

State of Washington
2020
Low-Income Home Energy Assistance Program
Weatherization Waiver Request

The State of Washington Department of Commerce (Commerce) is petitioning the United States Department of Health and Human Services (HHS) to waive the maximum percentage limits placed on funds used for weatherization within the Low-Income Home Energy Assistance Program (LIHEAP). Authority to request a waiver appears in the July 6, 1982 Federal Register 47 FR 29472 Part 96 of Title 45 of the Code of Federal Regulations as amended, with final rules published May 1, 1995 in 60 FR 21322.

The statute provides that, after reviewing a grantee's waiver request, HHS may grant a Good Cause Waiver request if it determines that the grantee (Commerce):

1. Demonstrates good cause for granting a waiver.
2. Provides all required information.
3. Shows adequate concern for timely and meaningful public review and comment.
4. Proposes weatherization that meets all relevant requirements.

The State of Washington Good Cause Waiver request addresses all four of these criteria. In the beginning we ask HHS for a transfer of up to 25 percent of available LIHEAP Energy Assistance Program funds to the Weatherization Assistance Program. Next, we report the number of households served and benefit dollars disbursed during Federal Fiscal Years 2019 and anticipated 2020 and provide documentation in support of a Good Cause Waiver. We then report on weatherization services provided and summarize measureable savings in energy expenditures directly attributable to weatherization services in Washington State. We conclude by summarizing additional factors that support our request.

Percent of Allocation Transferred to Weatherization

45 CFR 96.83(c)(1)

Commerce is requesting a waiver to transfer up to 25 percent of available LIHEAP Energy Assistance Program funds to the Weatherization Assistance Program. Approval of this waiver request will increase available weatherization funding by \$7,192,220 and increase the waiver transfer from 15 percent to 25 percent.

HHS approval of the full 25 percent brings all potential LIHEAP dollars to Washington State, providing an opportunity for agencies to enhance their programs and existing funding. Commerce is committed to maintaining a local option for use of transfer amounts.

Comparison of Households Served and Benefits Received

FY 2019 LIHEAP Regular + Contingency Grant Award

Total Grant Award	\$57,898,703
Energy Assistance	\$48,246,420
Households Served	67,209 (actual)

FY 2020 LIHEAP Regular + Anticipated Contingency Grant Award

Total Grant Award	\$64,694,992
Energy Assistance	\$53,912,493
Households Served	68,028 (estimate)*

* In addition it considers impact of reported trend of no shows and impact of qualified alien policy.

45 CFR 96.83(c)(2)(i)

45 CFR 96.83(c)(3)

As a result of a \$6,796,289 increase in funding, the anticipated number of households receiving Energy Assistance will be approximately 819 more households during FFY 2020 than those served during FFY 2019.

45 CFR 96.83(c)(2)(ii)

45 CFR 96.83(c)(4)

The aggregate amount of anticipated benefits our service population will receive during FFY 2020 is approximately \$6,796,289 more than FFY 2019.

Support Documentation for Standard Waiver

45 CFR 96.83(e)(1)

The State of Washington does meet the criteria set forth in 45 CFR 96.83(c)(2)(i) and (c)(2)(ii) and is therefore requesting a Standard Waiver.

45 CFR 96.83(e)(1)(i)

In reference to 96.83(c)(2)(i) and 96.83(c)(3), Number of Households Served

Commerce meets the criteria for 96.83(c)(2)(i) and does not require a good cause waiver.

In reference to 96.83(c)(2)(ii) and 96.83(c)(4), Aggregate Benefit Amounts

Commerce meets the criteria for 96.83(c)(2)(ii) and does not require a good cause waiver.

In regard to **96.83(c)(2)(i) and 96.83(c)(2)(ii)** Commerce has measurable and quantified data to support the weatherization network's ability to provide cost-effective weatherization services that reduce the energy burden of our most vulnerable households.

45 CFR 96.83(e)(1)(ii)

Income levels and eligibility criteria based on the Federal Poverty Levels for LIHEAP heating and crisis assistance applications have not changed from FFY 2019 to FFY 2020. Applicants must be at or below 125 percent of the federal poverty level. LIHEAP benefits range from a \$100 minimum to a \$1,000 maximum.

45 CFR 96.83(e)(1)(iii)

FFY 2019 and FFY 2020 have different opening and closing dates for LIHEAP heating and crisis assistance applications. FFY 2019 opened on October 1st and closed on June 30th. FFY 2020 will close on September 30th.

Outreach efforts for heating and crisis assistance are also identical for the 2019 and 2020 program years; both follow the Washington State Plans as submitted to HHS. Particular emphasis is placed on providing information on all programs funded under the LIHEAP Act to households which contain high residential energy users, high home energy burdens; the elderly; individuals with disabilities; families with young children (under six years of age); and persons and families who are subject to communication barriers (non-English speaking persons and persons who do not have easy access to common public news media, such as newspapers, radio, or television). The following outreach activities are conducted to assure eligible households are aware of all LIHEAP assistance available:

- Provide intake services through home visits or by telephone for the physically infirm (i.e. elderly or disabled).
- Place posters/flyers in local and county social service offices, offices of aging, Social Security offices, VA, etc.
- Publish articles in local newspapers or broadcast media announcements.
- Include inserts in energy vendor billings to inform individuals of the availability of all types of LIHEAP assistance.
- Mailings to past recipients of LIHEAP.
- Inform low-income applicants of the availability of all types of LIHEAP assistance at application intake for other low-income programs.
- Execute interagency agreements with other low-income program offices to perform outreach to target groups.

45 CFR 96.83(e)(1)(iv)

There are no other actions that led or will lead to a reduction in the number of applications for LIHEAP heating and crisis assistance in FFY 2020 compared to FFY 2019.

Weatherization Measures, Cost Effectiveness, and Program Benefits

45 CFR 96.83(c)(2)(iii)

45 CFR 96.83(c)(5)

Home Energy Audit

To be considered a complete weatherized unit, all homes must receive a comprehensive, on-site, home energy audit prior to receiving weatherization services and a full inspection once work is complete. Trained and qualified auditors and inspectors conduct the audits and inspections. Auditors and inspectors are certified Quality Control Inspectors (QCI) by the nationally-recognized Building Performance Institute (BPI). Or auditors, at minimum, may be certified as Building Analysts.

The Commerce “*house-as-a-system*” approach to comprehensive home energy audits consists of the following elements per home (as applicable):

- If available, review the household energy usage pattern from a 12-month billing history.
- Complete visual assessment of existing conditions and insulation levels – note any health and safety concerns.
- Note fuel types, condition and size of space and water heating equipment – designate primary and secondary heat sources.
- Measure the residence for the volume of the living space and square footage of the building envelope.
- Ask the occupant about building characteristics which may be helpful in developing a work plan (i.e. asking if there are any particularly drafty areas), and assess lifestyle considerations.
- Perform a fan-door test.
- Conduct pressure diagnostic tests of HVAC system and building zones.
- Perform combustion safety tests.
- Conduct client education, noting opportunities to provide low cost base load energy conservation measures. Contractors provide consumer conservation education to all weatherization participants. Curriculum consists of an energy bill review, home energy tour, basic energy conservation tips, and development of a family energy-saving action plan.

Using this information as a basis, as well as information collected using either a computerized energy audit (TREAT) or the Deemed Measures Priority List, a scope of work is developed based on Commerce procedures governing Health and Safety, Air Sealing, Pressure Diagnostics, and Repairs. Local agencies are required to review a weatherization-specific scope of work with all clients receiving weatherization services.

TREAT Computerized Energy Analysis Tool

The Targeted Retrofit Energy Analysis Tool (TREAT) is the Washington State Weatherization Program energy analysis tool approved and authorized by the U. S. Department of Energy (DOE) for single-family houses, mobile homes and multifamily buildings. TREAT energy analyses are required for any buildings either using DOE funding or beyond the Deemed Measures priority list parameters.

Commerce expects local agencies to calculate and maintain current costs for materials, labor, and fuels to be used in the TREAT analysis process. Costs are verified during monitoring reviews. Local agencies are responsible for ensuring that all staff performing computerized energy analyses acquire and maintain proficiency using TREAT. Commerce provides introductory and advanced TREAT training through the Building Performance Center, Washington’s training and technical assistance provider.

Deemed Measures Priority List

Commerce created the Deemed Measures Priority List (DMPL) using the TREAT computerized energy analyses, the Regional Technical Forum (RTF) analyses, Utilities' incentive program measures, and the Bonneville Power Administration's Implementation Manual. The DMPL reflects those measures for which an average savings-to-investment ratio (SIR) of greater than 1.0 was established. The list applies to single family, mobile homes, multifamily low-rise, and multifamily mid/high-rise buildings, all fuel types, and all climate zones. Using the whole building approach, each project can apply Weatherized measures to defined existing conditions. The most cost-effective measures will ordinarily be installed, subject to funding availability. The expectation is that Major Measures will be installed, however measures may be skipped with documented justification.

Measures not included in the Deemed Measures Priority List must be justified by using TREAT. TREAT energy analyses must result in at least a SIR of 1.0 or greater, or through special authorization by Commerce. Any deviation from this measure selection process must have written justification documented in the client file.

Washington Weatherization Program FY 2019 Cost-Benefit Analysis

The Washington State University Energy Program (WSU) completed an analysis of the benefits and costs for the Washington State Low-Income Weatherization Program for units weatherized from July 2018 through June 2019 (FY19).

This analysis is based on information from the Weatherization Information Data System (WIDS). Since 2010, the Department of Commerce collects local agency weatherization project data in an online data system. Weatherization agencies use WIDS to report detailed information on all single and multi-family projects weatherized statewide.

Program Benefits

Washington's Weatherization Program installed weatherization measures in **2,527 units** in FY19¹. **Total annual benefits were estimated to be \$777** per household State Policy Scenario. These installed measures produced **energy savings of 24,214 Million British Thermal Units (MBTUs)** and are estimated to save households **\$521,844 per year in energy costs. The average household saved \$206 per year in energy costs.** This ranged from \$71/unit for large multi-family to \$332 and \$350 unit for site built and manufactured housing. Energy savings will accrue each year during the lifetimes of the energy measures, which is more than 30 years for insulation measures. Energy benefits accounted for **27%** of total benefit in the mid-range estimate.

The Weatherization Program provides "non-energy" benefits as well; these benefits accrue to utilities and ratepayers (due to reductions in delinquent bills, transmission and distribution and avoided supply risk), participants (improved comfort, health, property value, etc.), and society (decreased public and private health insurance expenditures, benefits to the economy and emissions reductions).

¹ Defined as projects passing final inspection in FY 2019 with DOE, BPA, LIHEAP or Matchmaker funds invested in measures. An additional 1,831 units reported by local agencies were completed with local utility funds not managed by Commerce. These units were primarily less comprehensive large multifamily units and saved 4,204 MMBtu or 2.3 MMBTU per unit.

Non-energy benefits are conservatively estimated to be \$571 per year per household - a total of approximately **\$1,442,707** per year for all weatherized households.

Non-energy benefits comprised 73% of the estimated benefit in the State Policy Scenario. Non-energy benefits are estimated very conservatively. For example participant and societal health benefits are valued at **\$403** per household. More recent national estimates per unit health benefits of weatherization have ranged from \$600 to over \$10,000 per unit². A recent effort to quantify impacts of Weatherization and Healthy Homes services found estimated first year medical savings from Asthma Control alone to be \$400 per household³. This estimate does not include other high value benefits, such as preservation of low-income housing or aging in place (nursing home costs) which are more difficult to measure.

Program Costs

Direct unit costs⁴ were reported by local agencies in WIDS for the 2,527 projects completed in FY19. **The average state-wide direct unit cost was \$9,627, of which 33% - \$3,177/unit were for repair and health and safety measures.** For FY19, 53% of expenditures were for direct unit costs, 10% were for indirect/administration, 8% for monitoring, quality assurance and policy development, and 29% for local agency delivery (intake, audits, project management and reporting). Administration and delivery costs are \$8,568 per unit. This results in gross costs per unit of \$18,195. Up to half of administrative and delivery costs are driven by complex federal and state regulatory, compliance and reporting requirements whose benefits are not calculated and which do not contribute to energy efficiency, health and safety outcomes of the program.

Cost Effectiveness

The three cost effectiveness analysis scenarios are summarized below. They represent a range of economic assumptions and estimates on non-energy benefits. All benefits are expressed as the present value of annual benefits calculated using different assumptions of measure life.

- The Utility Scenario uses very conservative estimates of non-energy benefits reported and used by utility evaluations of low income weatherization programs over the last two decades. This scenario assumes more conservative estimates of average measure life (25 years), energy prices are flat and that first year benefits degrade by 1% each year. This scenario is similar to the results of utility cost effectiveness tests. Emissions benefit values use the Social Cost of Carbon as the 2019 Clean Energy Transition Act Washington (CETA) will require utilities to use this value in future integrated resource planning.
- The State Policy Scenario includes an additional \$300 per household for social benefits for avoided health care costs developed from recent research. The lifetime of energy benefits are based on a weighted average of 30 years and modest increase in energy prices (1%/yr.).

² E4The Future. Occupant Health Benefits of Residential Energy Efficiency (2016) and Tonn, B.; Rose, E.; Hawkins, B.; Conlon, B. (September 2014). Health and Household-Related Benefits Attributable to the Weatherization Assistance Program. Oak Ridge National Laboratory, ORNL/TM-2014/345.

³ Rose et al. Assessment of Washington State Plus Health Program impacts on Asthma Control and Medical Costs. Olympia WA (November 2019).

⁴ Direct unit costs are the labor and materials costs associated with installing weatherization measures for a project. They do not include Program administration costs or other Program operation costs not directly associated with installation.

Emissions values are based on the Social Cost of Carbon rules used by Commerce. This scenario reflects a conservative state policy view.

- The Society Scenario reflects greater non-energy benefits (\$1324/unit/year) including additional health and housing preservation benefits that at this time have not been directly measured. It uses a thirty year measure, no benefit performance degradation and increases in energy prices (2%/year). Increasing energy prices is proxy for suggesting society will place a higher value on these benefits in the future. Administration costs are reduced by 50% to account as the additional benefits accruing state and federal requirements. The Society scenario presents the most inclusive view of program benefits.

The benefit-cost ratio for the Weatherization Program was 1.08 for the State Policy Scenario for FY19. Program benefits were 10% percent greater than costs. Excluding costs imposed by regulatory burden would significantly improve program cost effectiveness. Reducing administration and support costs by 50% would improve the benefit cost ratio to 1.40.

The benefit cost ratio for the utility scenario was 0.48. Although calculated using different methods this value is in the range of utility and total cost tests for low income weatherization by Washington State utilities (0.4 to 0.60).

The benefit cost ratio for the Society Scenario was three to one. This suggests that non-energy benefits and societal benefits are crucial driver of cost effectiveness.

Estimated Weatherization Program Benefits and Costs (FY2019)

Present Value/Unit	State Policy	Utility	Society
Emissions Benefit	\$2,401	\$1,819	\$3260
Economic Benefit	\$1,313	\$995	\$3,617
Utility Benefit	\$378	\$286	\$744
Participant Benefit	\$2,498	\$1,892	\$5,067
Social Benefit (LI Health Spending and Housing Preservation)	\$7,297	\$0	\$18,372
Total Non-Energy	\$13,888	\$4,992	\$31,794
Energy Benefit	\$5,826	\$3,805	\$6,702
Total Benefit/Unit	\$19,714	\$8,797	\$38,496
Total Cost/Unit	\$18,195	\$18,195	\$14,195
Benefit-Cost Ratio	1.08	0.48	3.0

Additional Factors Supporting the Waiver Request

The goal of the State’s request is to reduce the long-term energy and heating bills of low-income families. LIHEAP heating, cooling, and crisis assistance are important and necessary but the long-term benefits of LIHEAP weatherization assistance reduces the number of delinquent utility payments and the need for energy assistance applications, resulting in fewer service shut-offs and freeing up household income for other needs.

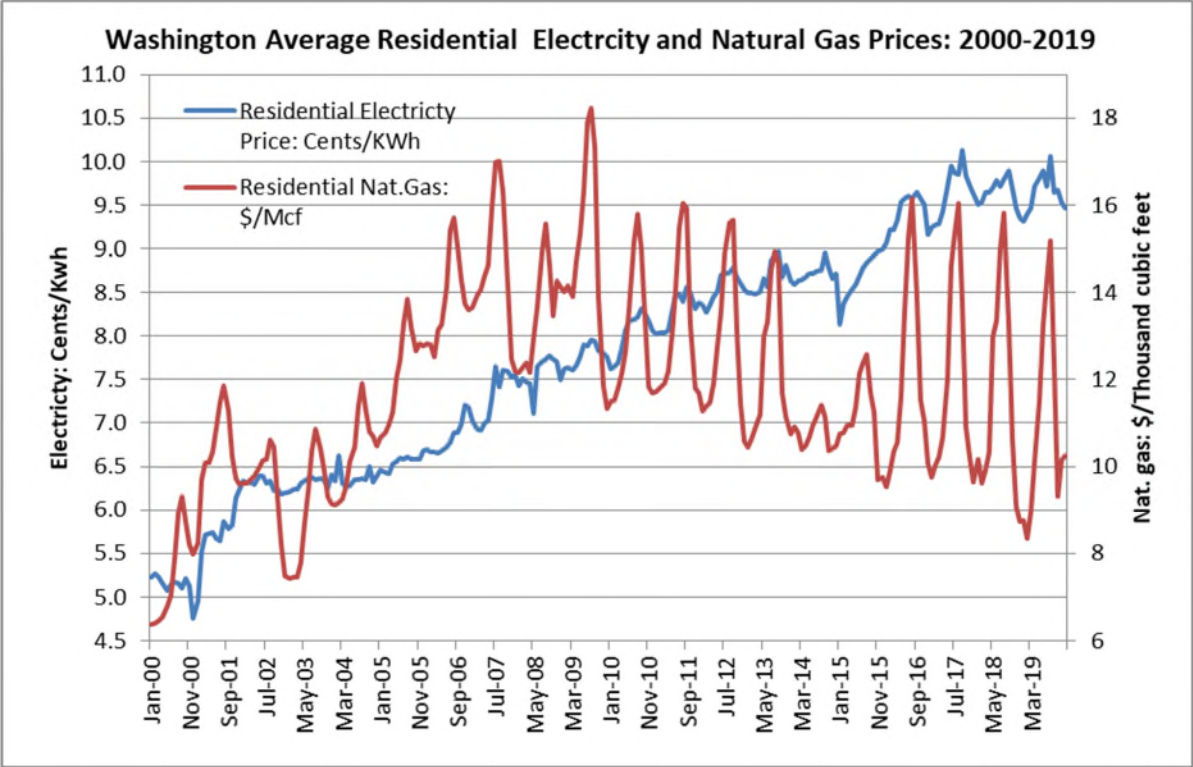
Weatherization measures, including energy-related health and safety measures and repairs, weatherization-related repairs, and the installation of low-cost/no-cost materials, as well as the delivery of consumer conservation education, are preventative and long-term in nature. Weatherization measures reduce energy burden through energy retrofits, eliminate structural hazards protecting building occupants, and preserve the efficacy of weatherization materials. Installation of low-cost/no-cost materials such as: compact fluorescent light bulbs, low-flow showerheads, and faucet aerators and delivery of consumer conservation education provides opportunities for weatherization recipients to take a direct role in learning and implementing energy-efficiency measures and long-term behavior change.

Washington State Electricity and Natural Gas Prices

According to the Department of Commerce's Energy Office, and as illustrated in the graph below, residential electricity and natural gas prices decreased slightly during 2019. The the average Washington state residential electric rate decreased by 1.3% during 2019, while the average residential natural gas prices decreased by 4.5%.

Regionally, wholesale natural gas prices began to decrease in the spring of 2019 as final repairs to the Enbridge natural gas pipeline in British Columbia were completed. A mild summer reduced electricity demand for air conditioning which helped stabilize regional wholesale electricity prices. The federal Energy Information Administration's Pacific region energy forecast for 2020-21 projects a 2% per year increase in average residential electricity expenditures.

For the period 2020-21 the Bonneville Power Administration (BPA), which primarily markets electricity to public utilities, will implement a 2-year rate increase of at most 1.5% for wholesale power sales and a 3.6% for transmission services. The two largest independently owned Washington utilities, Puget Sound Energy (PSE) and Avista, have made requests to the state's Utility & Transportation Commission (UTC) for electricity rate increases of about 6.9% and 9.8% respectively for 2020. The UTC has countered, suggesting that smaller rate increases should be sufficient. For natural gas, PSE was granted a cost recovery rate increase of 14.1%, while Avista is planning a 14.8% cost recovery rate increase. The cost recovery rate increase is to compensate utilities for the six months of high wholesale natural gas prices following the Enbridge pipeline rupture in October of 2018. The state's two other natural gas utilities, Cascade and NW Natural, have received UTC approval for rate increases of 10.8% and 4.4 % respectively.

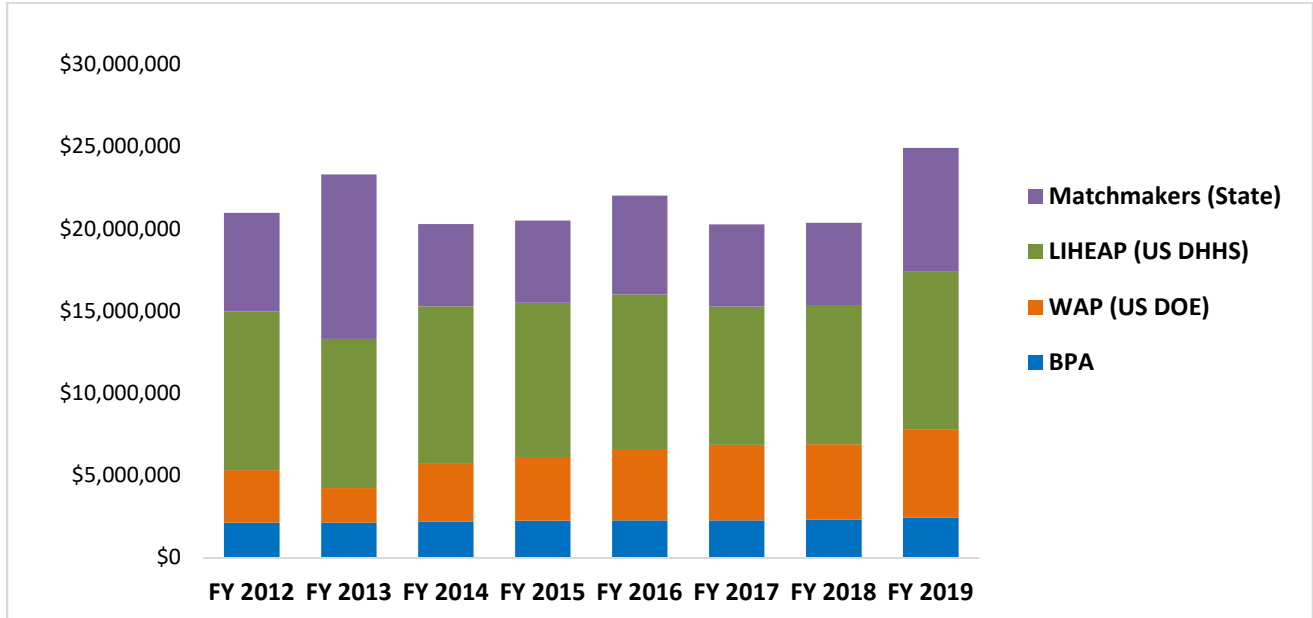


Weatherization Fund Source Reductions

The following graph shows funding trends from 2012 to 2018 for the Washington Low-Income Weatherization Program. In comparison to FFY 2016, FFY 2018 allocations decreased by 11% for LIHEAP Weatherization and we are anticipating Department of Energy Weatherization Assistance Program (DOE WAP) remaining flat.

Washington State weatherization funding is decreasing; fewer families will receive weatherization services than in past years as a direct result of this loss of funding. The LIHEAP waiver funding will allow local agencies to provide weatherization services to more families than otherwise possible. Not only will it serve as a critical stopgap in this time of funding losses but it will also continue to reduce long-term energy costs for low-income families.

LIHEAP, DOE and Matchmakers Calculations



LIHEAP

- 2018 regular award (not including waiver): \$8,477,760
- 2019 regular award (not including waiver): \$9,649,283
- Percent increase from FFY 2018 to FFY 2019 = 13.8%

DOE

- 2018 award: \$5,329,638
- 2020 (anticipated) award: \$5,918,599
- Percent increase from 2019 to 202 = 11.05%

MATCHMAKER

- 2017-2019 Total regular award = \$12,500,000 (includes funding for rural rehab program).
- 2019-2021 Total regular award = \$10,000,000 and \$5,000,000 in additional allocation to be used for the Deferral/Fuel Switch Pilot.
- Percentage increase of weatherization funding from 2017-2019 to 2019-2021 = 20%

Public Review and Comment

45 CFR 96.83(c)(6)

A public hearing is scheduled to be held from 2:00pm-3:00pm on Wednesday, April 15th, 2020 at the Department of Commerce in Olympia. A news release announcing the waiver application and public hearing will be sent electronically to the Commerce stakeholder list serve. Legal Notices will publish ten calendar days in advance of the public hearing in three Washington newspapers the Yakima Herald, the Seattle Times and the Spokesman Review. An announcement concerning the public hearing and the LIHEAP Waiver will be placed on the Commerce website. A copy of the waiver and news release will be sent to weatherization coordinators, energy assistance coordinators, utility companies, and other interested parties in Washington.

Waiver Request

The State of Washington Department of Commerce requests approval of this Good Cause Waiver request from the United States Department of Health and Human Services to allow an additional 10 percent of the Washington State LIHEAP allocation to be transferred for weatherization services. We believe this request outlines how all the criteria in 45 CFR 96.83(e) for a Good Cause Waiver has been met. Approval of the waiver will allow Washington State to allocate 25 percent of its LIHEAP funds for weatherizing the homes of its most vulnerable household