Weatherization Deferral Repair Program
Program Manual
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I. INTRODUCTION

The Department of Housing and Community Development (DHCD) administers the federally funded Weatherization Assistance Program (WAP) for low-income persons in Virginia, in partnership with a network of local weatherization subgrantees ("subgrantees"). DHCD makes Housing Innovations of Energy Efficiency (HIEE) funding available to the subgrantees through the **Weatherization Deferral Repair (WDR) program** to assist eligible households in Virginia. These households have been deferred from receiving WAP services due to needed repairs to ensure they are eligible to receive WAP services. HIEE funds are derived from the auction proceeds that DHCD receives from Virginia's participation in the Regional Greenhouse Gas Initiative (RGGI).

WDR utilizes the Virginia WAP subgrantee network. WDR funds are provided to the weatherization subgrantees by DHCD via separate agreements. Repairs under WDR are intended specifically to address WAP deferrals and enable making homes or multifamily buildings "weatherization ready," and for income-eligible households to receive weatherization services. ***WDR funds are to be utilized only for repairs identified by the subgrantee as causing the deferral of the home or multifamily building from WAP, selected Health and Safety (H&S) measures that are costly to fund through LIHEAP or WAP funds, supplemental funding for HVAC measures failing the SIR test, and repairs contingent to either the deferral or H&S repairs for the benefit of the customer.***

- For information on WDR, access the DHCD WDR webpage.
- For more information on WAP and household eligibility requirements, access the DHCD WAP webpage.

II. WDR PROGRAM OVERVIEW

WDR funds are allocated to weatherization subgrantees specifically to repair issues causing WAP deferrals in Virginia: leaking roofs, minor structural issues, biological contaminants (e.g. mold), moisture issues or water damage, electrical repairs, and plumbing repairs. Deferrals are defined in the State Weatherization Plan in Section V.1.2 of the Master File Worksheet and as applicable in this Program Manual. Deferrals must be linked to a weatherization or H&S measure that can be remedied through repair measures and cannot be completed without WDR intervention. Under certain conditions, heating and cooling system repairs or replacements, Health & Safety measures, and repairs contingent to the deferral or H&S measure can also be funded by WDR.

WDR funds are to be used solely to make repairs on eligible Weatherization unit(s) and to address the specific issue(s) preventing the unit from being weatherized through WAP. WDR is not intended for full housing rehabilitation projects. DHCD limits the total WDR funding allowable per home and repair costs at reasonable cost limits. If estimated repair costs exceed the limits, the subgrantee must notify DHCD via CAMS or email so that the request may be evaluated for approval. The subgrantee must demonstrate that other DHCD funding sources

are unavailable. Gut rehabilitations, typically projects requiring major plumbing or electrical replacements, and major structural repairs, are beyond the scope of WDR and WAP. Derelict, abandoned, and/or condemned homes are not eligible. If, in consultation with DHCD, subgrantees determine repairs needed to address the issue(s) causing the deferral are beyond the scope of the WDR program, DHCD may work with subgrantees to refer these homes to local or other state housing rehabilitation programs. For more detailed information see the sections on cost limits and eligible repairs.

III. FUNDING ALLOCATION AND ADMINISTRATIVE COSTS

A. SUBGRANTEE AGREEMENTS AND REPAIR COSTS

The WDR Program requires subgrantees to adhere to a WDR Program Agreement, separate from the WAP agreement, but aligned with the WAP program year on a July to June cycle. Allocation of WDR funds through these agreements is based on the subgrantee's identification of eligible deferrals in its service area and estimated cost of the associated repair(s).

DHCD intends to ensure that all subgrantees have a sufficient allocation of funds to initiate the necessary work to address their current and projected deferral lists. WDR funds will also be allocated to ensure that the weatherization network overall is able to address the maximum number of deferrals that currently exist.

B. ADMINISTRATIVE COSTS

Subgrantees with grant awards less than $1.0 million may spend up to twenty (20) percent of the allocation on administrative overhead and equipment costs; those subgrantees with grant awards over $1.0 million may spend up to fifteen (15) percent on administrative costs. Administrative costs may include staff time associated with the use of WDR funds, preparing reports and remittances for submission to DHCD, project management (e.g., obtaining evaluations/estimates on needed repairs, inspections of completed work), and similar costs related to administering them. All administrative costs must be based on actual costs paid/incurred.

DHCD reserves the right to change the administrative cost rates on an annual basis and will seek subgrantee network input prior to making any changes.

C. DEFERRAL TRACKING

Participation in the WDR program requires that all WDR recipients be WAP subgrantees. Potential WDR clients deferred from weatherization are tracked through the WDR Initial Set-up Reports in the Centralized Application & Management System (CAMS). Subgrantees must input the WAP Job Number in the CAMS report. The WAP Job Number is the job number that is entered into the weatherization workflow/data management system and thus links the WDR customer to the WAP record. As WDR projects are completed, the subgrantee must accurately track the addresses of the projects to ensure that they are now eligible for WAP services.

Subgrantees may utilize their own systems and processes for re-engaging with clients and prioritizing WDR projects, but participation in the deferral tracking system will be mandatory.

D. SERVICE PROVIDER/CONTRACTOR ELIGIBILITY

For WDR work, subgrantees and\or their subcontractors must be appropriately licensed and insured to perform the work that is needed to repair the issue(s) causing the deferral. Staff or subcontractors performing projects under WDR are generally not required to have WAP-specific training and credentials; however, subcontractors and subgrantee staff must be appropriately trained and licensed in accordance with all relevant state, federal regulations, local authority having jurisdiction (AHJ), guidelines, and agreements.

E. SERVICE AREAS

WDR funds may only be used to assist eligible households in the Commonwealth of Virginia. WDR service areas align with WAP service areas. DHCD expects that the WDR program is to be available and delivered statewide in coordination with WAP. With explicit written permission from DHCD on a case-by-case basis, subgrantees may serve eligible households outside of their established service areas. Allowances to serve outside subgrantees' service areas are based on need, capacity, and available funding.

F. REALLOCATION OF UNSPENT FUNDS AND PERFORMANCE POOL

DHCD will actively review the expenditures of WDR funds by subgrantees regularly to ensure that the subgrantee is progressing satisfactorily towards addressing needed repairs of deferred homes in its service area. Subgrantees are not required to spend 100 percent of funds allocated per the WDR Program Agreement in an agreement year but must demonstrate reasonable and substantial progress toward addressing the projected number of deferrals. Unspent funds may continue to be spent into the subsequent program year with approval from DHCD. However, DHCD reserves the right to adjust WDR funding allocations or limit/reallocate funding as needed to ensure ongoing production and statewide coverage.

If a subgrantee has been identified by DHCD to have production issues that may compromise the success of the WDR Program, DHCD will confer with the subgrantee to understand barriers and identify a production improvement plan and process. The subgrantee must agree in writing to implement steps identified for production improvement. If issues relating to lack of production are unable to be resolved, DHCD reserves the right to de-obligate and reallocate part or all remaining funds subject to their program services agreement. DHCD may also choose to terminate the agreement.

In addition, DHCD may set aside expiring WDR funds in a performance pool, which may be quickly reallocated by addendum to existing subgrantees that either (1) expend all allocated WDR funds before the end of the agreement period, or (2) have obligated other funding sources, such as Weatherization Readiness Fund (WRF), thereby demonstrating need for additional funding to support projects that would otherwise be eligible for WDR.

G. MATCHING FUNDS AND COST LIMITS

Matching funds are not required for WDR, and the subgrantee cannot require a client contribution. If a repair estimate exceeds the cost limits and no other DHCD funding streams are available, the subgrantee may request an exception to exceed the limit. However, the subgrantee must receive written DHCD approval by email or CAMS notification before proceeding. In order to receive approval, subgrantee must document that no other DHCD funding stream, such as Weatherization Readiness Fund (WRF) and EHARP, is available to address the repair costs. Subgrantees may apply WDR funds in combination with other sources (e.g., WRF, H&S funds, local government repair funds, utility incentives, etc.) on projects. For more detailed information see the sections on cost limits.

H. VEHICLE PURCHASES AND LEASES

As of January 2024, DHCD suspended the use of WDR funds for vehicle purchases and leases until further notice.

I. USE OF WAP VEHICLE RESOURCES

Because WAP subgrantees are leveraging HIEE funding for WDR, the use of federally acquired vehicles to support WAP administration is appropriate to deliver WDR projects. This is also supported in federal regulation 2 CFR.200.313(c)(2) which states: “Use [of federally acquired equipment] for non-federally funded programs or projects is also permissible. User fees should be considered if appropriate.” Note that use of the vehicle for other federally funded uses besides WAP should be prioritized over uses for WDR.

If using a federally acquired WAP vehicle for WDR that exceeds the minimum disposition value stated in 2 CFR.200.313(e)(1), subgrantees should track all vehicle mileage related to WDR usage. If the use of the federally acquired vehicle for WDR projects exceeds the usage intended for WAP services, the subgrantee should credit user fees to the funding source that purchased the vehicle for WDR usage. Subgrantees should use the mileage used for WAP from the previous program year to establish the basis for determining the relative WDR vehicle mileage in excess of WAP mileage. WDR mileage should be tracked and compared to WAP usage based on the current July to June cycle to determine the reimbursable mileage above WAP usage, if applicable. User fees should be charged on a mileage basis at the going standard federal rate of reimbursement.[1]

IV. PROGRAM ADMINISTRATION OVERVIEW

A. CLIENT ELIGIBILITY AND INCOME VERIFICATION

All clients (homeowners and tenants) must be determined as WAP-eligible (meet income guidelines) consistent with DOE WAP Regulations. Subgrantees must receive property owner approval in writing for rental properties. Homeowners or renters must sign a service agreement with the local weatherization subgrantee committing to the needed deferral repairs and the

[1] https://www.gsa.gov/travel/plan-a-trip/transportation-airfare-rates-pov-rates-etc/privately-owned-vehicle-pov-mileage-reimbursement

subsequent weatherization work. All WAP and WDR clients participate on a voluntary basis. If it is determined up front that a client intends to forgo WAP services and/or will not sign the WDR application, they are ineligible for the WDR program. All WDR and WAP services must be invoiced within 12 months of income eligibility determination.

Client income eligibility is based on the date of WAP certification. If it has been more than a year since the initial client intake, income eligibility must be re-verified. Subgrantees must prioritize serving income eligible clients first, along with immediate health and safety issues (such as unsafe combustion appliances or no heat). Consistent with WAP guidelines, subgrantees have no obligation to serve potential clients who are unresponsive or hostile, or to offer services where suspected dangerous or illegal activity is taking place.

As of January 31, 2024, DHCD will no longer fund WDR projects for utility weatherization clients that are not federal WAP clients. Utility-program projects with Initial Set-up Reports in CAMS as of January 31, 2024 will be assessed on their merits and follow the regular process.

B. ELIGIBLE REPAIRS AND PROGRAM AND BUILDING CODE COMPLIANCE

WDR funds are to be used solely for addressing needed repair(s) causing the home or unit to be deferred from WAP. Deferrals must be linked to a weatherization or H&S measure that can be remedied through repair measures and cannot be completed without WDR intervention. Under certain conditions, heating and cooling system repairs or replacements can also be braided with WAP. The repairs listed below are the repairs that are eligible for WDR funding.

All work completed through the WDR program shall comply with the Uniform Statewide Building Code (USBC), all pertinent laws and ordinances, and Standard Work Specifications (SWS).

Subgrantees shall be responsible for verifying with the local building official whether a permit is required in accordance with the USBC for the proposed scope of work. When permits are required, the subgrantees shall obtain all the necessary permits and shall be responsible for securing the approval of all the applicable inspections by the local building official, prior to requesting payment from DHCD.

DHCD funds may not be used to pay for work performed without the required permit(s) or without obtaining final approval of any required inspection(s), as required by the USBC. The subgrantee assumes all financial risk associated with work performed without required permits or inspections and may be required to repay funds associated with noncompliant work.

If discrepancies occur between the applicable codes and the SWS, the most stringent requirement shall take precedence.
See Initial Set-up Report section and remittances section for details on required permitting documentation and verification.

Roofs

- Roof repair or replacement *(attic ventilation strategy and measures must be addressed with all re-roof scopes of work submitted)*
- Chimney repair or removal
- Roof rafters and framing

Structural

- Wall repair- interior or exterior
- Ceiling repair - interior
- Floor repair (framing and/or subflooring)

Electrical

- Electrical component replacements or repairs (e.g., safety hazard or exposed wiring, cannot insulate due to presence of knob and tube wiring, upgrade service panel)

Plumbing

- Plumbing repair (e.g. water leaks that would compromise insulation, cause structural damage, or unsafe/unsanitary conditions)
- Repair or replace domestic hot water (DHW) unit. Replacement of DHW units aged at least 15 years is eligible with documentation and DHCD review.
- See Appendix C – HVAC/DHW Eligibility and Allowable Funding Matrix for assistance with guidance on reviewing potential funding pathways on specific HVAC/DHW repairs, replacement, and fuel-switching scenarios.
- Sump pumps

Heating, Ventilating and Air-Conditioning (HVAC) Repair or In-kind Replacement ("Crossover Projects")

- Eligible repairs are like-for-like replacements of inoperable HVAC heating systems that meet the following conditions:
    - Modeled HVAC systems with an SIR less than 1 that are unable to be fully funded with WAP funds.
        - The remainder balance not covered by WAP is eligible for WDR funding.
    - Health and Safety (H&S) measures after DOE and IIJA Health and Safety funds have been fully invoiced.
- Repair and sealing of ducts.
- Replacement of HVAC equipment aged at least 15 years is eligible with documentation and DHCD review.
- See Appendix C – HVAC/DHW Eligibility and Allowable Funding Matrix for assistance with guidance on reviewing potential funding pathways on specific HVAC/DHW repairs, replacement, and fuel-switching scenarios.

Fuel Switching of HVAC Systems

DHCD will support fuel switching projects through WDR under limited conditions, including the following:

- Physical or functional hardship (e.g., inability to safely manage, operate, or maintain the existing fuel source due to age or health-related limitations, such as manual fuel handling requirements for wood.)
- Market access (e.g., Delivered fuels no longer available for location)
- Other unfixable systems for technical requirements (e.g., space requirements)
- Unfixable propane and oil HVAC systems are eligible for fuel-switch and unfixable baseboard eligible for upgrade.
- Fixable baseboard, propane, oil are eligible for fuel-switch/upgrade if aged at least 15 years with documentation and DHCD review.
- See Appendix C – HVAC/DHW Eligibility and Allowable Funding Matrix for assistance with guidance on reviewing potential funding pathways on specific HVAC/DHW repairs, replacement, and fuel-switching scenarios.

Hazardous Materials Removal

- Mold identification and removal/remediation
- Suspected Asbestos Containing Materials identification and removal/remediation ("SACM" e.g., attic, walls, pipes etc.)
- Lead-based paint removal/remediation

Other

The following are other issues that may cause WAP deferrals and may be remedied with repairs under WDR:

- Roof soffit and fascia
- Downspouts and gutters
- Removal of vegetation (e.g., tree, bush, shrub trimming) needed to provide safe access to make eligible repairs and ensure long-term durability of repairs made through WDR
- Pest or wildlife infestation
- Moving and/or temporary storage of personal belongings, if needed, is an eligible expense
- Temporary relocation of client for measures that may impact client health and safety. Reach out to DHCD staff for permission.
- Siding replacement with a preference for installation of insulated siding products for major replacements (not spot replacements). Wall insulation should be addressed in accordance with SWS and Virginia WAP Field Guide standards.
- Repair or replacement of windows or doors where units are damaged beyond repair and/or are leaking.
- Repair or replacement of deteriorated entryway components (e.g., steps, landings, railings) to restore safe access into the home.
- Underpinning and skirting
- Non-working or unsafe gas/propane range/oven repair or replacement
- Replace or installation of ventilation fans

Repairs not listed here are assumed to be ineligible for WDR funding. DHCD reserves the right to determine the eligibility of repairs, or any costs not listed.

All repairs that include products having qualifying ENERGY STAR-labeled alternatives should install ENERGY STAR-labeled products over standard efficiency products. A list of eligible products with the ENERGY STAR label and product finder can be found on the ENERGY STAR web site.[2]

C. SPECIFIC WDR REPAIR REQUIREMENTS

All WDR program repair requirements meet, and may exceed typical WAP and NREL's Standard Work Specification (SWS) requirements (or address repairs, such as roofing, that are not covered in the SWS). Repairs must also be completed in compliance with the Virginia WAP Field Guide and applicable codes (building, HVAC, plumbing, electrical, etc.) If discrepancies occur between sources the most stringent shall take precedence. Some repairs have specific photo/documentation requirements for the WDR Initial Set-Up Report and/or remittance. See report and remittance section for additional details and Appendix A for some examples for selected measures.

Duct Systems

If ductwork components are installed, replaced, or repaired, those portions of the system (or the entire system if new) must be sealed, effective, quiet, and have optimal air flow.

- For new duct system installations under WDR:
  - Clearly define extent of duct repair/install in WDR Initial Setup Report, such as including linear feet and descriptions of the replacement components, such as trunk line and plenum.
  - Duct systems must be properly sized according to a Manual D, Ductulator, or equivalent method discussed and verified with DHCD.
  - WDR remittances must contain visual evidence (clear and high-quality photos) of mastic and proper sealing practices (use VA WAP Field Guide).
  - Full duct system replacements or new installs must be verified one of two ways:
    1. Blower door pressure pan testing of all registers indicating a pressure pan reading of 1.0pa or lower.
    2. An acceptable duct blaster test based on Virginia Residential Code N1103.3.5 & N1103.3.6.

- For partial duct system installation or repair under WDR:
  - Clearly define extent of duct repair/install in WDR Initial Setup Report, such as including linear feet of the work and description such as supply ducts, trunk line, crossover duct and/or the returns.
  - WDR remittances must contain visual evidence (clear and high-quality photos) of all sealing measures (use VA WAP Field Guide).
  - QCI/EA/Building Performance Institute (BPI) Infiltration and Duct Leakage Certification (IDL): Statement that proper sealing practices were used in accordance with the WDR Program Manual and VA WAP Field Guide.

[2] www.energystar.gov

- Photographic documentation must clearly indicate duct components addressed as part of the WDR scope of work are sealed according to the SWS and VA WAP Field Guide.
  - If WAP will be addressing duct leakage and insulation for the full system at a later date, notes and documentation must clearly indicate WAP will address duct insulation and sealing.
  - Partial duct installation and/or repair must be included in the WAP energy audit at or before the WDR remittance is submitted to DHCD.
- No pressure pan readings or duct blasting testing are necessary at this stage.

Roof Drainage and Water Management

- WAP Health & Safety funds must be considered for leveraging when addressing water management.
- Gutters - Where damaged gutters are present with cracks, holes, filled or covered with debris, have incorrect pitch or missing pieces, the existing gutters shall be cleaned/repaired if possible, or replaced. The repairs or replacement of gutters will ensure the gutters work properly to direct bulk water away from dwelling as well as protect the new roof or roofing repairs.
- Fascia boards - Where fascia boards are damaged, missing and/or rotten, the existing fascia boards shall be replaced or repaired. The new fascia boards must be structurally sound, and properly connected to the roof rafters and gutters to ensure repairs will not be compromised.
- Downspouts/ drain pipes – Where downspouts and/or roof drain pipes are missing or damaged, the existing downspouts and /or roof drain pipes shall be repaired or replaced with proper connections to direct bulk water 6 feet away from the building.

Interior Repairs and DHW Units

- Drywall repairs - Where damaged drywall is removed and replaced, the newly repaired area(s) must be appropriately primed/sealed/smooth. Finish painting is not required. Paint Ready is required.
- Floor repairs – Where repairs to floors (framing and/or subflooring) are made, particularly in wet locations such as bathrooms, and if existing flooring is damaged and must be replaced, a floor covering selected to match existing flooring as closely as possible shall be installed to protect the newly repaired area.
- DHW unit drain pans – Where space allows, drain pans shall be placed under newly-installed DHW units, including those installed on a basement and crawlspace (concrete) floor(s).

Client Education

When applicable, subgrantees must ensure that all clients are educated on the following issues related to their WDR-funded projects, by confirming on the WDR Certificate of Completion upon remittance. The following items are described verbatim from the WAP Operations Manual:

- Combustion—if a heating system is present that requires combustion air, the client must be educated on the importance of keeping combustion air vents free and uncovered. Clients must also be informed if there are unsafe conditions that are discovered during the combustion appliance testing and be instructed not to operate it until it is repaired or replaced. If the conditions cannot be corrected by Weatherization or Health and Safety funds, the house must be deferred.
- Lead—the EPA's lead pamphlet should be given to each client living in houses built prior to 1978.
- Asbestos—materials testing positive or assumed to contain asbestos should be identified and revealed to the client. Further instruction must be given on how to avoid disturbing such material, especially when it is friable.
- Moisture and mold—clients should be instructed on how to remove excess moisture from the dwelling (e.g., exhaust fans when taking showers or cooking).

Additionally, as a WDR requirement, subgrantees should ensure that clients are educated on the following items by confirming on the WDR Certificate of Completion upon remittance:

- Warranties – subgrantees should ensure warranty registration and technical information for installed equipment is communicated and provided to the client for ease of registration with the manufacturer.
- Thermostats – Subgrantees should ensure clients are demonstrated proper thermostat use and the operations manual provided by the manufacturer is left with the client.

D. INELIGIBLE REPAIRS

The following repairs are not eligible uses of WDR funds. DHCD reserves the right to determine the eligibility of repairs not listed. The list is not exhaustive and is subject to change:

- Gut rehabilitation or major structural repairs (e.g. unsafe foundation, collapsed floor/roof)
- Replacement of entire plumbing or electrical systems, or major structural repairs
- Replacement of windows or doors where existing units are not broken, missing, damaged beyond repair, or leaking and causing structural damage
- Repairs covered by homeowner's or flood insurance
- Repairs needed due to willful damage or negligence on the part of the owner/occupant
- Cosmetic improvements (e.g. interior or exterior painting)
- Repairs to detached garages, barns, sheds, or storage buildings
- Any measure not explicitly listed in this Program Manual.

Additionally, homes in deferral status should remain in deferral under the following conditions:[3]

- The client has self-declared health conditions that prohibit installation of weatherization materials;
- The client is uncooperative, abusive or threatening;
- The illegal presence or use of controlled substances in the home exists during the weatherization process;

[3] VA State Weatherization Plan, Master File Worksheet, Section V.1.2.

- There are unsecured pets or wildlife that may pose a danger to workers;
- The client refuses measures or declines services.
- The building structure or components are in such a state of disrepair that failure is imminent and the conditions cannot be resolved cost-effectively.
- The house has sewage or other sanitary problems that would further endanger the client and installers if weatherization work is performed.
- The house has been condemned.
- Moisture problems that are beyond the scope of this guidance.
- Any condition which may endanger the weatherization workers and is beyond the scope of this guidance.

E. WDR PROGRAM UPDATES AND EFFECTIVE DATES

This WDR Program Manual has been updated to reflect additional program requirements to those previously established. Updates to the WDR Program Manual will occur annually, if needed. DHCD reserves the right to issue additional updates as needed.

When DHCD issues updates to the WDR Program Manual, updates to required forms, and any additional further program updates, these will be distributed to the subgrantees in a timely manner and posted on the DHCD website. ***WDR program manual updates and updated forms are effective and apply to projects submitted in CAMS on the first business day following the date the updates are issued to the subgrantee network.***

F. WDR COST LIMITS

DHCD limits the total amount of WDR funding paid on single family homes by total job cost, individual repair measure, and change order. The cost limits are as follows:

- Total WDR job cost (Total Cost field in the WDR Initial Setup Report): **$40,000**
- Individual repair measure by category and HVAC system: **$20,000**
- Change order: **$5,000**.
    - With an approved change order, total WDR job cost may be $45,000 and/or a individual repair measure may be up to $25,000. For guidance on change order requests, see the Change Orders section.

G. HIGH-COST AND MULTI-FAMILY JOBS

Under rare circumstances, if either the total WDR job costs, WDR repair measure costs, or WDR change order costs exceed these cost limits, the subgrantee must contact DHCD so that the request may be evaluated for approval. For example, a high-cost single family job may be a job that is initially requested with a total WDR cost over $40,000 in repairs. The request must include:

- Documentation of specific client hardship (e.g., inability to safely manage, operate, or maintain the existing fuel source due to age or health-related limitations, such as manual fuel handling requirements for wood, client or other resident on oxygen and it not safe for them to operate a combustion appliance in their home) that justifies exceeding the WDR cost limits. As a program that covers 100% of eligible project costs for income eligible clients, project cost is NOT a criterion for client hardship.

- Demonstration that other DHCD repair funds, such as Weatherization Readiness Fund (WRF) and Essential Home and Accessibility Repair Program (EHARP) are unavailable for this project.
- Complete and relevant measurements such as square footage of areas and length of the pipe(s) or duct.

DHCD emphasizes that any requests to exceed the cost limits are infrequent and within a small percentage of the established limits, especially when other DHCD funding sources are available. Multiple requests to exceed the cost limits on the same job will not be approved.

Use of WDR funds for multi-family projects must be pre-approved as firm, including all leveraged funding sources, with a $5,000 WDR cost limit on change orders.

V. FINANCIAL AND REPORTING REQUIREMENTS

A. CLIENT REPORTING/REQUIRED DOCUMENTATION

Subgrantees understand they have the responsibility of monitoring contractor activities by ensuring the amounts requested are accurate and can be substantiated with appropriate supporting documentation. For each household served by WDR funds, the subgrantee must retain and readily available for review the following:

- Documentation of incurred costs (staff time, contractor invoices, materials and equipment cut sheets, etc.) to support all remittances, consistent with procedures for WAP jobs.
- A report including number of homes repaired, amount of WDR funds invoiced, and the nature of repairs accomplished.

B. PROJECT MANAGEMENT – CAMS

Subgrantees manage documentation of WDR projects (applications, remittances, and reports) through the DHCD Centralized Application & Management System (CAMS). All subgrantees must be registered in CAMS and have approved audits in order to manage their projects and receive payment. The CAMS login and profile registration page may be accessed via the following link: CAMS login portal.

Subgrantees are responsible for managing their own staff access and user roles assignments. The CAMS User Guide contains project management instructions including but not limited to:

- Managing staff access and user role assignment
- Submitting the subgrantee audit
- Requesting budget revisions
- Submitting remittances (a.k.a. invoices, drawdowns)
- Fulfilling reporting requirements

C. INITIAL SETUP REPORTS

Prior to beginning each job, the weatherization subgrantee or local service provider must submit a WDR Initial Set-up Report in CAMS. Prior to submission, the subgrantee must retitle the report in accordance with the instructions on the report in CAMS. This requires the inclusion of unique identification information for each client/project. Subgrantees must also include the WAP Job Number.

The subgrantee must also append documentation to each set-up report. This includes:

- WDR Application Form and Homeowner Agreement - This must be signed by a subgrantee representative, homeowner or landlord and tenant; application must include site address, homeowner/tenant name, a description of the repairs needed and/or equipment to be replaced and estimate of repair costs.
    - Project Funding Plan – Best estimate of how the project will be funded across all available funding sources.
    - Permits and Inspections (signed) – List all required permits that will be pulled. Subgrantees are responsible for verifying with the local building official whether a permit is required in accordance with the USBC for the proposed scope of work.
- WDR Authorization and Release form.
- Clear, good-quality photos of issues to be repaired and/or equipment to be replaced. See Appendix A for examples of photos and other examples of documentation for selected measures.

If the project will address potentially hazardous materials such as asbestos, mold, or lead-based paint, the subgrantee must provide documentation (such as testing report) that the material has been identified with the set-up report. These materials must be handled and disposed of in accordance with all applicable federal and state regulations and WAP best practices to protect client and worker health and safety.

Once DHCD has reviewed and accepted the initial set-up report, the subgrantee may proceed with the project. Subgrantees may either fund each repair upfront and request reimbursement by DHCD once the project is finished (see Remittances below), or on a drawdown basis as noted below. DHCD will not reimburse for work outside of the accepted scope of work unless justification is submitted to DHCD for review and is accepted.

Change Orders

If there is a change order from the accepted scope of work, provide justification documentation to DHCD as soon as possible to expedite review and pre-approval. Documentation must be submitted prior to submission of the remittance.

A change order includes, but is not limited to:

- Any change in the scope of work (e.g., addition of a new repair measure);
- A change in subcontractor(s); or
- A change in project cost.

Subgrantees must notify DHCD staff via email as soon as a change order is identified. DHCD will advise what documentation is required. Change orders will be handled as follows:

1. Change Orders of $2,000 or More (or changes to scope/subcontractor):
A new WDR Initial Set-Up Report is required. The report must include:

- Previously accepted documentation, as applicable;
- New supporting documentation; and
- A description of the change from the originally accepted scope of work.

Upon acceptance of the revised report, the original Initial Set-Up Report will be removed.

2. Change Orders Under $2,000 Within the Accepted Scope of Work:
Fully document the circumstances and submit notification to DHCD via email. A new WDR Initial Set-Up Report is not required unless directed by DHCD staff.

Change order documentation may include the following:

- Description and total cost of the work or measure including photo(s).
- What events caused the work or measure (i.e., local code official request, unseen damage(s) not discovered until the start of the accepted scope of work or missed repairs at the time of the initial inspection).
- Information regarding the change in the subcontractor(s) from the accepted scope of work.

Payment amount is established based on the accepted repair estimate for each project. Subgrantees must inform DHCD if the final remittance amount will exceed estimates provided at the time the project's WDR Initial Set-up Report was accepted. Depending on the scale of the change, DHCD may require the subgrantee to submit a change order or resubmit the report.

D. REMITTANCES

Subgrantees may request payment in CAMS upon full project completion to the extent feasible. However, subgrantees have the option to request payment on a partial remittance schedule, based on completing project milestone as follows:

- Materials and equipment delivery (up to 50 percent of the project cost estimate, not including administrative costs, as specified in "Total Cost" in the CAMS WDR Initial Set-up Report). Required documentation includes most recent signed and completed versions of the following:
    - WDR remittance cover sheet
    - WDR Application Form and Homeowner Agreement specifying a planned date of completion. DHCD expects to receive a remittance request within six months of WDR Initial Set-up Report acceptance.
    - Materials / equipment invoice
    - Documentation of delivery date to job site (for example: shipping manifests, photos of materials on site or work in progress).

To initiate the payment process, the subgrantee must submit a remittance in CAMS for each project. For each remittance, the subgrantee must submit the required and fully completed documentation, which consists of:

- DHCD-provided signed cover sheet
- Invoice documentation (e.g., contractor invoices) – This must include the following at a minimum:
    - Specifically indicates the invoice is a "Invoice."
    - The subcontractor's license number.
    - The invoice provides actual material costs and a reasonably complete description of the associated materials used.
    - The invoice provides a description of the labor required to accompany the total cost of labor included and/or fixed price.
- Certification of Completion form ("Post-Repair Completion Checklist and Certification Form")
- General Contractor Affidavit, Warranty, and Lien Waiver
- Photos clearly showing all completed work - Scanned photos are not acceptable. Remittances that do not include appropriate photo documentation will be denied and must be resubmitted. See Appendix A for examples of photos for selected measures.
- Completed FINAL inspection reports from the AHJ showing a **passed inspection**. DHCD funds may not be used to pay for work performed without the required permit(s) or without obtaining final approval of any required inspection(s), as required by the USBC. ***The subgrantee assumes all financial risk associated with work performed without required permits or inspections and may be required to repay funds associated with noncompliant work.***
- Permit invoices, if applicable.
- See Appendix A for additional information regarding example remittance documentation specific for selected measures.

Specific requirements regarding photo documentation:

- For all heating and cooling equipment, provide a clear photo of the data plate and Energy Guide sticker showing unit efficiency ratings. If Energy Guide sticker is unreadable, damaged or missing, a manufacturer cut sheet or AHRI certificate showing the efficiency ratings must be provided.
- Photos of completed re-roofs must include photos taken from above the roof deck showing finished details around all roof penetrations and potential leakage points (chimneys, stack vents, etc.) If subgrantee staff do not go on roofs for inspections as a matter of safety/ policy, subgrantees should arrange with the roofing contractor for photos of finished work to be taken and provided in an acceptable format.

All forms and the remittance cover sheet are available in CAMS or on the WDR webpage.

The average time from remittance submission to DHCD approval is 30 days for remittances that are accurate, complete, and include all required documentation at the time of submission. If

there are discrepancies or issues with the remittance documentation, and changes or resubmissions are required, the process may extend beyond 30 days. DHCD will reach out to the submitting subgrantee regarding incomplete remittances.

E. QUALITY CONTROL, CORRECTIVE ACTION, AND SITE INSPECTIONS

DHCD will employ a quality control process to ensure that WDR work quality is acceptable and durable. DHCD will check the following details to ensure project set-up reports and remittances meet program requirements:

- Work scope and photos provided with set-up reports must clearly identify all measures to be installed and work to be completed through the WDR program
- Post work photos provided with remittance must clearly show areas of completed work or measures installed, consistent with the set-up report
- DHCD staff may contact subgrantee staff by phone or e-mail for clarification and/or additional information at any point during the process

If DHCD determines that completed work is not acceptable or is non-compliant with WDR program requirements, DHCD staff will proceed as follows:

Level 1 - DHCD will send an e-mail request to subgrantee staff noting the deficiency in submitted work and request the subgrantee (or its subcontractor) make the requested correction(s). Subgrantees shall respond within two weeks to the request with a plan of action to correct non-compliant or substandard repair(s), unless there are significant health and safety deficiencies, the subgrantee must respond immediately and make the corrections.

After photos of corrected work are re-submitted with the remittance and reviewed, then remittances will be approved.

Level 2 - If there is no response from the subgrantee, DHCD will send a certified letter to the subgrantee director requesting a written response and action plan to address the non-compliant or substandard work. DHCD may request a meeting via video or phone conference with the subgrantee's executive leadership team.

Level 3- If there is no response from the subgrantee two weeks from the delivery date of certified letter, and non-compliant or substandard work has not been corrected to required standards, DHCD will conduct a site monitoring visit to ensure repairs are corrected and compliant. Failure to complete or correct non-compliant repairs may result in non-payment of the remittance and may result in termination of the agreement between DHCD and the subgrantee.

In addition to any needed site monitoring visits related to non-compliance, as noted above, subgrantees should expect one or more site technical monitoring visits by DHCD staff annually as a part of regular program quality control and quality assurance

activities. DHCD will reach out to subgrantee staff to coordinate timing of these visits. These visits may include inspection of installed measures.

F. METHOD OF PAYMENT

DHCD requires that subgrantees receive funds via electronic transfer. Instructions establishing an account with the Virginia Department of Accounts (DOA) is located on their website through the selection of Electronic Data Interchange (EDI) from the link on the DOA main webpage. The EDI guide can then be accessed through a link under the Trading Partner Information section. Any grantee with unresolved findings or compliance issues, including for other programs, may have payments suspended.

G. ACCOUNTING AND FINANCIAL CONTROLS

Subgrantees must have established standard accounting practices including internal fiscal controls, standard accounting procedures, and track subgrantee and program budgets by revenue sources and expenses.

Sub-recipients understand they have the responsibility of monitoring contractor activities by ensuring the amounts requested are accurate and can be substantiated with appropriate supporting documentation.

H. PROCUREMENT PROCEDURES

Subgrantees must follow fair and open procedures for the purchase of goods and services with WDR funds, in addition to all applicable state procurement laws and regulations. Unless otherwise provided to DHCD, subgrantees should follow their WAP procurement policy in administering WDR funds.

VI. ADDITIONAL SUBGRANTEE REQUIREMENTS

A. COMPLIANCE WITH FAIR HOUSING AND CIVIL RIGHTS LAWS

(1) WAP subgrantees must comply with all applicable state and federal fair housing and civil rights requirements (see 24 CFR 5.105(a)). This includes the Virginia Values Act (effective July 1, 2020) which expands the list of protected classes under the Virginia Fair Housing Act. As the Virginia Fair Housing Act prohibits discrimination based on race, color, national origin, sex, pregnancy, childbirth or other related conditions (including lactation), age (over 40), marital status, disability, sexual orientation, gender identity, or veteran status (collectively the “Protected Classes”). (2) If the WAP subgrantee: (a) Has been charged with an ongoing systemic violation of the Fair Housing Act; or (b) Is a defendant in a Fair Housing Act lawsuit filed by the Department of Justice alleging an ongoing pattern or practice of discrimination; or (c) Has received a letter of findings identifying ongoing systemic noncompliance under Title VI of the Civil Rights Act of 1964, section 504 of the Rehabilitation Act of 1973, or section 109 of the Housing and Community Development Act of 1974, and the charge, lawsuit, or letter of findings referenced in subparagraphs (a), (b), or (c) above has not been resolved before the application deadline, then the subgrantee is ineligible to apply for funds.

B. NOTIFICATION OF GRANTEE AS WDR BENEFICIARY

Grantees may not complete WDR work on a property owned by themselves or an affiliate business entity unless they are given explicit written approval from DHCD.

VII. DHCD STAFF CONTACT INFORMATION

The WDR program, along with WAP, is administered under DHCD's Energy Efficiency and Housing Rehabilitation office. For program administrative questions about WDR, please contact:

Aaron Shoemaker
Program Administrator, Energy Efficiency Office
Aaron.shoemaker@dhcd.virginia.gov

For technical questions, please contact:

David Caldwell
Technical Services Manager, Energy Efficiency Office
David.Caldwell@dhcd.virginia.gov

CAMS Issues and Troubleshooting
CAMShelp@dhcd.virginia.gov

APPENDIX A. Example photo and documentation requirements for selected measures

This appendix supplements the requirements in IV. C. SPECIFIC WDR REPAIR REQUIREMENTS, V. C. WDR INITIAL SETUP REPORTS, and V. D. REMITTANCES. This guidance is supplemental info for photos and additional documentation for selected measures to assist with efficient review of WDR Initial Set-up Reports, remittances, and change orders. This appendix compiles examples of documentation for repair types that are frequently implemented, more complex, or commonly the subject of clarification requests. The examples included are **not comprehensive** and should not be interpreted as an exhaustive list of required photos or documentation for any specific measure. Documentation requirements may vary based on site conditions, scope of work, and the specific circumstances of each dwelling. When documentation expectations are unclear or when atypical conditions are present, subgrantees should contact WDR staff for guidance prior to submission.

WDR Initial Setup Reports (and change orders as applicable)

Photos

Below are some repair type specific photo requirements:

- Roof
  - Photos taken at roof level
  - Photos of the front and rear of the dwelling, where applicable
  - Photos documenting active roof leaks, if applicable
- Electrical
  - Knob-and-tube wiring: photos of wiring and surrounding space, where accessible
  - Knob-and-tube wiring: photos demonstrating evidence of a live circuit test
- HVAC
  - Data plates of existing equipment being repaired or replaced
  - Photo of existing thermostat
- Plumbing
  - Domestic Hot Water (DHW): data plates of existing equipment being repaired or replaced
- Hazardous Material Removal
  - Detailed photos of existing conditions (e.g., visible mold growth or suspected asbestos-containing materials)

Additional documentation may be required depending on the type of repair and scope of work.

- Electrical
  - Knob-and-tube wiring: documentation demonstrating results of testing (e.g., live circuit test or non-contact voltage test)
- Hazardous Material Removal
  - Documentation confirming the presence of hazardous materials (e.g., asbestos testing results and chain-of-custody documentation)
- Lead-Related Measures

    - If a measure may disturb lead-based paint (e.g., window replacement), provide EPA-approved lead test results or a narrative confirming that lead-safe work practices will be used
- Combustion Safety
    - Unsafe combustion appliances: documentation identifying the specific condition(s) rendering the appliance unsafe
- HVAC
    - SEER value and/or other applicable efficiency ratings of the proposed replacement system

Remittances

Below are some repair type specific photo requirements:

- Roof
    - Photos taken at roof level clearly showing penetrations, flashing, and related details
    - In-progress photos showing installation of OSB/plywood or other materials that will be concealed
- Structural
    - Wall or ceiling repair photos demonstrating paint-ready condition, as applicable
- Electric
    - Knob-and-tube wiring: photos of conditions and areas where wiring was present prior to removal or decommissioning
- HVAC
    - Photos of equipment data plates.
    - Photo of newly installed thermostat.
    - Ductwork photos (if applicable- see Duct Systems)
- Plumbing
    - DHW: photos of equipment data plates
    - Sewage repairs: in-progress photos, where feasible
- Change order photos, if applicable. See section on change orders.

Additional documentation may be required depending on the repair type and scope of work.

- Hazardous Material Removal
    - Asbestos: third-party clearance documentation confirming removal.
    - Lead: EPA-approved testing documentation demonstrating negative results
- Lead-Related Measures
    - EPA lead test results or
    - Photos documenting lead-safe containment, practices, and required signage for associated measures (e.g., windows)
- Electric
    - Documentation confirming knob-and-tube wiring decommissioning or removal
- HVAC
    - Duct documentation (if applicable- see Duct Systems)

APPENDIX B. Questions and Comments with Response: From Subgrantee Engagement and Comment Period

Q1: Can WDR be used to cover WAP-eligible costs for ACPU relief?
A1: ACPU relief alone cannot be the sole justification for using WDR funding on work eligible for WAP funds. However, WDR funds may provide ACPU relief if the repair is listed in the **ELIGIBLE REPAIRS AND PROGRAM AND BUILDING CODE COMPLIANCE** section and is otherwise eligible. For example, WDR funds may be used for an in-kind HVAC replacement that would otherwise be eligible for federal Health & Safety funds, provided the federal Health & Safety funds have been demonstrated to have been invoiced (or are otherwise unavailable).

Q2: For client hardship justification for **CHANGE ORDERS**, may we use income documentation to show financial need for the repair?
A2: Cost limit exception justification for client hardship is for a specific non-financial hardship(s). Cost limit exceptions are not justifiable for: Client financial status (income, savings, etc.), advanced age alone, high repair costs alone, desire to complete additional discretionary improvements, convenience or aesthetic concerns, or desire to achieve code compliance alone.

Q3: Is use of the HVAC/DHW Matrix required when submitting a WDR Initial Setup Report?
A3: The HVAC/DHW Matrix is highly recommended for use when determining eligibility for HVAC and DHW repairs for WDR Initial Setup Reports. The Matrix is official DHCD guidance for determining HVAC and DHW eligibility. Subgrantees are encouraged to identify the applicable Matrix scenario number when submitting proposed HVAC or DHW work for WDR funding. Providing the applicable scenario number in the WDR Initial Setup Report helps expedite DHCD's review and, when a request is denied, helps DHCD provide specific guidance regarding the documentation or information needed for resubmission.

APPENDIX C. HVAC & DHW Eligibility and Allowable Funding Matrix

The *HVAC & DHW Eligibility and Allowable Funding Matrix* is a decision-support and reference tool to assist subgrantees in identifying potentially eligible funding pathways for HVAC/DHW-related repairs, replacements, and fuel-switching scenarios. Use of the Matrix tool does not replace required energy audits, health and safety determinations, technical reviews, documentation requirements, or any other DHCD processes for any funding stream. However, subgrantees are strongly encouraged to reference the specific Scenario ID number for consideration from the Funding Matrix in Initial Setup Reports. HVAC project proposals that cannot clearly demonstrate a proposed project that aligns with an established Scenario ID number are likely ineligible. The tool itself also does not serve as or replace required documentation for HVAC/DHW or other repairs. Final eligibility and funding determinations remain subject to applicable program manuals and DHCD review.

An Excel version of The Matrix is to be sent out to the subgrantee network via email.

The Matrix is available on the next page in PDF format.

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HVAC & DHW ELIGIBILITY AND ALLOWABLE FUNDING MATRIX - version 1.0.0 (updated 3/17/2026)
INSTRUCTIONS AND COLUMN DEFINITIONS

PURPOSE

The Matrix is a decision-support and reference tool to assist subgrantees in identifying potentially eligible funding pathways fo

IMPORTANT LIMITATIONS

- **This tool does not guarantee funding eligiblity. Final eligibility and funding determinations remain subject to applicable progr**
- Use of The Matrix does NOT replace required energy audits, health and safety determinations, or technical reviews
- This tool does NOT serve as or replace required documentation for HVAC or DHW repairs
- When in doubt, contact DHCD staff for guidance

HOW TO USE THE MATRIX

1. Identify the client's current equipment type and fuel source (Baseline Tech & Baseline Fuel)
2. Determine if the existing system is fixable or not (Fixable column)
3. Identify what equipment upgrade is being considered (Proposed Upgrade Tech & Upgrade Fuel)
4. Follow across the row to see:
   - Which funding sources may be eligible
   - What category for WAP and CAMS
   - Required documentation or DHCD review needs
   - Any special notes or conditions

COLUMN DEFINITIONS

BASELINE/EXISTING SYSTEM INFORMATION:

- Column B - Baseline Tech: The existing HVAC/DHW system type in the client's home. This is what the energy auditor enters in
- Column C - Baseline Fuel: The fuel source for the existing system (electric, gas, oil, propane, wood, etc.)
- Column D - Fixable: Whether the existing system can be repaired (Yes/No). "No" typically indicates the system is beyond econ

PROPOSED SYSTEM INFORMATION:

- Column E - Proposed Upgrade Tech: The HVAC/DHW system type that the subgrantee is considering installing as a replacemer
- Column F - Upgrade Fuel: The fuel source for the proposed system.

MODELING & ANALYSIS:

- Column G - Modeled Baseline Tech: What equipment type to enter in HEAT/Hancock as the baseline for energy modeling purp
  - "Existing equipment" = Model the current system
  - "Proposed upgrade" = Model the replacement system
- Column H - SIR ≥1: Whether the Savings to Investment Ratio calculated in Hancock is equal to or greater than 1.0.
  - "Yes" = The upgrade is cost-effective based on energy savings
  - "No" = The upgrade does not meet cost-effectiveness threshold
  - Note: If SIR ≥1, the measure MUST be performed as an Energy Conservation Measure (ECM) under WAP

FUNDING ELIGIBILITY:

- Column I - Deferral: Whether this scenario results in deferral from Weatherization Assistance Program services.
- Column J - EHARP: Essential Home and Accessibility Repair Program eligibility (Yes/No)
- Column K - WRF: Weatherization Readiness Fund eligibility (Yes/No)
- Column L - WAP: Weatherization Assistance Program eligibility (Yes/No)
- Column M - LIHEAP: Low Income Home Energy Assistance Program eligibility (Yes/No)
- Column N - WAP H&S: WAP Health & Safety funds eligibility (Yes/No)
  - H&S has different rules than standard WAP measures
- Column O - LIHEAP H&S: LIHEAP Health & Safety funds eligibility (Yes/No)
  - H&S has different rules than standard LIHEAP measures
- Column P - WDR: Weatherization Deferral Repair funding eligibility and under what conditions (Yes + condition/No)
  - May note specific requirements (e.g., "15+ years with documentation", "SIR component")

WAP and WDR Categories

- Column Q - WAP Cat: How this job is classified by Weatherization Assistance Program.
- Column R - WDR Cat: How this is categorized in a WDR Initial Set-up Report in CAMS.

Notes

- Column S - Notes

1 - No ENERGY STAR spec exists for Oil Packaged Heating Systems so the only proposed upgrade is for electric or natural gas
2 - Save copy of initial audit runs at baseline tech before modeling upgrade tech as H&S measure

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HVAC Matrix

Scenario ID	Baseline Tech	Baseline Fuel	Fixable	Proposed Upgrade Tech	Upgrade Fuel	Modeled Baseline Tech	SIR >= 1	Deferra	EHARP	WRF	WAP ECM	LIHEAP ECM	WAP H&S	LIHEAP H&S	WDR	WAP Cat	WDR Cat	Notes
1	Baseboard	Electric	No	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
2	Baseboard	Electric	No	ENERGY STAR Mini Split	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
3	Baseboard	Electric	Yes	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
4	Baseboard	Electric	Yes	ENERGY STAR Mini Split	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
5	Boiler	Natural Gas	No	ENERGY STAR Boiler	Natural Gas	Baseline Tech at Nameplate Efficiency	Y	N	Y	N	Y	Y	N	N	N	L4L - H&S	N/A	
6	Boiler	Natural Gas	No	ENERGY STAR Boiler	Natural Gas	Upgrade Tech at Nameplate Efficiency	N	N	Y	N	N	N	Y	Y	Y (SIR componen	H&S	Crossover	2
7	Boiler	Natural Gas	Yes	ENERGY STAR Boiler	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	Y (>15 year	Y (>15 years)	H&S	Crossover	
8	Boiler	Oil	No	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
9	Boiler	Oil	No	ENERGY STAR Mini Split	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
10	Boiler	Oil	Yes	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
11	Boiler	Oil	Yes	ENERGY STAR Mini Split	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
12	Boiler	Oil	No	ENERGY STAR Heat Pump	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
13	Boiler	Oil	No	ENERGY STAR Mini Split	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
14	Boiler	Oil	Yes	ENERGY STAR Heat Pump	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
15	Boiler	Oil	Yes	ENERGY STAR Mini Split	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
16	Boiler	Oil	No	ENERGY STAR Boiler	Oil	Baseline Tech at Nameplate Efficiency	Y	N	Y	N	Y	Y	N	N	N	L4L - H&S	N/A	
17	Boiler	Oil	No	ENERGY STAR Boiler	Oil	Upgrade Tech at Nameplate Efficiency	N	N	Y	N	N	N	Y	Y	Y (SIR componen	H&S	Crossover	2
18	Boiler	Oil	Yes	ENERGY STAR Boiler	Oil	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	Y (>15 year	Y (>15 years)	H&S	Crossover	
19	Boiler	Propane	No	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
20	Boiler	Propane	No	ENERGY STAR Mini Split	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
21	Boiler	Propane	Yes	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
22	Boiler	Propane	Yes	ENERGY STAR Mini Split	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
23	Boiler	Propane	No	ENERGY STAR Heat Pump	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
24	Boiler	Propane	No	ENERGY STAR Mini Split	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
25	Boiler	Propane	Yes	ENERGY STAR Heat Pump	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
26	Boiler	Propane	Yes	ENERGY STAR Mini Split	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
27	Boiler	Propane	No	ENERGY STAR Boiler	Propane	Baseline Tech at Nameplate Efficiency	Y	N	Y	N	Y	Y	N	N	N	L4L - H&S	N/A	
28	Boiler	Propane	No	ENERGY STAR Boiler	Propane	Upgrade Tech at Nameplate Efficiency	N	N	Y	N	N	N	Y	Y	Y (SIR componen	H&S	Crossover	2
29	Boiler	Propane	Yes	ENERGY STAR Boiler	Propane	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	Y (>15 year	Y (>15 years)	H&S	Crossover	
30	Furnace	Electric	No	ENERGY STAR Heat Pump	Electric	Baseline Tech at Nameplate Efficiency	Y	N	Y	N	Y	Y	N	N	N	L4L - H&S	N/A	
31	Furnace	Electric	No	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N	N	Y	N	N	N	Y	Y	Y (SIR componen	H&S	Crossover	2
32	Furnace	Electric	Yes	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	Y (>15 year	Y (>15 years)	H&S	Crossover	
33	Furnace	Natural Gas	No	ENERGY STAR Furnace	Natural Gas	Baseline Tech at Nameplate Efficiency	Y	N	Y	N	Y	Y	N	N	N	L4L - H&S	N/A	
34	Furnace	Natural Gas	No	ENERGY STAR Furnace	Natural Gas	Upgrade Tech at Nameplate Efficiency	N	N	Y	N	N	N	Y	Y	Y (SIR componen	H&S	Crossover	2
35	Furnace	Natural Gas	Yes	ENERGY STAR Furnace	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	Y (>15 year	Y (>15 years)	H&S	Crossover	
36	Furnace	Oil	No	ENERGY STAR Furnace	Oil	Baseline Tech at Nameplate Efficiency	Y	N	Y	N	Y	Y	N	N	N	L4L - H&S	N/A	
37	Furnace	Oil	No	ENERGY STAR Furnace	Oil	Upgrade Tech at Nameplate Efficiency	N	N	Y	N	N	N	Y	Y	Y (SIR componen	H&S	Crossover	2
38	Furnace	Oil	Yes	ENERGY STAR Furnace	Oil	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	Y (>15 year	Y (>15 years)	H&S	Crossover	
39	Furnace	Oil	No	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
40	Furnace	Oil	No	ENERGY STAR Mini Split	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
41	Furnace	Oil	Yes	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
42	Furnace	Oil	Yes	ENERGY STAR Mini Split	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
43	Furnace	Oil	No	ENERGY STAR Heat Pump	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
44	Furnace	Oil	No	ENERGY STAR Mini Split	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
45	Furnace	Oil	Yes	ENERGY STAR Heat Pump	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
46	Furnace	Oil	Yes	ENERGY STAR Mini Split	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
47	Furnace	Propane	No	ENERGY STAR Furnace	Propane	Baseline Tech at Nameplate Efficiency	Y	N	Y	N	Y	Y	N	N	N	L4L - H&S	N/A	
48	Furnace	Propane	No	ENERGY STAR Furnace	Propane	Upgrade Tech at Nameplate Efficiency	N	N	Y	N	N	N	Y	Y	Y (SIR componen	H&S	Crossover	2
49	Furnace	Propane	Yes	ENERGY STAR Furnace	Propane	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	Y (>15 year	Y (>15 years)	H&S	Crossover	
50	Furnace	Propane	No	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
51	Furnace	Propane	No	ENERGY STAR Mini Split	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
52	Furnace	Propane	Yes	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
53	Furnace	Propane	Yes	ENERGY STAR Mini Split	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
54	Furnace	Propane	No	ENERGY STAR Heat Pump	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
55	Furnace	Propane	No	ENERGY STAR Mini Split	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
56	Furnace	Propane	Yes	ENERGY STAR Heat Pump	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
57	Furnace	Propane	Yes	ENERGY STAR Mini Split	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
58	Heat Pump	Electric	No	ENERGY STAR Heat Pump	Electric	Baseline Tech at Nameplate Efficiency	Y	N	Y	N	Y	Y	N	N	N	L4L - H&S	N/A	
59	Heat Pump	Electric	No	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N	N	Y	N	N	N	Y	Y	Y (SIR componen	H&S	Crossover	2
60	Heat Pump	Electric	Yes	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	Y (>15 year	Y (>15 years)	H&S	Crossover	
61	Mini Split	Electric	No	ENERGY STAR Mini Split	Electric	Baseline Tech at Nameplate Efficiency	Y	N	Y	N	Y	Y	N	N	N	L4L - H&S	N/A	
62	Mini Split	Electric	No	ENERGY STAR Mini Split	Electric	Upgrade Tech at Nameplate Efficiency	N	N	Y	N	N	N	Y	Y	Y (SIR componen	H&S	Crossover	2
63	Mini Split	Electric	Yes	ENERGY STAR Mini Split	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	Y (>15 year	Y (>15 years)	H&S	Crossover	
64	Package Unit	Electric	No	ENERGY STAR Package Unit	Electric	Baseline Tech at Nameplate Efficiency	Y	N	Y	N	Y	Y	N	N	N	L4L - H&S	N/A	
65	Package Unit	Electric	No	ENERGY STAR Package Unit	Electric	Upgrade Tech at Nameplate Efficiency	N	N	Y	N	N	N	Y	Y	Y (SIR componen	H&S	Crossover	2
66	Package Unit	Electric	Yes	ENERGY STAR Package Unit	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	Y (>15 year	Y (>15 years)	H&S	Crossover	
67	Package Unit	Natural Gas	No	ENERGY STAR Package Unit	Natural Gas	Baseline Tech at Nameplate Efficiency	Y	N	Y	N	Y	Y	N	N	N	L4L - H&S	N/A	
68	Package Unit	Natural Gas	No	ENERGY STAR Package Unit	Natural Gas	Upgrade Tech at Nameplate Efficiency	N	N	Y	N	N	N	Y	Y	Y (SIR componen	H&S	Crossover	2
69	Package Unit	Natural Gas	Yes	ENERGY STAR Package Unit	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	Y (>15 year	Y (>15 years)	H&S	Crossover	
70	Package Unit	Oil	No	ENERGY STAR Package Unit	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	1
71	Package Unit	Oil	No	ENERGY STAR Package Unit	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	1
72	Package Unit	Oil	Yes	ENERGY STAR Package Unit	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	1
73	Package Unit	Oil	Yes	ENERGY STAR Package Unit	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	1
74	Package Unit	Oil	No	ENERGY STAR Package Unit	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	1
75	Package Unit	Oil	No	ENERGY STAR Package Unit	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	1
76	Package Unit	Oil	Yes	ENERGY STAR Package Unit	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	1
77	Package Unit	Oil	Yes	ENERGY STAR Package Unit	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	1
78	Package Unit	Propane	No	ENERGY STAR Package Unit	Propane	Baseline Tech at Nameplate Efficiency	Y	N	Y	N	Y	Y	N	N	N	L4L - H&S	N/A	
79	Package Unit	Propane	No	ENERGY STAR Package Unit	Propane	Upgrade Tech at Nameplate Efficiency	N	N	Y	N	N	N	Y	Y	Y (SIR componen	H&S	Crossover	2
80	Package Unit	Propane	Yes	ENERGY STAR Package Unit	Propane	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	Y (>15 year	Y (>15 years)	H&S	Crossover	
81	Package Unit	Propane	No	ENERGY STAR Package Unit	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
82	Package Unit	Propane	No	ENERGY STAR Package Unit	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
83	Package Unit	Propane	Yes	ENERGY STAR Package Unit	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
84	Package Unit	Propane	Yes	ENERGY STAR Package Unit	Electric	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
85	Package Unit	Propane	No	ENERGY STAR Package Unit	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
86	Package Unit	Propane	No	ENERGY STAR Package Unit	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
87	Package Unit	Propane	Yes	ENERGY STAR Package Unit	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
88	Package Unit	Propane	Yes	ENERGY STAR Package Unit	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	N	N	Y (>15 years)	Disallowed	Fuel Switch	
89	Kerosene Mc	Kerosene	N/A	Contact DHCD														
90	Wood Stove	Wood	N/A	Contact DHCD														

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DHW Matrix

Scenario ID	Baseline Tech	Baseline Fuel	Fixable	Proposed Upgrade Tech	Upgrade Fuel	Modeled Baseline Tech	SIR >= 1	Deferra	EHARP	WRF	WAP ECM	LIHEAP ECM	WAP H&S	LIHEAP H&S	WDR	WAP Ca	WDR Cat	Notes
1	DHW	Natural Gas	No	ENERGY STAR WH	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	Y	Y	Y (Exceeds	H&S	Crossover	
2	DHW	Electric	No	ENERGY STAR WH	Electric	Baseline Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	Y	Y	Y (Exceeds	H&S	Crossover	
3	DHW	Propane	No	ENERGY STAR WH	Propane	Upgrade Tech at Nameplate Efficiency	N/A	N	Y	N	N	N	Y	Y	Y (Exceeds	H&S	Crossover	
4	DHW	Propane	No	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	Y (See plan	Y	Disallowed	Fuel Switch	
5	DHW	Propane	No	ENERGY STAR WH	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	Y (See plan	Y	Disallowed	Fuel Switch	
6	DHW	Propane	No	ENERGY STAR WH	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	
7	DHW	Oil	No	ENERGY STAR Heat Pump	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	Y (See plan	Y	Disallowed	Fuel Switch	
8	DHW	Oil	No	ENERGY STAR WH	Electric	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	Y (See plan	Y	Disallowed	Fuel Switch	
9	DHW	Oil	No	ENERGY STAR WH	Natural Gas	Upgrade Tech at Nameplate Efficiency	N/A	Y	Y	N	N	N	N	N	Y	Disallowed	Fuel Switch	