETS

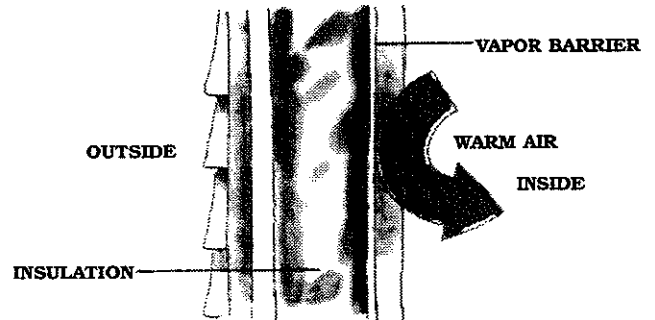
Rigid Board (extruded polystyrene, urethane, polystyrene bead board, fiberglass) is used most often to insulate basement walls. You can also insulate mobile home ceilings and the interior surfaces of walls and ceilings in any home, using rigid board.



Available in widths of 24" and 48", most rigid boards are not fire-resistant and must be covered by 1/2" gypsum wallboard to assure fire safety. Extruded polystyrene and urethane form their own vapor barriers. The others do not, but may include attached vapor barriers. Rigid board is usually installed by a contractor.

• Vapor Barriers

Water vapor that exists in the warm air of your home tends to migrate through most walls, floor and ceiling materials to the cold exterior. If this is allowed to happen, the water vapor can condense against cold surfaces and freeze. This can cause paint peeling and extensive damage to insulation and other materials. For this reason, when you add insulation, it's a good idea to install a **vapor barrier** on the warm side of the insulation.

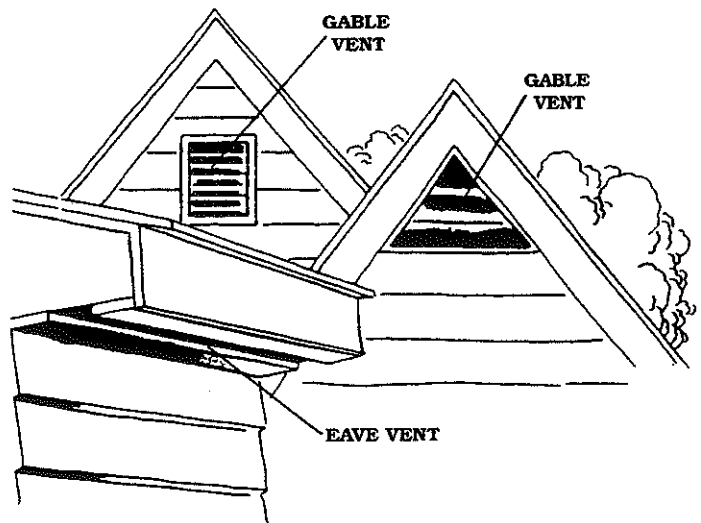


The right way to install a vapor barrier.

There are several types of materials available that qualify as vapor barriers. **Kraft paper** and **foil facing** on fiberglass batts and blankets, when carefully installed, provide a vapor barrier. **Polyethylene sheeting**, 4 or even 6 mil thick, is an excellent vapor barrier. Foil-backed gypsum board can also be used as a vapor barrier and room finishing material. Some **paints** are effective vapor barriers also. Check with your local paint supply dealer. By Federal standards, any material with a **perm rating** (a measure of how much water can flow through the material) of one or less is considered a good vapor barrier.

• Ventilation

Attics: Vapor barriers are never 100% effective, so it's reasonable to expect some moisture in your attic. For this reason, vents must be installed in insulated attics. If there is a vapor barrier in the ceiling, or if you put one in, provide one square foot of net vent area for



each 300 square feet of ceiling. In attics without a vapor barrier in the ceiling, provide one square foot of net vent area for each 150 square feet of ceiling. In some areas of the State, venting requirements may vary. Consult your local utility for details.

There are several types of attic vents you may want to consider. **Gable end** and **eave** or **soffit vents** are the most common and least expensive to install. However, **roof vents** or **ridge vents** are used for special types of attic construction. Consult your local contractor for details.

Crawl Spaces: Moisture can build up in crawl spaces under houses during warmer months as easily as it does in attics during the winter. To properly ventilate a crawl space, install vents in opposite walls from each other in a ratio of one square foot of vent area to 1500 square feet of crawl space if a vapor barrier covers the ground. Without a vapor barrier, one square foot for each 150 square feet of area is required.

Both attic and crawl space vents must be protected by **screening** to keep out vermin, and **louvers** to keep out rainwater. However, these items decrease the actual or “free” ventilation area of the vent. If the free ventilation area is not specified on the vent you buy, assume it is 1/2 of the measured area to conform to current Federal ventilation standards. Ordinarily, vents will have to be installed by a contractor (unless you’ve had significant experience).

• Safety Precautions

Whenever you install insulation, be sure to wear gloves, a hat, a breathing mask or respirator and a loose-fitting, long-sleeved shirt.

The tightly compressed new material should not be unwrapped until you’re ready to put it in place. Whatever materials you use, follow the manufacturer’s recommendations printed on the packaging for proper installation.

When working in damp areas, like basement crawl spaces, be sure to keep lights, fans and wires off the wet ground.

In attics with no subfloor - watch your step! - and set up temporary platforms as work stations.

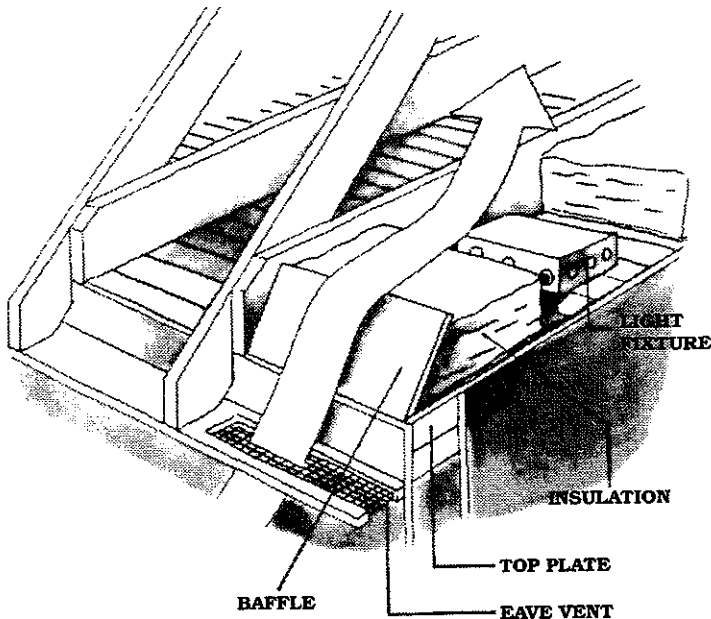
INSULATING ATTICS

1

Depending on the size and condition of your attic relative to the rest of your house, you could save up to 25% of your heating and cooling costs by insulating your uninsulated attic or top floor ceiling. Even if you already have one or two inches of old insulation, your attic loses a substantial amount of heat.

Before you insulate:

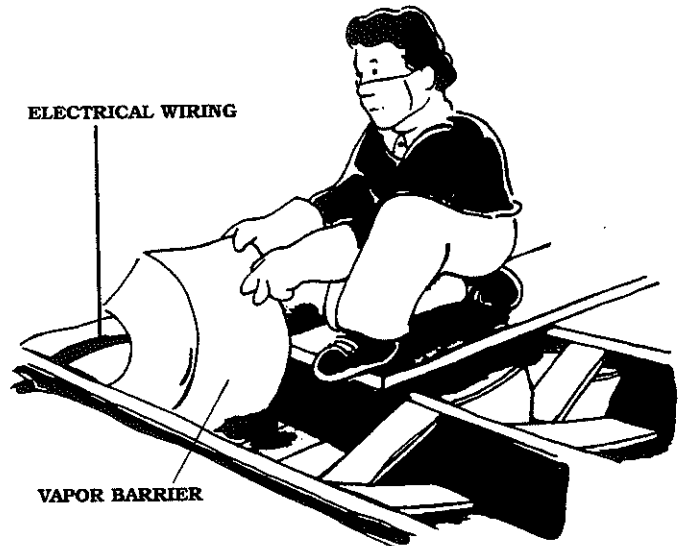
1. Look for water stains on the underside of the roof or ceiling below to find out if your roof has leaks. You’ll have to have leaks repaired first.
2. Decide whether or not you can install a vapor barrier, and compute the ventilation you will need accordingly. If you need more ventilation to meet the standards discussed on pages 16-17, have these vents installed at the same time you insulate.
3. If there is no floor in your attic space, you’ll need to lay boards or plywood on top of the joists for a working platform. (Be careful, the ceiling won’t carry your weight.)
4. Use caulking compound to seal openings around pipes and wires which penetrate the attics floor. For instructions, see **8** Caulking, page 28.
5. Install **baffles** to keep insulation out of unwanted areas. Baffles must be installed:
 - to prevent insulation from blocking air flow from eave vents into the attic (see page 18),
 - to keep loose-fill insulation at least 3” away from recessed light fixtures or other heat-producing devices, and
 - to keep loose-fill insulation from spilling over attic hatch door openings.



6. If you are going to install a separate polyethylene vapor barrier, don't lay it in a continuous sheet over joists and trusses unless you cover these framing members with at least 3-1/2" of insulation. Instead, lay polyethylene strips between joists or trusses. Staple or tuck in place. Seal seams, rips or tears in the plastic with tape. (If you wish, instead of taping vapor barrier seams, you can overlap the ends by 6 inches.) Now you can begin your installation.

Unfinished, unfloored attics include the unheated spaces beneath your pitched or flat roof, or within the space behind the kneewalls (short vertical walls) in an otherwise finished heated attic. You can easily install floor insulation in your attic floor yourself if the attic space is accessible and if the joists in the attic floor are not covered with floor boards. There are two ways that you can insulate your unfloored attic.

Option 1: Blankets and batts should fit snugly. Place attached vapor barriers face down, closest to the living areas. Slide insulation under wiring when possible. **Don't** install insulation in areas where wiring is cracked or frayed until such wiring has been repaired.



Cut ends of batts or blankets to fit snugly around cross bracing. Cut the next batt in a similar way to allow the ends to butt tightly together. If a second layer of insulation is required to achieve the R-value you want, it may be lined up directly on top of the first layer or at right angles to it.

For a second layer of insulation, **do not** use material with an attached vapor barrier. If your insulation has an attached vapor barrier, **remove** the vapor barrier from the insulation to prevent trapping moisture between layers of insulation.



Loose fill can be leveled with a garden rake or a board.

Option 2: Loose-fill insulation can be poured in between the joists in your attic floor to the depth necessary to achieve the desired R-value. Make sure that the installed depth is uniform throughout the attic.

Floored Attics: if your attic has one or more layers of flooring, **do not** insulate over the floor. Either remove the flooring to insulate the floor cavity, or have your contractor blow loose-fill insulation into the floor cavities. If you do it yourself and you want to blow in the insulation, the proper equipment is available for rental at most hardware and lumber stores.

Sloped Ceilings, in finished attic rooms, must also be insulated. In addition to “before” installation procedures for attics, be sure to block the base of these ceiling cavities **before** you begin. This is usually done by rolling pieces of fiberglass batt and stuffing them into the base of the cavity.

If you are going to refinish or re-paint sloping ceilings anyway, you may want to have your contractor blow loose-fill insulation into these cavities through the inside wall. If not, and if you can get up into the crawl space above the finished ceiling, you can pour loose-fill insulation down into each cavity from above.

• **Checkpoints:**

- Make sure that insulation completely covers the desired area and that there are no gaps between insulation pieces.
- Insulate and weatherstrip all attic hatches and access doors to prevent air leakage to the attic.

INSULATING FRAME WALLS

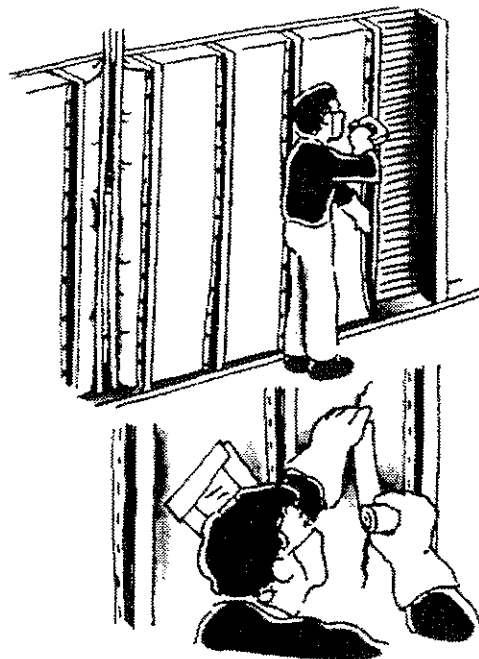
2

If wall spaces are accessible, you will be able to install insulation yourself. Such unfinished walls may exist in a portion of your attic or a room which is undergoing major renovation. If walls are already finished and you decide to insulate, you

can have the work done by a contractor who will blow in insulation. (See page 35 for advice on how to select a contractor.)

If you want to do it yourself, here's how to install **batt** or **blanket** insulation in frame walls that are still unfinished on one side.

Before installation, measure your stud spacing; buy insulation according to that spacing. If you buy unfaced batt, install a vapor barrier.



Measure and cut insulation blankets to fit snugly against top and bottom framing members and between the studs. If faced blankets are used, staple the 1" flanges on each side to the interior edge of the studs starting from the top down, about every 4 inches.

If stud spacings are irregular, cut insulation about one inch wider than the space you want to fill to make the draft or foil facing form a stapling flange. Install insulation on the winter-cold side of pipes, wiring and electrical outlets to help prevent frozen pipes and uncomfortable drafts. Stuff small gaps between framing with loose scraps of insulation, with the vapor barrier facing removed.

Carefully fit the vapor barrier around outlets. Patch rips or tears in the vapor barrier with tape. Cover

the vapor barrier with a finish material like gypsum wall board or suitable fire-resistant paneling.

• Contractor-Installed

Unless you've had considerable construction experience, you will need to hire a contractor to insulate the exterior frame walls of your home. A contractor will blow insulation into the wall cavities by drilling through the wall surface or by removing some siding. This type of insulation job can vary in price considerably depending on several factors:

- Type of frame construction,
- The insulation material used,
- Whether it's installed through the interior or exterior wall surface,
- The finish materials that make up your walls, and
- How much finish work (sanding, painting, etc.) is done by your contractor.

It's important that you understand **exactly** what your contractor will give you for the price, so that you can compare bids accurately and fairly. See "Selecting a Contractor," page 35.

If you plan to refinish the interior of your home anyway, consider insulating your home through the inside wall surface. Using this method requires that you or your contractor patch, sand, and paint (or wallpaper) the holes left from drilling.

If your walls will be insulated from the exterior, the type of siding or exterior finish will determine the installation method and price. The contractor must remove sections of wood shingles, clapboards, aluminum or vinyl siding to drill and insulate through the exterior sheathing; this siding must be replaced once insulation is installed. Holes are drilled directly through stucco and (the mortar between) brick siding, then patched and finished with similar materials once the cavities are insulated.

• Checkpoints:

- Your contractor must never leave openings in wall sections unprotected overnight, and should repair or replace finish materials to match the original as closely as possible.
- During installation, make sure your contractor carefully checks to make sure that all wall cavities are insulated by continually probing wall cavities for obstructions.

INSULATING FOUNDATIONS AND BASEMENTS

3

• Insulating Basement, Perimeter and Masonry Walls

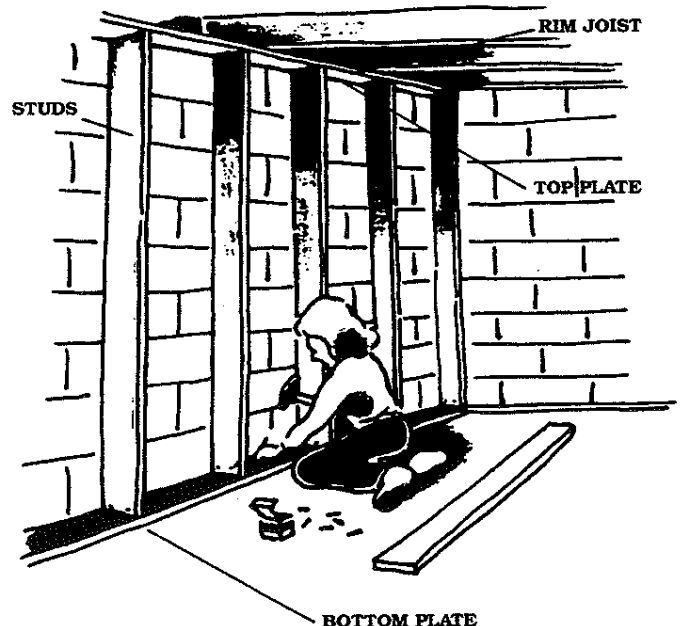
Usually, basement walls are worth insulating only if you plan to refinish your basement into a heated living space such as a playroom. However, if your heating system is in the basement, insulating the inside perimeter of the basement walls where the house sits on the foundation will help reduce heat loss to the outside.

Before installation, if moisture is coming through your basement walls from the ground outside, eliminate the source of the dampness. In addition, follow all "before" installation procedures for frame wall insulation that apply.

CAUTION: Depending upon your local soil type and frost penetration this insulation method may cause foundation problems.

• Installation

Install batts (preferably R-19) in the space above the foundation wall at the rim joist around the



entire perimeter of the basement. Cut the insulation so that it fits snugly in place.

When insulating basement walls, there are two insulation materials that you can use: batts and blankets or rigid board. For **batts and blankets**, you must first construct a stud framework against the masonry wall. A 2"x4" wall can be insulated to R-11; a 2"x6" wall, or a 2"x4" wall built 2" away from the masonry wall, can be insulated to R-19. Nail the bottom plate directly to the basement floor using masonry nails. Nail the top plate to the joists above. Place studs 16 or 24 inches on center, and nail them to the top and bottom plate.

To install the batts or blankets, follow the procedures outlines in 2" Frame Walls, making sure to place the vapor barrier on the winter-warm side of the wall.

For rigid board insulation, you must first nail 1" or 2" wide wood strapping (the same thickness as the insulation) directly to the masonry wall using masonry nails. Place strapping along the top and bottom of the wall, and nail vertical strips to the wall at 24 or 48 inch intervals, depending on the width of the rigid board. Fasten sheets of rigid board between the strapping using an adhesive recommended for use with the insulation you bought.

• **Checkpoints:**

- Make sure there are no gaps between sections of insulation and that any rips or tears in a vapor barrier are patched with tape
- Also, cover insulation and vapor barriers with a finish material such as 1/2" gypsum wall board or suitable fire-resistant paneling.

• **Insulating Heated Crawl Space Walls**

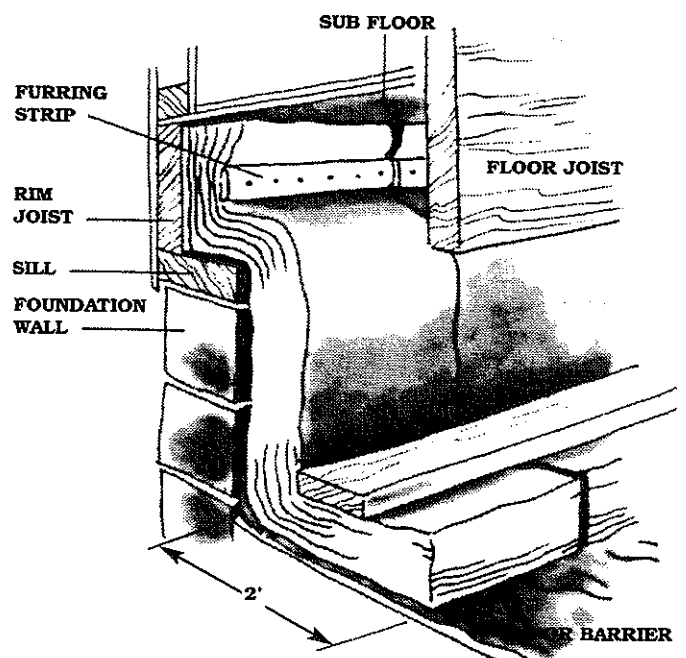
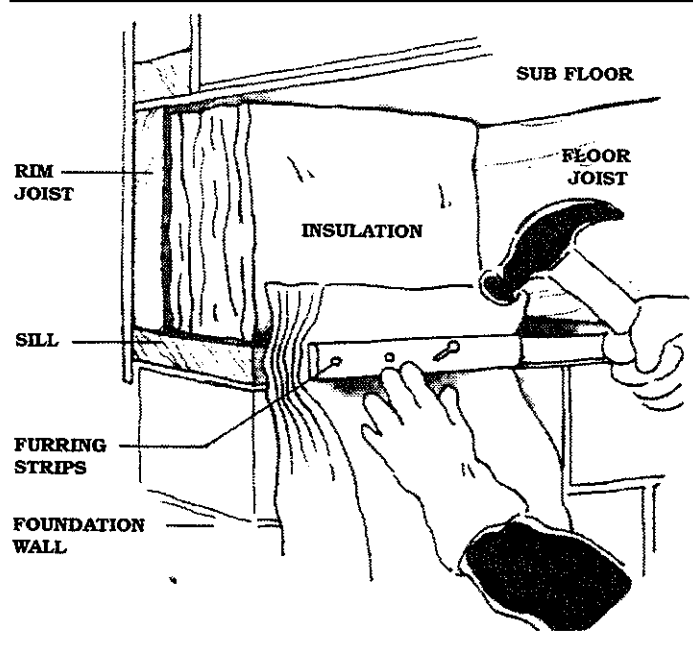
If you don't have a full basement but do have a heated crawl space, it is still important to insulate.

Before you begin, make sure that your crawl space does not have excessive ground moisture due to a high water table in your area. If it does, you may not be able to insulate using this method. To keep normal ground moisture out of the insulation, lay down a six mil polyethylene vapor barrier ground cover over the entire ground area and up at least 6" of the crawl space wall. Overlap sections of the ground cover and tape the seams.

Installation: Install insulation to cover the height of the crawl space wall plus at least two feet along the ground. Where the floor joists run at right angles to the wall, measure and cut short pieces of insulation

to fit snugly against the rim joist so there will be no heat loss through this area. Then, nail the top of each strip of insulation to the sill using 1/2" x 1-1/2" wood strapping. Make sure there are no gaps between sections of insulation.

When floor joists run parallel to walls, don't cut short pieces of insulation. Simply nail longer pieces (again with furring strips) directly to the rim joist.



Lay a 2"x4" lumber or bricks on two of the batts to keep them in place. Try to minimize your walking or crawling on the vapor barrier and patch any rips which may have occurred.

A crawl space area that is not connected to a basement should be ventilated in the spring and summer to prevent moisture accumulation. Since you'll be heating your crawl space, make the most of your new insulation by closing those vents tightly in the winter. Otherwise your pipes could freeze.

Also, when doing major exterior renovations, or if you are thinking of adding a new room to your home, remember that earth berms can provide insulating value to your basement and crawl space walls.

• Insulating Floors Over Unheated Spaces

If there are no pipes or heating ducts running through the crawl space or unheated basement under your floor, and if the floor joists are exposed and easily accessible, you can insulate the floor yourself from underneath.

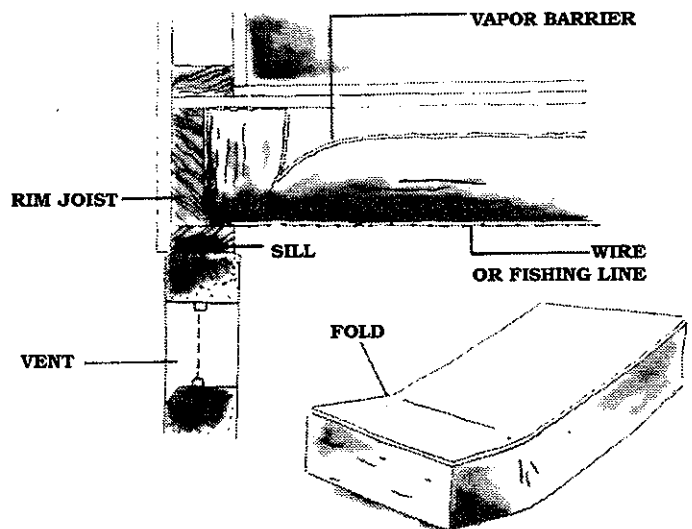
Before you begin, check your floor joist spacing. If they are spaced every 16" or 24", your job will be easier since these are standard widths for insulation. Otherwise, you'll have a lot of cutting and fitting to do and some waste of material. Buy insulation with a vapor barrier; R-19 is recommended here.

Install the batt with the vapor barrier facing up, toward the living space. Support the insulation using



spring metal stays, wire or fishing line strung back and forth in a criss-cross pattern on nails.

Carefully fit insulation around any cross-bridging, supports, pipes or anything else that you may find between the joists, and don't leave gaps between pieces of insulation. Keep insulation at least 3" away from heat-producing devices, such as lights, which may exist in the floor/ceiling structure. Don't block the vents from the unheated crawl space or combustion air openings for furnaces if there are any here. Make sure that the rim joist is insulated around the entire perimeter of the foundation.



If a ceiling exists, such as in a garage or a portion of a house supported on piers, you will probably need to hire a contractor to do the installation. In this case, a loose-fill insulation is blown into the cavity between the ceiling and floor above, either by drilling holes through the ceiling at regular intervals or by removing small sections of ceiling. In either case, make sure you understand who's responsible for patching and refinishing the ceiling before you accept a contractor's bid.

INSULATING WATER HEATERS

4

While you're considering your insulation needs, don't overlook the water heater. If your water heater storage tank is warm to the touch it needs insulation. Even if it isn't warm it could be underinsulated; heat losses from underinsulated tanks can be significant. You can cut this heat loss by covering the water heater with either a pre-cut insulation kit (available at most lumber or hardware stores) or by wrapping the storage tank with vinyl-backed fiberglass insulation, secured with duct tape. Foil-backed insulation can also be used, although it is more difficult to work with. The vinyl backing should be labeled for a flame spread classification of no more than 150 for electric resistance water heaters or 25 for oil and gas-fired water heaters.

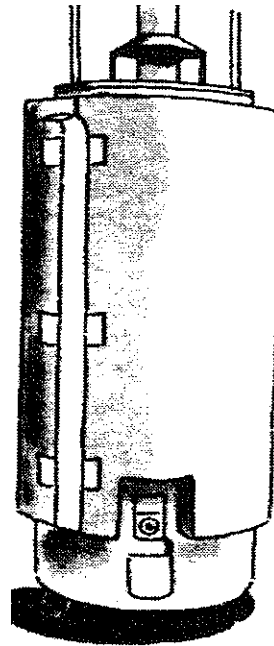
Before you begin, determine the fuel type (gas, electric, oil) of the water heater. Different procedures are necessary for each type, as follows:

For Electric Hot Water Heaters, cover the top and sides with insulation. The pressure relief valve, temperature relief valve, thermostat controls, power wiring and connections, and drain valve must remain unobstructed. If a kit is not being used, each section of insulation should be taped to itself starting at the bottom of the tank and working up. The vinyl backing must face outwards and all seams and edges should be taped securely. See Figure.

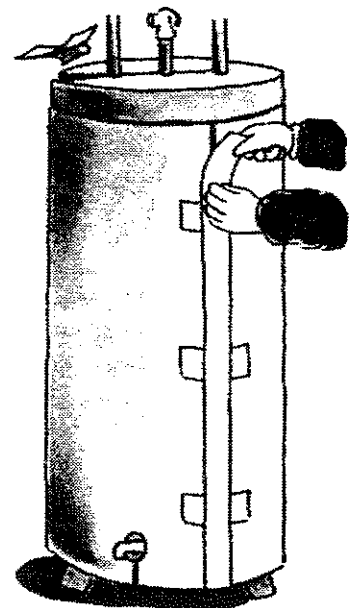
For Gas Hot Water Heaters, only the sides can be covered with insulation. Insulation **must** be cut to leave openings for the burner air inlet at the bottom, the thermostat control, the pilot light access plate, the drain valve, and other necessary access plates. The draft hood **must not** be blocked by insulation, which might prevent toxic fumes from properly venting to the outdoors. See Figure.

For Free-Standing Oil Hot Water Heaters, the side can be covered with insulation. The top can be covered with insulation only **if** the vent pipe is side-mounted. If the vent pipe is side-mounted, be sure

to maintain at least 18 inches between the vent and the insulation. Take care not to cover valves, access plates, and the flame peep sight.



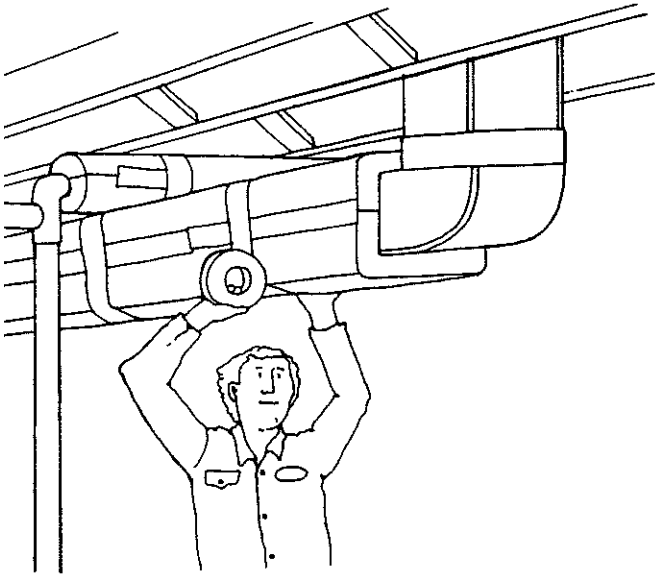
GAS WATER HEATER



ELECTRIC WATER HEATER

INSULATING DUCTS AND PIPES

5



One of the most cost-effective energy-conserving measures you can take is to insulate duct or pipe runs that exist in the unheated areas of your home. By **not** insulating them you are essentially delivering heat that you've paid for to areas of your home that you never use!

• How To Insulate Your Ducts

Install vinyl or foil-backed fiberglass duct insulation on all heating system supply ducts. (You can also use regular faced fiberglass insulation which is less expensive and has higher R-value, but is more difficult to use in this application). To determine how much insulation you need, first measure the distance around each section of duct and multiply that by the total length. Order about 30% **more** insulation than the duct area that you calculated to account for the overlaps you'll need for fastening and waste from odd cuts. Duct insulation can be found at plumbing and heating supply houses and insulation suppliers.

Before you insulate: seal all air leaks in the system with duct tape and/or a high temperature caulk such as silicone.

To insulate, cover the supply ducts with insulation and secure it using clinch-type staples (preferred), wire, or tape. Although not as long-lasting as staples, duct tape is easier to install. The tape would be wrapped completely around the duct and overlapped. The backing on the insulation must be on the outside surface. Any exposed fiberglass and all joints between pieces of insulation should be covered with duct tape. Damper control handles must be left in accessible and operable position. Any labels on the ducts should be transferred to the outside of the insulation.

WARNING: Take caution when installing insulation near a flue pipe.

• How to Insulate Your Pipes

For hot water systems, install "elastomeric" or urethane rubber pipe insulation with a suggested minimum R value of 6 on all supply pipes only. This may not be used in applications where the temperature of the pipe exceeds 200°F (such as on steam pipes). Be sure to look for the R value on the product.

For steam systems, install molded fiberglass pipe insulation with a minimum recommended R value of 6 on all supply pipes only.

Before you purchase the insulation, carefully measure the outside diameter and lengths required. Remember to add a little for waste at joints.

Before installation, check for leaks in the system. If you find a leak(s), have your plumbing contractor repair it **before** you insulate.

To install, place pipe insulation over the pipes, and seal with either glue, duct tape, or appropriate fasteners. Exposed ends of insulation sections at joints should be tightly sealed to eliminate air flow underneath the insulation.

WINDOWS AND DOORS

On a per square foot basis, windows and doors are by far the highest heat loss areas in your home. A well insulated wall is 14 times more resistant to

heat loss than a single pane window. The heat loss could almost be cut one third or more by installing storm windows and doors.

There are several measures you can take to tighten up your windows and doors and increase their insulating value: installing storms, interior glazings, insulating shutters and shades, installing weatherstripping, and/or caulking window and door frames and storm windows. If window or door replacement is necessary, use only thermal replacement windows or doors; these are double or triple glazed and have insulated sashes. It may not make sense for you to undertake all of these things since, for example, the savings you will realize for installing storm windows may mean that you need not weatherstrip those same windows, depending on their original condition.

Read through items 6, 7, and 8 to help you decide what's right for you.

INSTALLING STORMS

6

The quality of construction of storm windows will affect their strength and appearance. As with insulation, there are recognized standards which will assure you of high quality storm windows and doors. The latest standards are:

Aluminum Storm Windows - ANSI/AAMA
#1002.10-1980

Aluminum Storm Doors - ANSI/AAMA #1102.7-1977

Wood Storm Doors - NWMA #1S-5-1973

However, you should still conduct your own thorough inspection. Check the corners; they should be strong and air-tight. If you can see through the corner, the window will leak cold air. For exterior storms, check to ensure that "weep" holes exist at the base of the units. These drain condensed water away from the window. Look for hardware that's sturdy and as durable as the rest of the window. Make sure that aluminum storms have baked

enamel or anodized finishes, so that they will last. Above all, look at a number of different storm windows or doors before you decide which is the best type for your house.

• Thermal Shutters and Shades

Window insulation primarily reduces heat loss at night, though it can also reduce unwanted heat gain, especially in direct sun, by providing shading. Like storm windows, window insulation saves energy by reducing both heat losses through the glass and leaks around the window itself. While these devices are generally more expensive than storm windows, they can achieve five times the insulating value.

Window insulation is available in a variety of shutter, shades, panels, etc. Qualities to look for are flame retardancy, moisture resistance and durability. Be sure to select materials that won't produce dangerous fumes if ignited. Quality of hardware and ease of operation are very important since daily opening/closing cycles are expected in normal use. Airflow around the top, bottom, and sides of the insulation should be prevented with high quality seals or weatherstripping.

Window insulation should be installed according to the manufacturer's instructions, so as to operate smoothly with a minimum of stress transferred to the shade/shutter materials. They should not interfere with the operation of the window or, in the case of shutters, nearby windows or doors. Edges at the sides, top and bottom must seal tightly with the shade/shutter closed. Shutters should latch in both open and closed position. Shades should secure positively in the open position.

To be most effective, window insulation should be in place at night or whenever sunlight or daylight is not being absorbed through the window. Window insulation requires careful maintenance of the edge seals to prevent condensation between the insulation and the window, and if externally installed, must maintain weather-resistance.

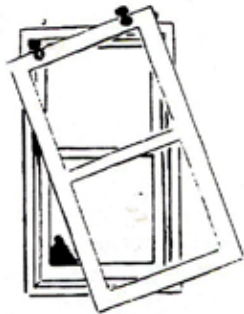
Aluminum Storm Doors should be reinforced at the middle and have hinges that are continuous along the whole length of the door. The latching hardware should be sturdy and adjustable. Look for weatherstripping along the sides and an adjustable sweep at the bottom.

Wooden Storm Doors should be treated with wood preservative and/or painted. Glass inserts should be insulating glass. Wooden storm doors are gener-

ally more durable than aluminum doors, but may be slightly more expensive. Weatherstripping and a sweep should be installed when the door is hung.

• How to Install Storm Windows

Aluminum storm windows can be installed by a contractor or as a do-it-yourself item if you have the necessary skills and tools. The surface where a window is to be installed must be clean, free of obstructions, and structurally sound. Combination (triple-track) and fixed windows should be bedded with an unbroken bead of caulk along the top and sides and fastened with a minimum of eight screw per window. Apply a bead of caulk along the bottom of the window from the inside leaving two small weep holes open at the sill to allow for necessary ventilation and drainage. Fixed panes should be pre-weatherstripped and may be attached to the casing either with screws, thumb screws, or in the case of interior or removable applications, spring loaded clips.



Single sash will cost you less than combination windows. The window is fairly easy to install.

Temporary plastic storm windows are an inexpensive storm window which can be installed using polyethylene or clear vinyl plastic and waterproof tape or wood nailing strips or can be purchased in kits from your hardware store. Although in most cases they must be removed to be able to operate the window, and reapplied the next year, they are as effective as aluminum storms at cutting heat loss.

NOTE: Some fire codes prohibit the use of plastic on the interior; check with your local fire marshall before installing them. Mount plastic storms on the outside of the windows if interior use is prohibited.

• Installing Storm Doors

Install storm doors in accordance with the manufacturer's instructions. They should be set to close automatically and latch tightly, leaving no room for excess movement. Proper installation may require custom work around the existing frame, including

chiselling or planing down of high points, or adding trim to low points to achieve a flat installation surface. Whether you install the storm door yourself or have a supplier install it, the door must fit squarely, be weatherstipped, and form a tight seal all the way around.

IMPORTANT: Care must be taken to maintain the smooth operation and fit of the storm door, since its insulating value relies on the tightness of the seal. Replace weatherstripping when worn, and keep hardware used to close and latch the door adjusted and in good repair.

INSTALL WEATHERSTRIPPING

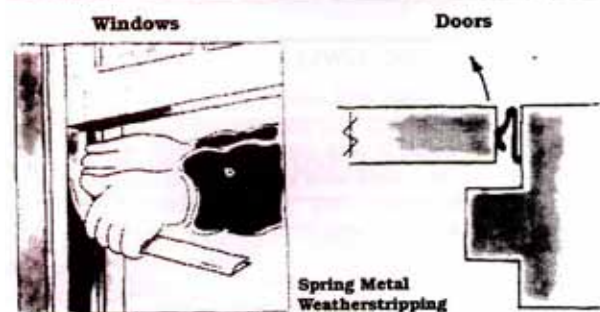
7

Loose-fitting windows and doors will lose heat through cracks around their edges. If they must open and close throughout the winter, they can be weatherstripped along those cracks. Weatherstripping is purchased either by the foot or in kit form for each window. Make a list of your windows and measure them to find the total length of weatherstripping you'll need. Allow for some extra. If you buy a kit, be sure it's intended for your window type and size.

• Materials

There are many weatherstripping materials to choose from.

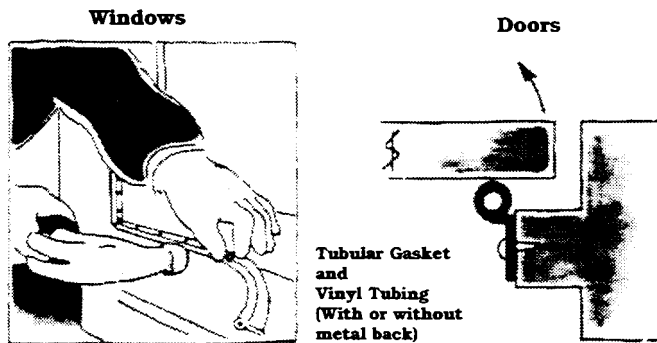
Spring Metal Weatherstripping, although somewhat more difficult to install, is one of the most



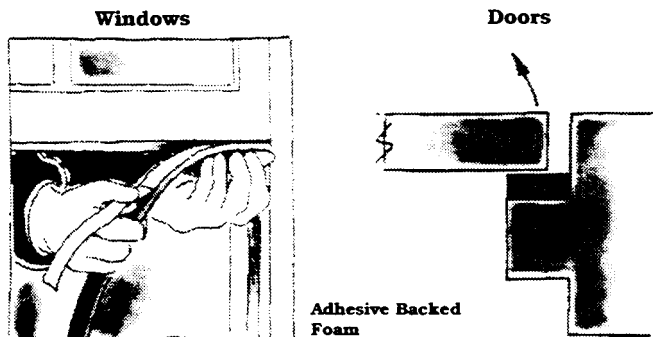
effective weatherstripping available. Since it is metal, it is more durable and longer-lasting than any of the vinyl or foam types. In addition, it can improve the operation of older, double hung windows, by offering a smooth surface for them to slide on.

“Spring V Plastic” Weatherstripping is an effective weatherstripping which is easy to install. It is more durable than the vinyl bulb type and is frequently available with a peel-off adhesive strip.

Vinyl and Vinyl Bulb Weatherstrippings are effective and sometimes easier for a homeowner to install because they are installed against the sash instead of in the track like the spring types. Since they are plastic, they don't stand up well to extreme temperatures and tend to wear out after two to three years.



Adhesive-backed Foam Rubber and felt strips are easy to install but wear quickly and are not as effective sealants as any of the above. Use these weatherstrippings only where they will be squeezed, like on the underside of double-hung windows, not where they will rub.



Foam rubber and felt also come with wood backings which makes them very easy to nail around door jambs for a snug fit.

There are more durable weatherstripping materials intended specifically for door bottoms. Some are illustrated below. Except for the sweeps, they are fairly difficult to install. Unless you are quite handy around the house, you may be better off having a contractor do the work for you.

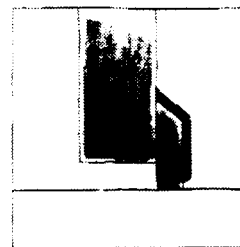
The **sweep** is screwed to the bottom of doors. It can be installed on the inside or outside of the door.

A **gasket threshold** is used where there is no threshold or where it can replace a worn existing threshold. The vinyl gasket seals doors well but wears as it is walked on and eventually must be replaced.

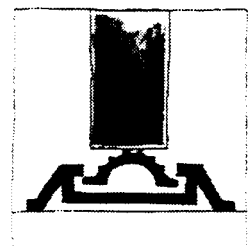
A **door shoe** has a more protected gasket that slips into a metal piece that's attached to the bottom of the door. The door shoe can be used on any threshold that isn't worn down in the middle.

You can also seal your **garage door** inexpensively and easily with a heavy rubber or plastic weatherstripping. It will keep your garage warmer and seal against snow and wind.

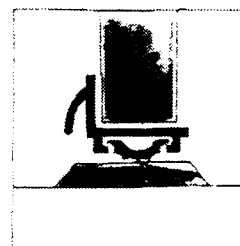
When you have stopped all the drafts around doors and windows, your house will be more comfortable and energy-efficient.



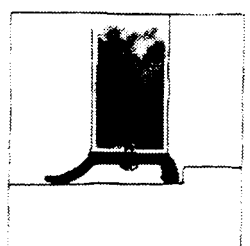
SWEEP



GASKET THRESHOLD



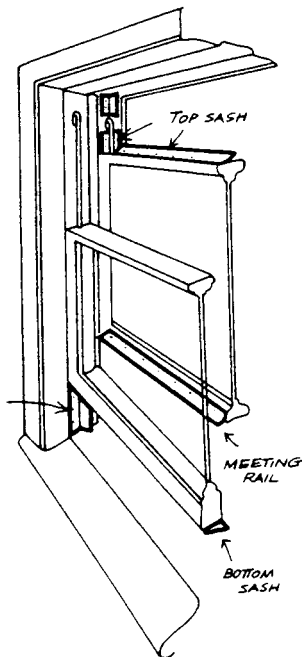
TWO-PIECE DOOR SHOE



GARAGE-DOOR STRIP

• Weatherstrip Windows

For a double-hung window, weatherstripping should be installed at seven separate edges on the frame. Four pieces are required in the gaps between the sides of the sashes and the casing and three more are required, one between the top sash and the casing, one between the meeting rails, and one between the bottom sash and casing. Since there are many different types, refer to the weatherstripping manufacturer's instructions for proper installation techniques.



For a casement window, weatherstripping should be installed around all four sides of the frame. Follow the weatherstripping manufacturer's instructions for the proper installation techniques.

• Weatherstrip Doors

Weatherstripping should be installed on the two sides (covering hinges) and at the top of the door frame. "Lock-keeper strips" should be used around striker plates. Follow the manufacturer's instructions for the proper installation technique.

Door sweeps should be installed along the bottom of the door itself and should be positioned to create a seal when the door is closed. Follow the manufacturer's instructions for the proper installation technique.

CAULKING

8

Cracks around windows and doors (and other openings) in your home can be one of the major causes of heat loss. You can cut this loss substantially by caulking those cracks. Even if you're inexperienced, this is a job you can do yourself. The materials and tools you'll need are inexpensive.

As a general rule, caulk where a permanent seal is desired, and weatherstrip when doors and windows must be opened and closed.

The seams around doors and windows were probably tight when your house was built, but with time, cracks develop and old caulking loosens and breaks up. The areas where this might have occurred on windows and doors are:

- At joints between trim (casings) and exterior siding.
- Where storm windows meet the window frame. (**NOTE:** there should be drain holes at the window sill.)

• Materials

Caulking compounds are available in rope form (see pg. 6), and in cartridges to be used in a caulking gun.

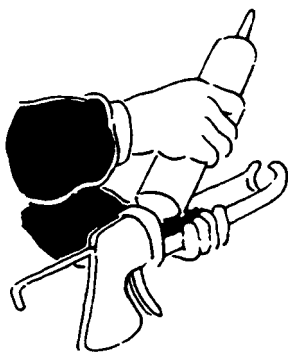
Caulking Compounds vary significantly in composition and in appropriateness of application. Elastomeric caulks, which remain flexible over long periods of time, should be used instead of less expensive oil-based caulks. Acceptable types include silicone, acrylic-terpolymer, acrylic-latex, latex, phenolic-based and butyl-based caulks. Check the directions carefully to note whether the caulk is suitable for the application you have in mind.

CAUTION: Lead based caulking is toxic. Don't use it.

Fillers such as oakum, urethane foam and fiberglass batt should be used in cracks greater than 3/8 of an inch. Caulk should then be applied over the filler.

• How to Caulk

Before installing caulk, remove all loose material and dirt from the crack, or the caulk won't adhere to the surface. When caulking a wide crack, stuff it to within a fraction of an inch of the surface with a filler material such as bits of insulation or oakum, and then apply the caulking material.



Cut off the tip of the nozzle on the tube at an angle so that it gives you a bead of caulk no wider than you need. Next, pierce the inner seal of the cartridge. If necessary, smooth the newly applied bead of caulk immediately after applying it with a tool like a putty knife, or your fingers. You will soon acquire a technique that allows you to apply the caulk to the crack firmly, and smooth it to an acceptable finish, in one pass of the caulking gun.

Caulk should adhere properly to the surfaces around the crack. Problems of inadequate bonding can be caused by poor cleaning of crack area, incorrect caulk type (material, temperature restrictions), or improper placement.

• Caulk Your Storm Windows and Clean Out the "Weep" Holes

If the caulk that seals your storm windows is drying out or missing, caulk the top, sides and bottom of the storm window frame from the inside (between the sash and storm). Leave the weep holes at the bottom of your storm window **unplugged**; they allow excess moisture to drain out, and thus help preserve both the window sill and storm. Several times a year, remove any old paint, leaves or other residue that has collected on the sills.

See page 6 for applications of caulking on other parts of your home.

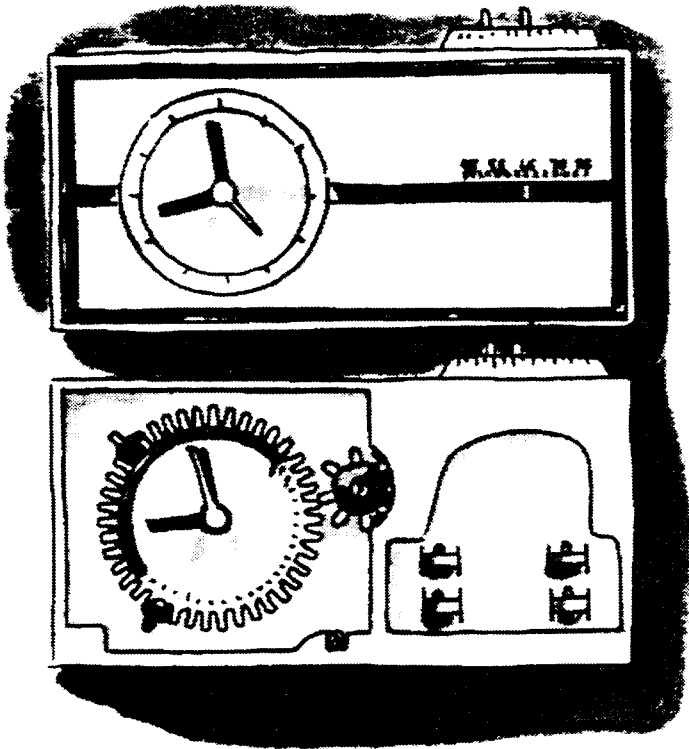
HEATING SYSTEM MODIFICATIONS

Heating system modification could potentially save between 5-25% of your fuel bill, depending on the efficiency of your current system. It is important to know that some heating system modifications apply only to specific types of heating systems, as you'll see by reading through items 9-13. Most importantly though, know that the savings you can achieve by implementing any of the following measures cannot be added directly to savings that you calculate for any other measure. This is because if you increase the efficiency of your heating system, you are using less fuel to begin with, and installation of other energy-conserving measures, though just as effective, will not pay back as quickly. A free utility energy survey includes an analysis of your heating system. It will help you determine the applicability and payback of many of the measures listed in this section.

CLOCK THERMOSTATS

9

As you know, you save on your energy bills by keeping daytime temperatures at 68°F or lower. You'll save even more by turning the thermostat down 5 to 10 degrees each night, and more if you also turn it down during the work day. (This 5 to 10 degree difference between night and daytime temperatures is called the "setback".)



You can dial the thermostat up in morning and down at night by hand, but this requires special attention and you always wake up in cool house. If you prefer, there are mechanical devices which will "remember" the setback for you.

You can regulate the amount of setback and its duration at any time. After this adjustment, the setback is controlled by the thermostat in many different ways.

Because some setback thermostats must be connected to your home's electrical system, some communities may require that they be installed by a licensed electrician. Refer to the manufacturer's instructions. The thermostat should be located away from hot and cold spots such as radiators, fireplaces and exterior walls. Air should be able to circulate freely around the unit.

Prices for setback thermostats vary between \$40 and \$300. They can save you energy used for space heating. You can purchase an automatic setback thermostat from hardware-equipment dealers, electrical supply stores, hardware stores and heating contractors.

REPLACEMENT BURNERS

10

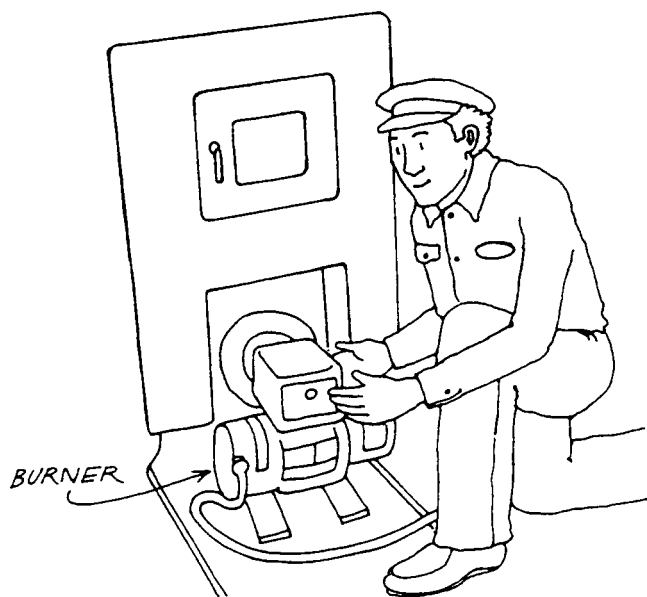
The burner on your furnace or boiler controls the rate at which the fuel is burned. In an oil-fired system, it is a gun-like apparatus at the base of the heating unit. In a gas-fired system, it is either a series of plates with small holes (orifices) or a gun-like power burner.

If your present burner is old, it may be running at a low efficiency. A combustion efficiency test with

results of 60% or less suggests that a new burner or a whole new system is a wise step. A new burner may increase that efficiency by 10 to 15%.

Oil-fired flame-retention head burners mix the oil and air more efficiently than conventional burners. This results in a hotter flame, less excess air and a higher efficiency.

Gas-fired power burners can also improve the efficiency of your heating system. This is obtained by using a forced air burner and premixing of air and gas. Many existing gas systems cannot be retrofitted with the new efficient gas power burners without great expense; however, the burners can be used to convert oil-fired heating systems to gas.



• What to Expect from the Installation

The installation of a new burner must be completed by an experienced burner technician. The unit should be tuned and the entire system completely serviced to enable the burner to operate at its maximum efficiency. A qualified heating contractor may have other suggestions (in addition to burner replacement) to modify the system to enhance overall efficiency. You should expect a new combustion efficiency between 78% and 83%.

Since most existing burners are oversized, it is important that the installer match the combustion chamber to the new burner (which may involve resurfacing or rebuilding the combustion chamber) when a new burner is being selected.

The following information should be recorded by the installer, who should leave one copy with you and one copy attached to your heating system:

- Date of burner replacement;
 - Name of service company and installer;
 - Original and replacement burner make, model, and model number; gas orifice or oil nozzle size;
 - Other modifications to the unit;
 - The initial and final efficiency; which includes smoke reading (for replacement oil burners only), net stack temperature, CO₂ level and stack draft reading.
-

AUTOMATIC VENT DAMPERS

11

How it Works

Automatic vent dampers reduce heat loss up the chimney by closing the flue pipe when the burner is not operating. Closing the flue prevents the naturally induced draft that is the principle cause of heat loss while the system is idle.

NOTE: A heating system with a flame retention burner, gas power burner or a pulse combustion burner has little use for a damper, since the burner reduces draft while the system is idle.

There are basically two types:

A thermally-actuated automatic vent damper consists of moveable bi-metallic elements mounted inside the flue pipe. These elements open upon ignition of the burner and close automatically when the burner goes off. No electrical connections are necessary. These can only be used on gas systems.

An electrically-actuated automatic vent damper consists of a metal disc mounted inside the flue pipe. The disc is opened by an electric motor when the system is turned on and closed when the system is off.

IMPORTANT! Dampers should be considered with extreme caution. If the damper should malfunction and remain in the closed position when the burner is firing, hazardous fumes can escape into the dwelling. The Underwriter's Laboratory as well as the American Gas Association have established testing procedures for dampers and many state and local codes permit use of UL or AGA-tested dampers. It is suggested that you avoid devices that do not meet UL or AGA standards.

• What to Expect from the Installation

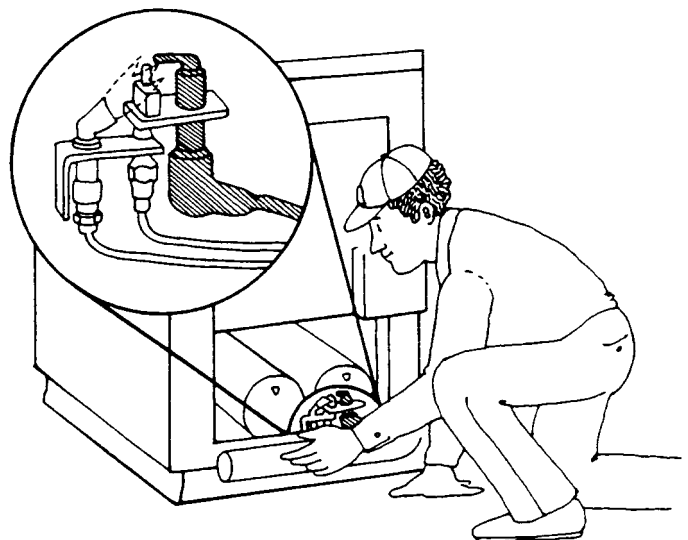
This installation must be carried out by a qualified service technician. Prior to installation, the safe operating condition of all existing equipment must be checked. Attention should be given to the flue pipe to ensure that all connections are properly made and all piping properly supported.

The unit will be installed between the existing draft hood and the chimney. Installation and an inspection following must be made according to manufacturer's specifications and all relevant state and federal guidelines.

The damper should be cleaned and tested at the time your heating system receives its periodic servicing. If any problems arise, call your serviceperson.

INTERMITTENT IGNITION DEVICES

12



INTERMITTENT
IGNITION DEVICE

• How it Works

An intermittent ignition device (IID) ignites the main gas burners by use of small amounts of electricity, thus eliminating the need for a continuously burning pilot light. This saves unnecessary fuel consumption.

• What to Expect From the Installation

Have your heating contractor install an IID on your central gas heating appliance. The present pilot system will remain to be a part of the IID. A number of manufacturers offer IID's for retrofit to existing gas central heating appliances. Your heating contractor can determine which is most appropriate for your heating system and what alterations to the existing system may be required to properly install the intermittent ignition device.

An IID must be installed by a qualified heating contractor. The existing condition of the heating system must be examined first to be sure that it is operating correctly and efficiently. The serviceperson will determine if valve and electrical controls which are compatible with the new IID need to be installed. The IID must be installed in accordance with manufacturer's specifications and state and federal requirements. After installation, the serviceperson should run the appliance through a number of cycles to ensure proper operation of the device.

HEATING SYSTEM REPLACEMENTS

13

Although it requires a large investment, if your system is old, and it currently operates at a low combustion efficiency, you may benefit the most in the long run by replacing your entire heating system. Consult several heating contractors for advice and estimates, and make sure that the items listed here are considered before you select your new system.

• System Sizing

Proper sizing of the boiler or furnace is critical to economical operation of the system. Select the size that meets your home heating needs by having a heating service professional calculate your heating load requirement. Your new heating system should be matched as closely as possible to the heat loss of your home. If you have recently insulated your home, your heating needs may be considerably less than in the past. Make sure that your heating contractor takes all of your recent and future conservation installations into account when sizing your new unit. If you wish, ask to see the contractor's calculations. At maximum, your new heating unit should be sized to accommodate no more than 120% of the heating requirements of your home.

• System Efficiency

Select a system with the highest efficiency. The Federal Government now requires retailers of boiler/furnaces to have fact sheets on the equipment available to their customers. Your heating contractor should be able to obtain these fact sheets for you. These fact sheets include energy efficiency ratings, which offer information estimating how well one heating system will perform over the length of the heating season compared to other similar systems. The fact sheets list: the range of energy efficiency ratings for systems of the same size and type; the efficiency rating of the particular system you are

considering and average annual cost information based upon varying fuel rates. Check the ratings of several systems before buying and select one with a high energy efficiency rating. Although higher efficiency may equal higher initial cost, it pays for itself in the long run.

• **What to Expect from the Installation**

Do not purchase a heating system that is not covered by a warranty. A minimum of one year coverage on all major components is recommended. Installation must be done by an experienced heating system technician, plumber or gas-fitter. Call your local heating association for service references.

OTHER OPTIONS

14

• **Domestic Hot Water System Option**

Solar domestic hot water systems use solar collectors to gather the heat provided by the sun. These systems use a fluid or air to transfer the heat from the collector to your hot water heating system. There are a wide variety of systems available from numerous manufacturers.

• **Modulating Aquastats**

An energy-saving device which can be installed on your heating system is a **modulating aquastat**, also called **outdoor reset control**. This device can save you as much as 7% of your present heating bill.

These devices work by monitoring outside temperature fluctuations and signaling the boiler to raise the temperature of the water supplied to the radiators when it is coldest out, and lower it when it is not as cold. In this way, the heat demand of your house is met and the boiler operates at greater efficiency than if it were required to continuously hold boiler water temperatures higher to keep the building warm on the coldest day. In addition, since average hot water supply temperatures are lower, heat loss through distribution pipes which pass through unheated spaces is also reduced. Although a fairly simple installation, it must be performed by an experienced service technician.

Getting The Work Done

SELECTING A CONTRACTOR

Although you can install many of the conservation measures discussed in this book yourself, you may want some help on certain jobs.

Here are some things you should keep in mind when selecting a contractor to do the work you can't do yourself.

• Where To Look

One of the best places to get contractors' names is from friends and neighbors who have had similar work done, and who were satisfied with the contractor they chose.

In addition, you can check with your utility energy specialist, who will provide you with a listing of local contractors. All contractors on this list should have:

- at least one year's experience,
- adequate training in the installation of conservation measures,
- good standing with the Better Business Bureau,
- a satisfactory credit rating,
- comprehensive insurance
- any required licenses, and
- a guarantee on all work and materials for a full year.

AN AFTERWORD

The information you've found in this workbook is based on current research and construction practices. It is not the intention of Peoples or its consultants to endorse any particular product or service but only to suggest methods and solutions. You may find, because of your unique housing style, that there are appropriate measures we didn't include. Access them as you have the measures in the book to decide which are the most cost-effective.

Energy conservation is a self-help effort; it has to start with each and every resident of our nation and state. By taking the directions and actions pointed out in this guide, you are on the way to major energy and dollar savings.

• Making the Selection

Get written estimates from at least **three** contractors for work you want done. The estimate should spell out, in detail, the nature of the work to be done so you have a basis for comparison. If it's an insulation job, for example, the contractor should include information on the R-value and type of insulation to be used, how much will be installed and exact areas to be covered. If you buy blown-in insulation, find out if the contractor will guarantee to repair anything that may be damaged in the process of installing the insulation. Check to be sure the contractor guarantees the performance of the materials he uses and his workmanship.

Ask each contractor for a list of past customers and check to see if those customers were satisfied. Find out how long the contractor has been in business. Remember - the lowest bid is not always the best selection. The quality of the work is extremely important.

On the basis of this information, compare the estimates and make your selection.

• Put it in Writing

Before work begins, you and your contractor should sign a contract which documents, as described above, the work to be done. Sign it when you're sure it includes everything you want done. You both are protected by knowing the exact limits of each other's responsibilities.

For more information, contact Peoples.





PEOPLES NATURAL GASSM

Energy Education and Information Survey

The Page Numbers refer to those in the "How To Save Energy and Money in Your Home" booklet.

Name: _____ Acct. No.: _____

Street: _____ Date: _____

City: _____ Phone: _____

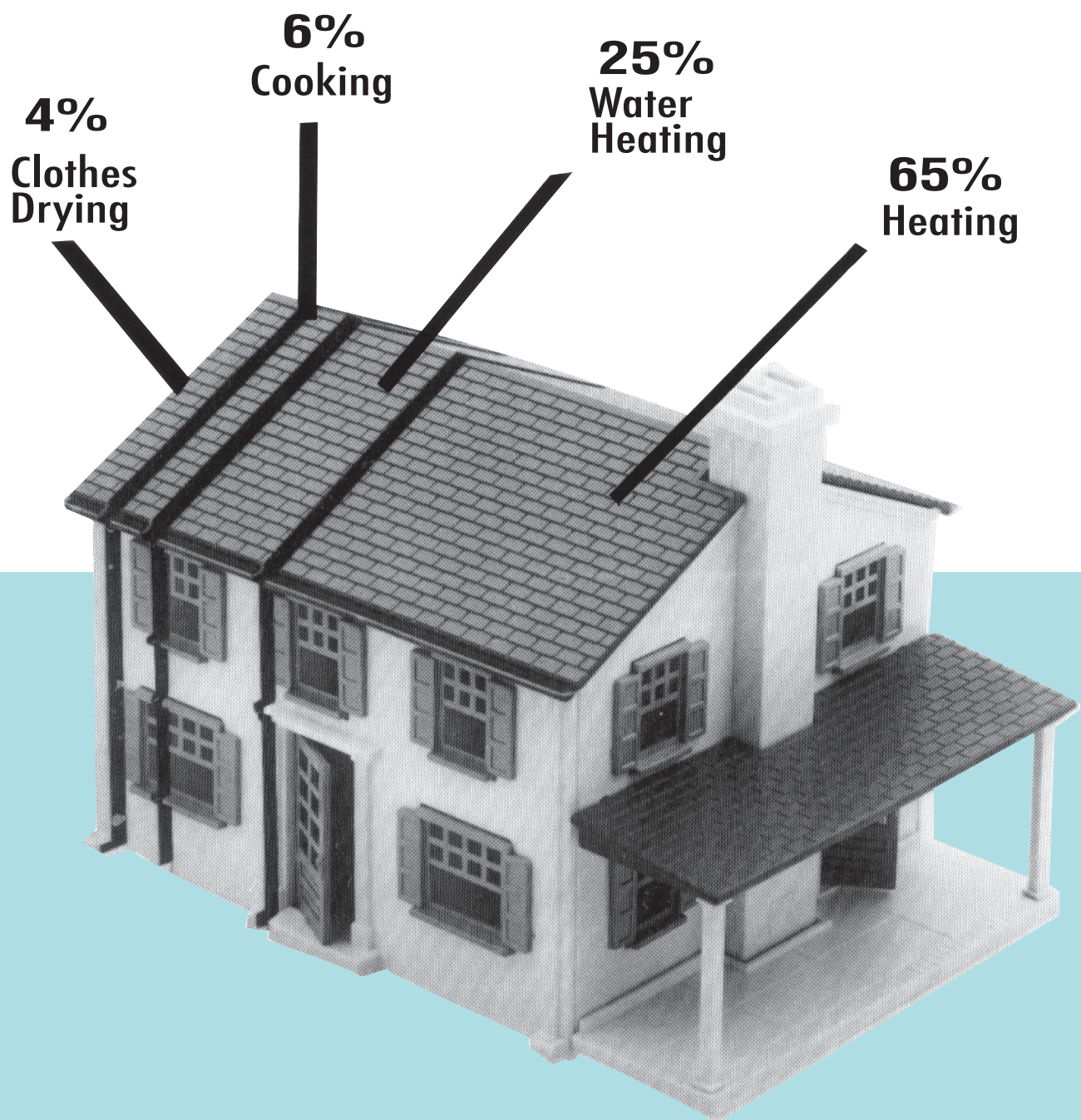
Auditor: _____

EDUCATION

Info	Yes	No	Measure	Page No.	Comments
1. _____	_____	_____	Caulking	P. 28	_____
2. _____	_____	_____	Weatherstrip Doors/Windows	P. 26	_____
3. _____	_____	_____	Close Fireplace Dampers	P. 13	_____
4. _____	_____	_____	Storm Windows <small>(When Not In Use)</small>	P. 25	_____
5. _____	_____	_____	Storm Doors	P. 25	_____
6. _____	_____	_____	Ceiling Insulation	P. 17	_____
7. _____	_____	_____	Wall Insulation	P. 19	_____
8. _____	_____	_____	Crawl Space Insulation	P. 17/21	_____
9. _____	_____	_____	Roof or Crawl Area Vented	P. 16	_____
10. _____	_____	_____	Sill Plate Insulation	P. 21	_____
11. _____	_____	_____	Foundation Wall Insulation	P. 20	_____
12. _____	_____	_____	Furnace Automatic Ignition	P. 32	_____
13. _____	_____	_____	Furnace Vent Damper	P. 32	_____
14. _____	_____	_____	Hot Water Tank Jacket	P. 23	_____
15. _____	_____	_____	Water Tank Vent Damper	P. 32	_____
16. _____	_____	_____	Pipe & Duct Insulation	P. 24	_____
17. _____	_____	_____	Thermostat	P. 30	_____
				& 11	_____
_____			Other Savings Areas For Discussion		
_____			1. Maintain Windows, Close Storm Windows	P. 10	_____
_____			2. Use of Curtains & Shades		_____
_____			3. Heating Plant Maintenance	P. 12	_____
_____			4. Clean/Replace Filter Monthly		_____
_____			5. Moist Air (Humidifier)		_____
_____			6. Dress Appropriately		_____
_____			7. Fireplace Facts	P. 13	_____
_____			8. Hot Water Usage	P. 8	_____

Comments _____

Save Money. . . Use Gas Wisely.



How you can save gas



Don't open and close outside doors needlessly.

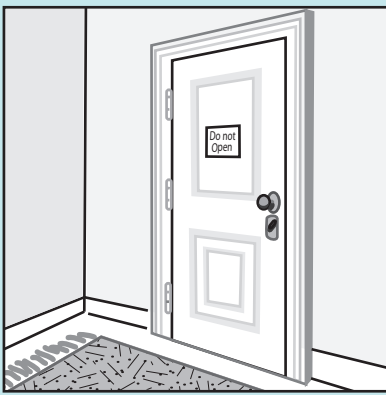
Limit traffic into and out of your home to keep your home warmer and draft-free.



Use nature's energy:

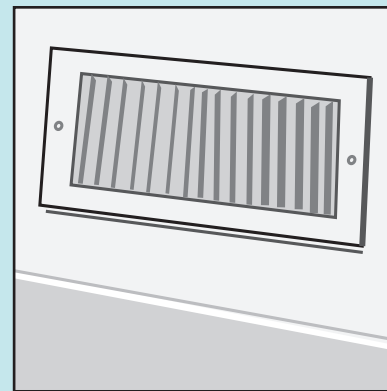
In cold weather, open shades facing the sun to let in nature's warming power. Close shades after sunset.

In warm weather, leave shades down when the sun is strongest. Open windows on cooler days and nights.



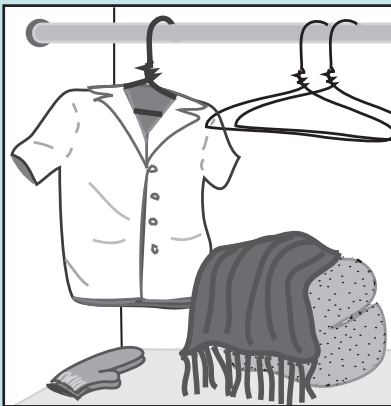
Close off unused space.

There's no sense spending energy dollars to heat or cool these areas.



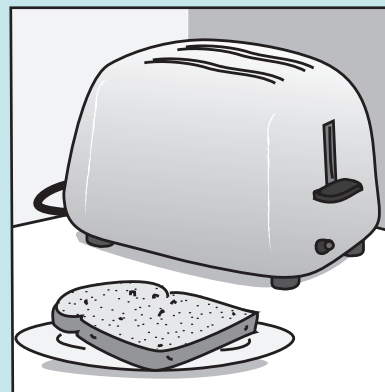
Don't block radiators, vents, etc.

Move furniture and drapes away, so heated or cooled air can do its job.



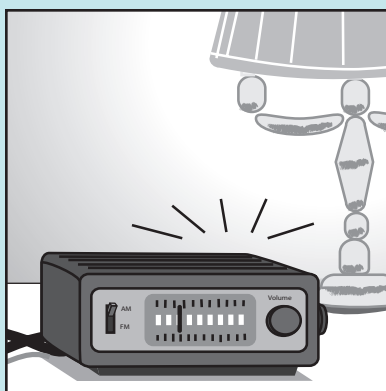
For personal comfort:

In cold weather, wear sweaters and layers of clothing. Use extra blankets on the beds at night if necessary. In warm weather, wear comfortable loose fitting clothes.



Use the smallest available appliance.

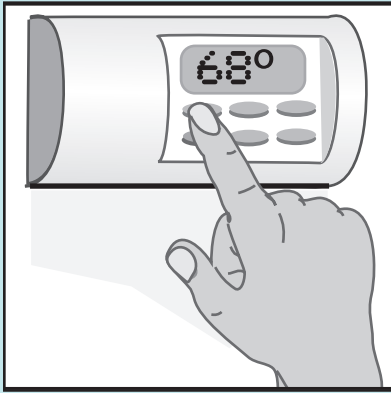
For example, use a toaster rather than a toaster oven for a small item.



Turn off appliances when not in use.

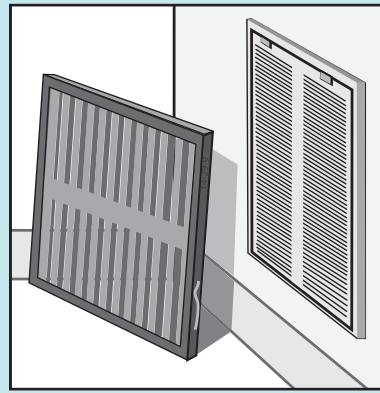
Turning off lights, TV, etc. is an easy and effective way to save money and energy. It's a good safety habit, too.

Use your furnace wisely



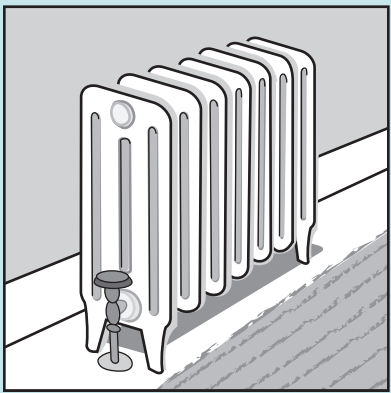
Set the thermostat for savings.

During cold weather, keep your home at a comfortable setting (68°). Lower the setting at night and when you're not home.



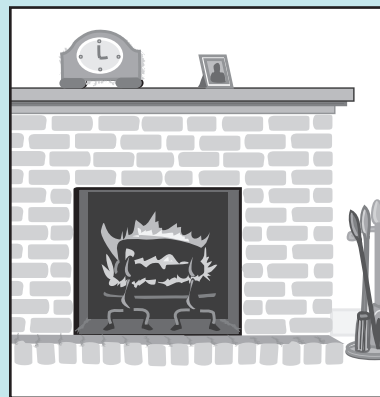
Clean or replace furnace air filters.

Check furnace air filters once a month during the heating season. If they become clogged, clean or replace them with new filters.



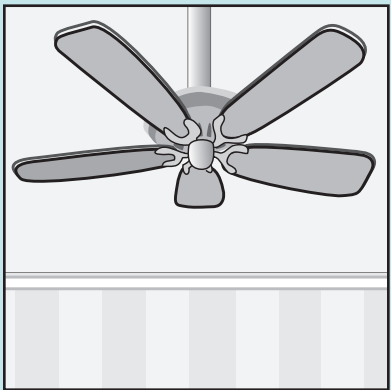
Clean radiators, ductwork and vents.

Dirt and dust can make your system less efficient.



Don't build a fire when the furnace is on.

A roaring blaze can actually waste energy by drawing heated air up the chimney. If you do use the fireplace, turn the thermostat down. Close the chimney damper after the ashes are cold. Always open damper before lighting a fire.



Don't keep ventilation fans running.

Besides venting unwanted moisture and odors in the bath or kitchen, these fans vent valuable heated or cooled air. Turn them off when they have done their job.



Conserve hot water.

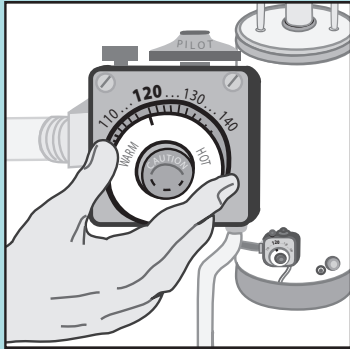
When washing your dishes, fill a basin with rinse water instead of letting the water run.



Repair leaking faucets.

Even a small drip can add up to a big drain on your energy budget. And that's not to mention the water that's wasted.

Use your appliances efficiently



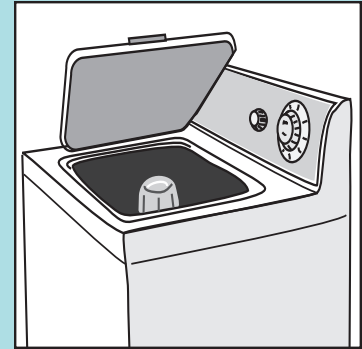
Lower the thermostat on the water tank.

120° is high enough for normal household needs.



Reduce the amount of hot water you use.

Take showers instead of baths.



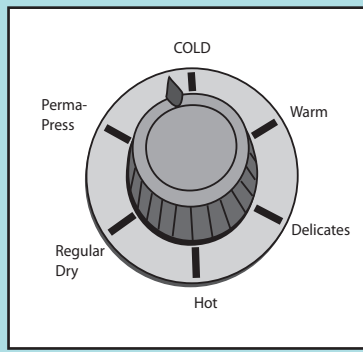
Use cold water when you can.

For example, with a lightly soiled load of clothes, your washing machine will clean fine using cold water.



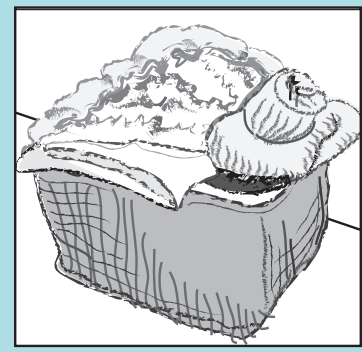
Keep the lint screen clean.

Clean the lint filter after every load. Unless the lint screen is cleaned, the dryer will not operate at top efficiency.



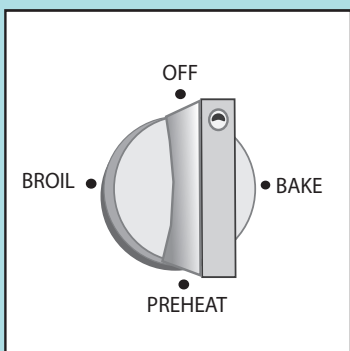
Do not over dry your clothes.

Dial the degree of dryness you want from a full range of temperature and fabric settings. Your clothes will turn out better if you do not over dry and you will save both gas and money.



Dry full loads.

Save gas and money by combining your loads. Always wash and dry a full load to make the best use of your appliances and energy dollars.



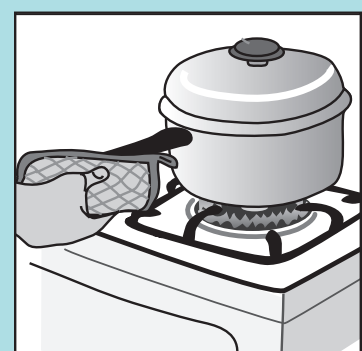
Preheat the oven only when necessary.

Preheat the oven at the temperature that you intend to use and for only ten minutes. A higher setting only wastes gas and will not preheat any faster.



Keep oven doors closed during cooking.

Opening the door only cools the oven. The result is the use of more gas to replace the lost heat.



Start foods cooking at a high flame, then reduce the heat.

Start cooking foods at the highest possible flame, but never let the flame curl up the side of the pan. When foods begin to bubble rapidly, turn the flame down so the foods simmer. A gentle simmer cooks just as quickly as a rolling boil.