SFY 2016 Evaluation: Energy and Weatherization Assistance Programs

Prepared for the State of Nevada by

H Gil Peach & Associates and

Smith&Lehmann CONSULTING

November 30, 2016

TABLE OF CONTENTS

TABLES

FIGURES

TABLE OF ACRONYMS

ARRA *American Recovery and Reinvestment Act*
BPI *Building Performance Institute*
BWR *Building Weatherization Report*
CSA *Community Services Agency*
CSBG *Community Service Block Grant*
DSM *Demand Side Management*
DWSS *Division of Welfare and Supportive Services*
EAP *Energy Assistance Program*
EFSP *Emergency Food and Shelter Program*
ESG *Emergency Shelter Grant*
FAC *Fixed Annual Credit*
FEAC *Fund for Energy Assistance and Conservation*
FPL *Federal Poverty Level*
IT *Information Technology*
kWh *Kilowatt hour*
LIHEAP (LIHEA Program) *Federal Low-Income Home Energy Assistance Program*
NAC *Nevada Administrative Code*
NHD *Nevada Housing Division*
NRHA *Nevada Rural Housing Authority*
NRS *Nevada Revised Statute*
PUCN *Public Utility Commission of Nevada*
RFI *Request for Information*
RNDC *Rural Nevada Development Corporation*
RTCA *Rebuilding Together with Christmas in April*
SAFE *Special Assistance Fund for Energy*
SSI *Supplemental Security Income*
SFY *State Fiscal Year*
UEC *Universal Energy Charge*
USDHHS *US Department of Health and Human Services*
USDOE *US Department of Energy*
WAP *Weatherization Assistance Program*

INTRODUCTION

Nevada's Home Energy Assistance Program (EAP) and Weatherization Assistance Program (WAP) are funded by the state's Universal Energy Charge (UEC), which was established by the 2001 State Legislature and became effective during State Fiscal Year (SFY) 2002.[1] The first full program year was SFY 2003. The legislation establishing these programs requires an annual evaluation of program efficacy and compliance with legislative requirements. Nevada's Division of Welfare and Supportive Service and the Nevada Housing Division selected H. Gil Peach & Associates and Smith & Lehmann Consulting to conduct this evaluation for the 2016 fiscal year.

ENERGY ASSISTANCE PROGRAM: COMPLIANCE WITH NRS 702

Evaluation of EAP compliance with legislative requirements (NRS 702) and efficacy were determined using a variety of sources. The following EAP-provided data sets were used for analyses:

- **Eligibility Certification**—including information on 65,524 notice actions resulting in 42,761 applicant records determined to be eligible or ineligible for SFY 2016. The final determination is shown in Table 1.

Table 1: Eligibility Certification for SFY 2016.

Eligibility	Number of Households	Percent
Eligible	26,953	63.0
Ineligible	15,808	37.0
Total	42,761	100.0

- **Family Members Details**—including 60,795 records on the family members of applicants requesting EAP assistance, including dates of application.
- **Income Type Detail** – including 63,208 household income entries.

The **Eligibility Certification** and **Family Members Details** and **Income Type Detail** data sets were merged in different steps of the analyses to obtain comprehensive program and client information.

- The **Eligibility Certification** data set (EAP Evaluation Eligibility Status-All-Final) was used to characterize clients as eligible or ineligible in all cases. As shown in Table 1, there are N=26,953 unique eligible cases and N=15,808 unique non-eligible cases. This information was also used in the analysis of demographic and other characteristics of the EAP recipient population.

[1] Universal Energy Charge (UEC) is granted by the State of Nevada Assembly Bill 661 (2001), Section 26, et al, effective 07/17/2001, as codified in the Nevada Revised Statutes 702.010 through 702.170 and regulations adopted by the Public Utilities Commission of Nevada, as codified in the Nevada Administrative Code 702.010 through 702.450.

- **Energy Burden** analyses were conducted on the merged **Eligibility Certification** and **Family Members Details** that included population household composition such as children, disabled, and aged.
- **Household Income Data** merged with **Eligibility Certification** data were used to determine the relationship between social security income and program eligibility.

1.1. Did DWSS ensure UEC funds were administered in a coordinated manner with all other sources of money available for energy assistance?

[Reference: NRS 702.250.3, Deliverable 3.4.1]

The Department of Welfare and Supportive Services (DWSS) receives money for energy assistance from two sources. The Universal Energy Charge (UEC) is a charge on customer bills and is collected by the participating utilities and sent to the Public Utilities Commission of Nevada (PUCN). PUCN deducts its collection and oversight cost and transfers the funds to the Fund for Energy Assistance and Conservation which is maintained by the Division of Welfare and Supportive Services. In addition, the program receives funding from the Federal Low-Income Home Energy Assistance Program (LIHEAP or LIHEA Program). The Fund for Energy Assistance and Conservation is maintained by DWSS; funds are distributed per NRS 702 through the Energy Assistance Program. Other funding sources have been from LIHEAP only.

1.2. Was interest and income earned appropriately credited to FEAC?

[Reference: NRS 702.250.4, Deliverable 3.4.1.1]

Yes. Table 2 shows the distribution of FEAC interest between DWSS and NHD. Interest was distributed to each Division according to their unspent balance of Principal.

Table 2: FEAC Interest received and distributed for DWSS and NHD in SFY 2016.

FEAC Interest Received and Distributed, SFY 2016	
	Amount
Amount Remaining for Distribution Following Refunds	$5,037
Amount Distributed to NHD	$677
Amount Distributed to DWSS	$4,360

Interest earned was credited appropriately in this fiscal year.

1.3. Were FEAC funds distributed as mandated in NRS 702.260?

[Reference: NRS 702.260.1 Deliverable 3.4.1.2]

Yes. The distribution of FEAC funds between DWSS and NHD is show in Table 3.

Table 3: FEAC Principal Funds received and distributed for DWSS and NHD for SFY 2016.

FEAC Principal Received and Distributed, SFY 2016		
	Amount	**Percentage of Funds Disbursed**
FEAC Amount Received by DWSS from PUCN	$12,756,744	
Refunds (Directed by PUCN)	$22,612	
Amount Remaining for Distribution Following Refunds	$12,734,132	
Amount Distributed to NHD	$3,183,533	25%
Amount Distributed to DWSS	$9,550,599	75%

FEAC funds were distributed as mandated in NRS 702.260.

1.4. Were 75% of the FEAC funds distributed to DWSS?

[Reference: NRS 702.260.1 Deliverable 3.4.2]

Yes. As shown in Table 3, $9,550,599, or 75% of FEAC funds, were distributed to DWSS.

75% of FEAC funds were distributed to DWSS.

1.5. Did DWSS use no more than 5% of FEAC funds for administrative expenses?

[Reference: 702.260.1 Deliverable 3.4.2.1]

Yes. As shown in Figure 1 and Table 4, $9,554,958 was received by EAP from FEAC funds and earned interest. Reserve funds of $1,910,220 were available from the prior fiscal year. The total of DWSS available FEAC funds in SFY 2016 was $11,465,178. DWSS used 3.76% ($430,919) of the total FEAC funds for program administration. The total of DWSS FEAC funds disbursed in SFY 2016 was $9,026,399. DWSS used 4.78% of funds disbursed in SFY 2016 for program administration.

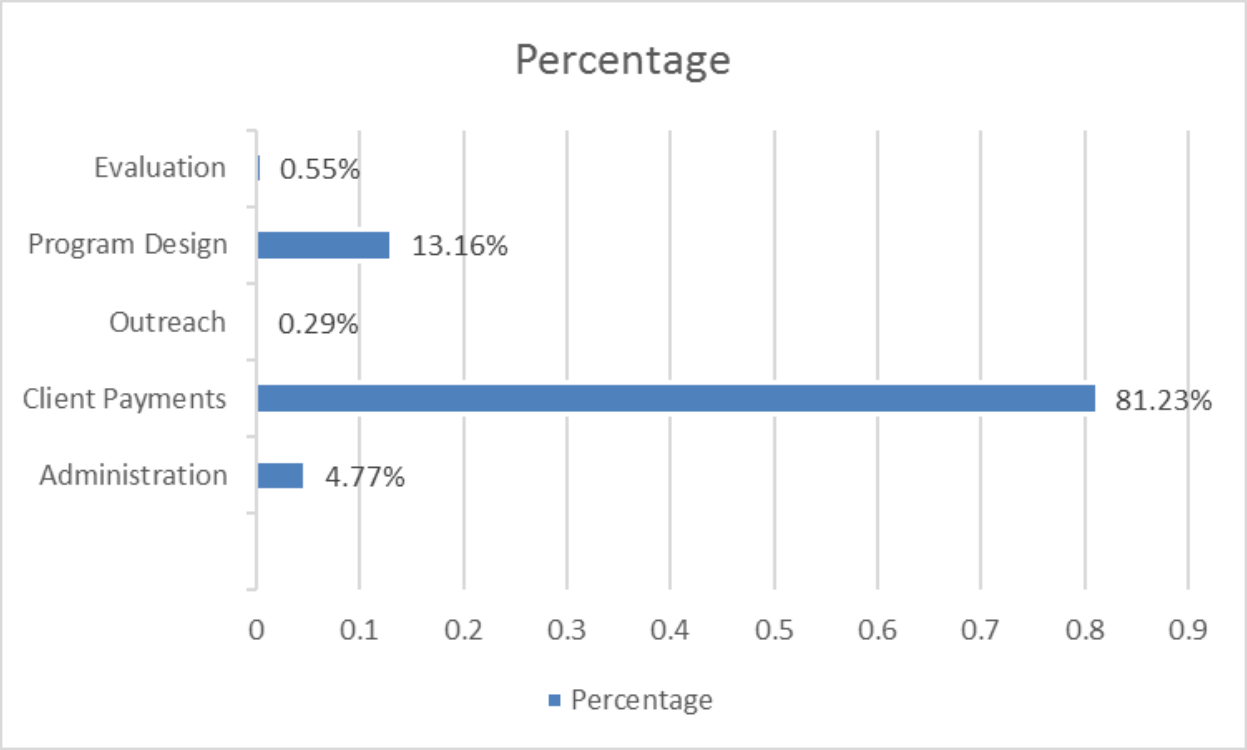

Figure 1: UEC Funds Disbursed for the DWSS Energy Assistance Program in SFY 2016.

Table 4: EAP Funds Spent, SFY 2016.

EAP Funds Disbursed, SFY 2016		
	Amount ($)	**Percentage of Funds Disbursed**
Administration	430,919	4.77%
Client Payments	7,331,730	81.23%
Outreach	26,108	0.29%
Program Design (including IT re-programming)	1,187,792	12.16%
Evaluation	49,850	0.55%
Total Spent	**9,026,399**	
Total Available (including carryover)	**11,465,178**	

DWSS did not use more than 5% of FEAC funds for administrative expenses.

1.6. Did DWSS use FEAC funds (after the no more than 5% deduction for administrative expenses) to assist eligible households in paying for natural gas and electricity?

[Reference: 702.260.2(a) Deliverable 3.4.2.2]

Yes, as shown in Figure 1 and Table 4, $7,331,730 was used to assist eligible households in paying for natural gas and electricity.

DWSS used 81.23% of FEAC funds to assist eligible households in paying for natural gas and electricity.

1.7. Did DWSS use FEAC funds (after the no more than 5% deduction for administrative expenses) to carry out activities related to consumer outreach?

[Reference: 702.260.2(b) Deliverable 3.4.2.3]

Yes, Figure 1 and Table 4 show that 0.29% of funds were used for consumer outreach. Intake sites are paid $10 per fully completed application. Having this information provided from intake sites makes for faster processing. However, the intake sites do not have access to the checking systems that DWSS has, so they are able to gather necessary information but review and eligibility determination is carried out by DWSS.[2]

DWSS used FEAC funds for consumer outreach.

1.8. Did DWSS use FEAC funds (after the no more than 5% deduction for administrative expenses) to pay for program design?

[Reference: 702.260.2(c) Deliverable 3.4.2.4]

Yes, $1,187,792 was used in program design (including IT work), as seen in Figure 1 and Table 4.

DWSS used FEAC funds for program design.

1.9. Did DWSS adjust the amount of assistance a household receives based upon the following factors: Household income; Household size; Energy type used, and other factors determined to make household vulnerable to increases in natural gas or electricity costs?

[Reference: 702.260.6(b) Deliverable 3.4.5.1]

Yes, DWSS developed eligibility tables based on household income and household size. DWSS also carefully developed benefit caps, which varied based on income, household size and the type of energy used. In addition, $50 was added to the benefit cap for "vulnerable/targeted households" which includes the elderly, households with children younger than 6 years of age, and disabled persons. See tables 5, 6, 7 and 8.

[2] "EAP applications may be obtained from/submitted to Division of Welfare and Supportive Services contracted intake sites such as county social services, senior citizen centers, or community based organizations. Completed applications submitted to a contracted intake site are sent to one of the two program offices statewide for processing after securing the documentation necessary to process the application. In FY16, the Division of Welfare and Supportive Services continue to augment the number of intake sites as needed. Contracted intake sites are encouraged to assist the Division of Welfare and Supportive Services in EAP program outreach." Nevada Fund for Energy Assistance and Conservation State Plan for SFY 2016, Pp. 12-13.

Table 5: DWSS EAP Eligibility Tables for SFY 2016.

Household Size	Maximum Annual Gross Income				Maximum Monthly Income
	Multiple of Federal Poverty Level				
	75%	100%	125%	150%	(150% FPL)
1	$8,828	$11,770	$14,713	$17,655	$1,471
2	$11,948	$15,930	$19,913	$23,895	$1,991
3	$15,068	$20,090	$25,113	$30,135	$2,511
4	$18,188	$24,250	$30,313	$36,375	$3,031
5	$21,308	$28,410	$35,513	$42,615	$3,551
6	$24,428	$32,570	$40,713	$48,855	$4,071
7	$27,548	$36,730	$45,913	$55,095	$4,591
8	$30,668	$40,890	$51,113	$61,335	$5,111
Each Additional	$3,120	$4,160	$5,200	$6,240	$520

Note: The Annual Income Limit for 2016 Eligibility is 150% of the Federal Poverty Level

Table 6: Benefit Cap for Households Using All Other Energy Sources, July 2013 - June 30, 2016.

Household Size	Benefit Cap <75% of poverty	Benefit Cap 75-125% of poverty	Benefit Cap 125-150% of poverty
1	$1,136	$634	$571
2	$1,196	$668	$601
3	$1,259	$703	$633
4	$1,325	$740	$666
5	$1,391	$777	$699
6	$1,461	$816	$734
7	$1,534	$857	$771
8+	$1,611	$899	$810

Note: Add $50.00 for targeted households.

Table 7: Benefit Cap for Households Using Propane and Oil, July 2013 - June 30, 2016.

Household Size	Benefit Cap <75% of poverty	Benefit Cap 75-125% of poverty	Benefit Cap 125-150% of poverty
1	$1,336	$834	$771
2	$1,396	$868	$801
3	$1,459	$903	$833
4	$1,525	$940	$866
5	$1,591	$977	$899
6	$1,661	$1,016	$934
7	$1,734	$1,057	$971
8+	$1,811	$1,099	$1,010

Note: Add $50.00 for targeted households.

For 2016 the median energy burden for Nevada households was 2.59% of household income.[3]

An example illustrating the operation of the median energy burden goal and the operation of the cap for a household of one person that is not a targeted household is shown in Table 8. This table shows the

[3] Division of Welfare and Supportive Services Energy Assistance Program Manual for 2016, Appendix A, P. 1, July 2015.

importance of the Energy Assistance Program in reducing the size of the bill that must be paid by the customer (the program is not intended to pay the full energy bill – the target customer responsibility portion of the bill is set in accordance with the median (middle value) household energy burden (proportion of household gross income paid for electricity and heat).

Table 8: Example of Assistance with and without use of a cap.

Example					
Row No.	Category	Example Income (Multiple of Federal Poverty Level}			
		75%	100%	125%	150%
Household Size = 1					
1	**Annual Household Income (Gross)**	$8,828	$11,770	$14,713	$17,655
2	**2016 Nevada Median Energy Burden (2.59%). This is the NRS702 target bill for customer responsibility.**	$229	$305	$381	$457
3	**Example Annual Household Energy Cost (based on energy usage amount)**	$1,200	$1,200	$1,200	$1,200
4	**Balance Remaining to Pay for energy usage after initial Customer Responsibility**	$971	$895	$819	$743
5	**Cap**	$1,136	$634	$634	$571
6	**Annual Energy Cost to Customer (No Program)**	$1,200	$1,200	$1,200	$1,200
7	**Customer Responsibility: EAP (no Cap)**	$229	$305	$381	$457
8	**Customer Responsibility: EAP (Cap)**	$229	$566	$566	$629
9	**Bill Assistance Amount (without Cap)**	$971	$895	$819	$743
10	**Bill Assistance Amount (with Cap)**	$971	$634	$634	$571

Income at different multiples of the Federal Poverty Level is shown in Row 1, and the Median Energy Burden target is shown in Row 2. For this example, the Annual Energy Bill is set at $1,200 (Row 3). The balance remaining to pay after the target customer responsibility amount is shown in Row 4. The cap amount to be applied is shown in Row 5.

Rows 6, 7 and 8 show the total customer responsibility amount for three cases: the case of the "no program" alternative, the program as envisioned under NRS 702 with no cap, and the program with the cap applied in SFY 2016. Rows 9 and 10 show the Bill Assistance amount provided by the program; first without application of a cap and then with the application of the cap applied in SFY 2016. A design using a cap approach was envisioned by the legislature and is within the scope of determination of DWSS as specified in NRS 702 for years in which total funding is not sufficient to fully meet the median energy burden target for all eligible applicants during that year. In this case, it is evident that the lowest poverty group is more protected by the cap than upper poverty groups by income level. Essentially, this design preserves funding so that more households can be served while protecting the lowest poverty group by income level.

In May of 2016, the caps which had been in place from 2013 through 2016 were modified in consultation with the Low-Income Advisory Group, including NHD. The new caps were adopted in the June 2016 Plan and will go into effect in SFY 2017. The caps need to be changed from time to time to optimize the program to work within the changing funding constraints for both UEC/FEAC and federal funding.

1.10. Did DWSS solicit advice from Nevada Housing Division (NHD) and other knowledgeable sources in developing the program to assist households in paying for natural gas or electricity?

[Reference: 702.260.8(a) Deliverable 3.4.7]

Yes. Throughout the year, DWSS managers consulted with the Low Income Advisory Committee and NHD, consistent with the directives for consultation and coordination in the enabling legislation for the program.

1.11. Did DWSS identify and implement appropriate delivery systems to distribute money from FEAC?

[Reference: 702.260.8(b) Deliverable 3.4.7.1]

Yes, DWSS provided supportive funding to eligible households in SFY 2016. DWSS continues to make changes to case processing systems to increase efficiency. During SFY 2016 the program reached the authorized civil service staffing levels and reached a more efficient level of case services processing. While training was required to accommodate new staff, the DWSS Energy Assistance Program ended SFY 2016 with the capability for a higher level of both staff stability and functioning than in any prior year. DWSS has requested several improvements in the IT support system. There are multiple demands on IT so there is a backlog in working through these optimization requests.

1.12. Did DWSS coordinate with other federal, state and local agencies that provide energy assistance to low-income persons?

[Reference: 702.260.8(c) Deliverable 3.4.7.2]

The current coordination between EAP and the Weatherization Assistance Program involves EAP sending WAP a monthly list of newly eligible EAP participants. WAP then divides this list according to Subgrantee service areas, and forwards to the Subgrantees a list of potential WAP participants within their service territories. Depending on backlog, Subgrantees then send postcards to potentially eligible households to alert them to this program.

1.13. Did DWSS establish a process for evaluating EAP?

[Reference: 702.260.8(d) Deliverable 3.4.7.3]

The Division of Welfare and Supportive Services and Nevada Housing Division jointly conducted an annual evaluation of the EAP and WAP for the State Fiscal Year 2015 programs during SFY 2015 and are currently conducting the SFY 2016 evaluation covering the programs from July 2015 through June 30, 2016.

1.14. Did DWSS establish a process for making changes to EAP?

[Reference: 702.260.8(e) Deliverable 3.4.7.4]

All changes are communicated in policy transmittal and manual transmittal letters. Few changes were made to EAP during the fiscal year and were documented through this process

1.15. Did DWSS engage in annual planning and evaluation processes with NHD?

[Reference: 702.260.8(f) Deliverable 3.4.7.5]

DWSS and NHD engaged in a series of public hearings and joint planning activities throughout the year. A joint meeting was held in both 2015 and 2016 to review and discuss the Nevada Fund for Energy Assistance and Conservation and Weatherization State Plan. A public hearing was held in June 2015 to adopt the State Plan for SFY 2016.

1.16. Did DWSS distribute 25% of FEAC funds to Nevada Housing Division?

[Reference: 702.270.1 Deliverable 3.4.8]

Yes, 25% of FEAC funds were distributed to NHD.

1.17. Did DWSS submit a report to the Director of the Legislative Counsel Bureau on or before January 5 of each year, which specifies the amount of all money in FEAC allocated to DWSS during the preceding year which remains unspent and encumbered?

[Reference: 702.275.1 Deliverable 3.4.9]

Yes. The fiscal report for the previous fiscal year was submitted on or before January 5.

1.18. Did DWSS distribute not more than 30% of all FEAC funds that remained unspent and unencumbered at the end of a fiscal year to NHD?

[Reference: 702.255.2 Deliverable 3.4.9.1]

When the final accounting records were produced in September 2016, there was a carryover of $2,438,779 to SFY 2017. However, the possible transfer to NHD was not applicable since there were no unspent funds that were not encumbered.

1.19. Did DWSS adopt regulations to carry out provisions of NRS 702.250 and 260?

[Reference: 702.260.7 Deliverable 3.4.6]

This report outlines each provision of NRS 702.250 and 260 and DWSS compliance with those provisions. In summary, by taking the following actions, DWSS implemented the program in compliance with NRS 702.250 and 260.

- DWSS administered the FEAC, which included all sources of public and private money available for energy assistance.
- DWSS coordinated the distribution of these funds with all available energy assistance funds.
- 75% of money in the FEAC was distributed to DWSS.
- The EAP provided subsidies to households to assist with paying for natural gas and electricity, pay for program design and evaluation expenses.
- Only households below 150% of the FPL were eligible to receive subsidies.
- DWSS made a good faith effort to reduce the proportion of household income spent on energy by eligible applicant households to the statewide median. Due to the availability of funds, this goal was not met in SFY 2016; however, DWSS worked to optimize assistance using a system of caps in accordance with provisions for flexibility authorized in NRS702.
- The amount of assistance was adjusted based on household income, household size, type of energy used, and the presence of a vulnerable household member.
- DWSS sought advice from the NHD and coordinated implementation of the EAP with the weatherization program.
- DWSS established and carries out a process for
  - Coordinating with other available programs including applications and eligibility;
  - An evaluation process;
  - A program design process that enabled changes during the fiscal year; and
  - Engaged in a planning and evaluation process with NHD.

Recommendation 1: For SFY 2017, DWSS has already optimized the Energy Assistance Program by accomplishing key staffing goals and training. For this year, and in the absence of any unusual events, DWSS should operate normally within this optimized structure while monitoring the operation of the new caps applied for SFY 2017.

ENERGY ASSISTANCE PROGRAM: PROGRAM EFFECTIVENESS

1.20. Did DWSS determine eligibility of EAP households at a maximum income level of no more than 150% of the FPL?

[Reference: 702.260.3 Deliverable 3.4.3]

To meet Nevada's need for low-income energy assistance, DWSS has instituted benefit caps since 2009. While the cap reduces the amount of assistance available to each household, it enables the EAP program to serve a greater number of households. This practice has been crucial during the "Great Recession" when revenues declined and the numbers of eligible applications increased. On Aug 14, 2012, EAP announced a temporary increase in the benefit cap, retroactively effective July 1, 2012 through Sept 30, 2012. On Sept 26, 2012, when the final LIHEA funding was allocated, EAP was able to make the increased benefits effective going forward. On Nov 16, 2012, program eligibility was restored to households earning up to 150% FPL. The arrearage program was reinstated, effective December 1, 2012. On April 16, 2013, new benefit cap tables were established to provide better equity for households earning <75% FPL. This raised the targeted average monthly benefit from $555 in 2012 to $776 for SFY 2013. The benefit cap tables have remained the same for SFY 2015 and SFY 2016 with a targeted average monthly benefit of $776 for 2015 and $718 for 2016.[4]

1.21. Did DWSS render emergency assistance to health/safety-threatened households experiencing an emergency related to the cost or availability of natural gas or electricity to otherwise EAP-eligible households?

[Reference: 702.260.4 Deliverable 3.4.4]

A Crisis Intervention Program provided assistance to households above the 150% poverty level whose medical expenses brought their income below 150% of poverty. In the 2016 fiscal year, five households were served through this program.

1.22. Did DWSS determine the amount of EAP assistance a household is eligible to receive by determining the amount of assistance that is sufficient to reduce the percentage of the household's income that is spent on natural gas and electricity to the median percentage of household income spent on natural gas and electricity statewide?

[Reference: 702.260.8(c) Deliverable 3.4.5]

NRS 702 specifies that the EAP will use the average statewide energy burden to set benefit levels. For SFY 2016 the statewide energy burden calculated for all Nevada households was 2.59.[5]

[4] Projection of average annual benefit is carried out with information available at the time of the calculation. There is uncertainty included in the projection. Projections are approximate and for planning purposes.

[5] The projection of Nevada median household energy burden is based on information on energy usage and energy cost provided by the utilities and yearly demographic estimates from the Nevada State Demographer.

In SFY 2016, a median family of four in Nevada spent 2.59% of their income on energy. The average benefit was $734 per household in SFY 2016, representing an increase from the $716 average benefit in SFY 2015 and the $718 average benefit in SFY 2014.[6]

Given that there is a structural constraint of insufficient funding (combining state UEC and federal LIHEA funds), benefit caps were in place during SFY 2016 to ensure that EAP could provide a benefit to all qualifying households who apply. The intent of the cap is to enable the EAP program to serve all eligible applications with a 'meaningful benefit' – a grant that gets eligible households as close as possible to the statewide median energy burden and reduces the likelihood of service termination, though the median energy burden target envisioned in NRS 702 cannot be met (due to the overall funding constraint).[7] Targeted households, with members who are elderly, children under 6, or disabled, have an additional $50 added to the benefit cap (shown as the Statewide Median in Table 9).

Table 9: Average percentage of income EAP participants paid for energy usage (after receiving energy assistance).

Percentage of Income EAP Participants are Expected to Spend on Energy after Assistance SFY2013-SFY2016 by Household Composition				
	Average % FAC Income Expected to be Spent on Energy			
	SFY 2013	SFY 2014	SFY 2015	SFY 2016
With Children	6.35%	4.02%	4.26%	4.19%
With Disabled	4.54%	3.79%	3.87%	4.32%
With Elderly	4.06%	3.61%	3.54%	4.13%
Non-Targeted	7.80%	5.45%	4.89%	5.55%
Statewide Median (2016)				2.59%

Table 9 shows that in SFY 2016 though the statewide median is not reached, on average most households spend less of their incomes on energy than they did in SFY 2013, after receiving assistance.

Figures 2-5 disaggregate the results of Table 9 by poverty level. In each figure, a background driver of results is that, in general and on average, the higher the household income the smaller the energy burden. EAP works to modify this tendency.

[6] These averages include households also receiving arrearage payments, along with direct payment assistance. Numbers may differ by one dollar from DWSS calculations due to data cleaning and combination steps in the evaluation analysis.

[7] Since the UEC is a function of energy use, when energy use shows a long-term decline, the generation of year to year UEC/FEAC funding also declines.

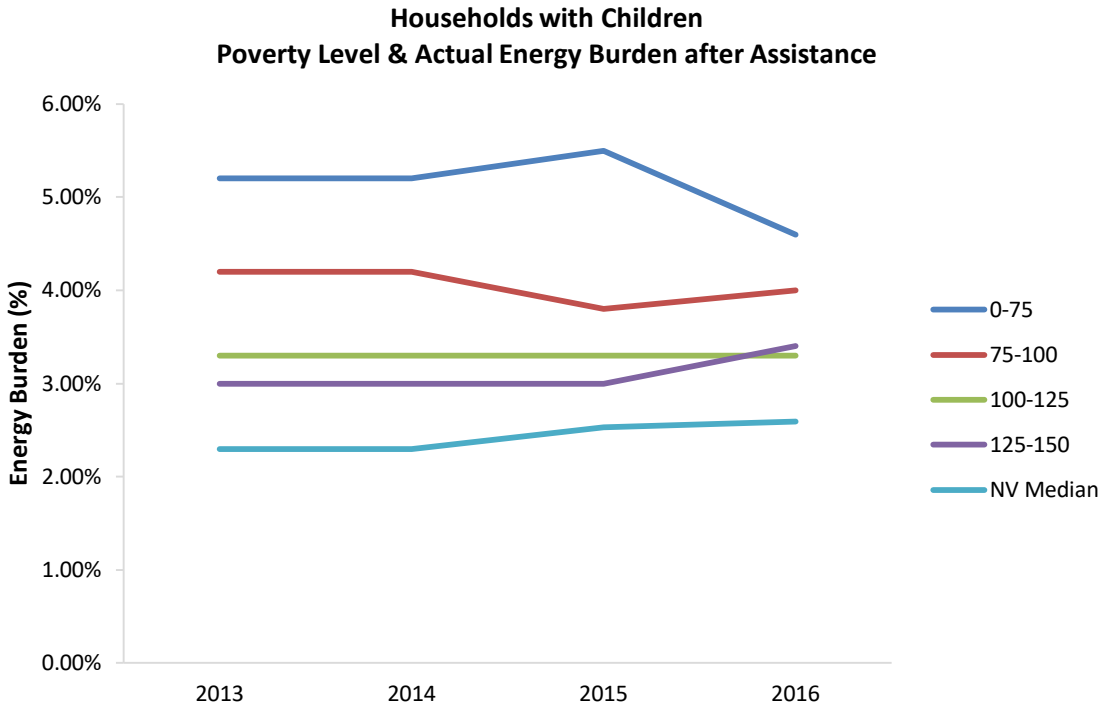

Figure 2: Households with Children.

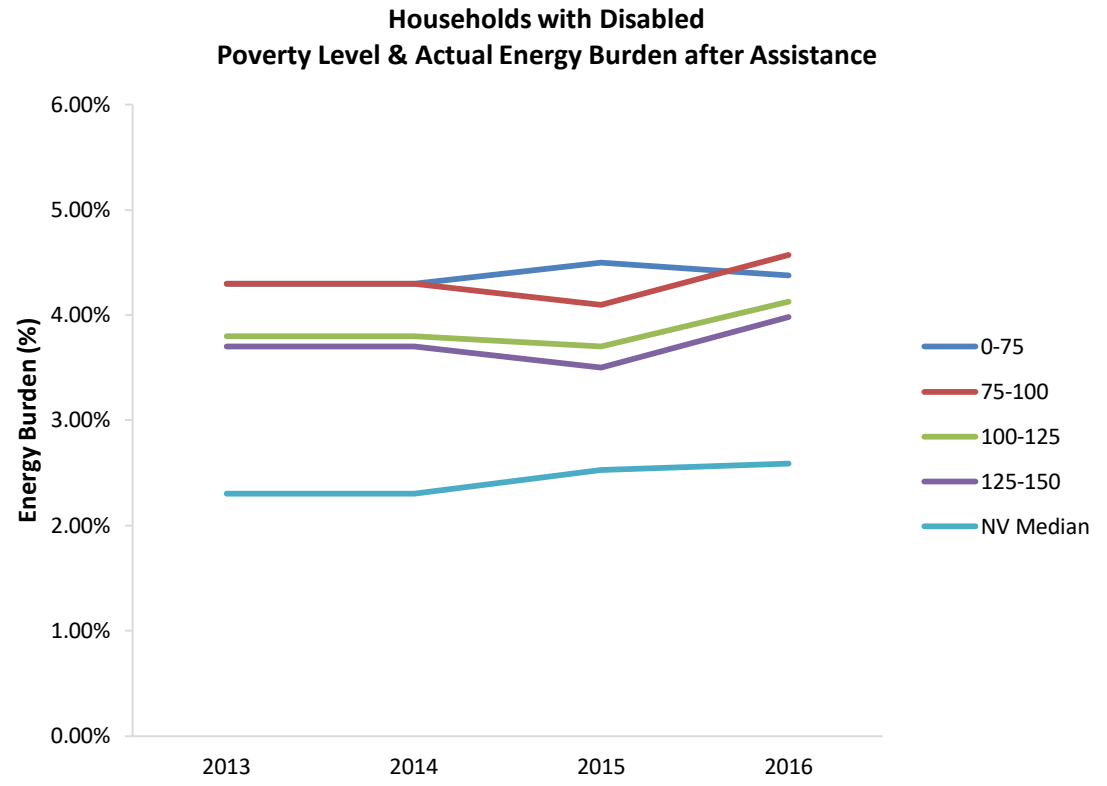

Figure 3: Households with Disabled.

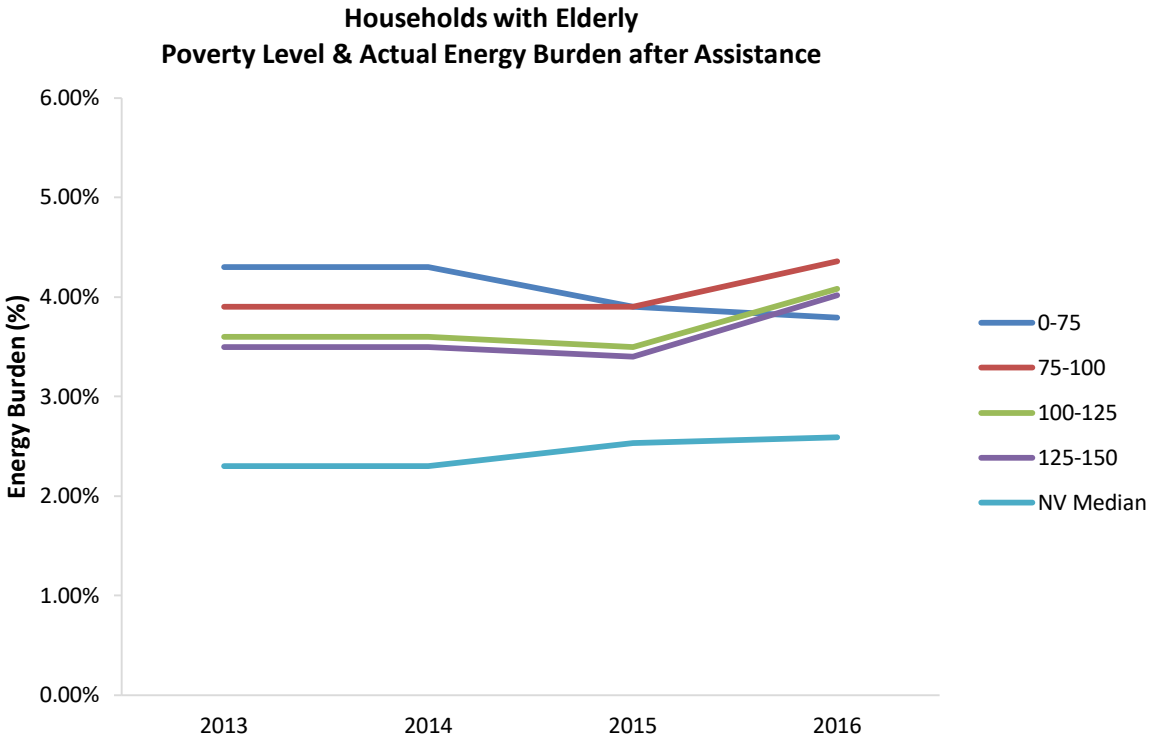

Figure 4: Households with Elderly.

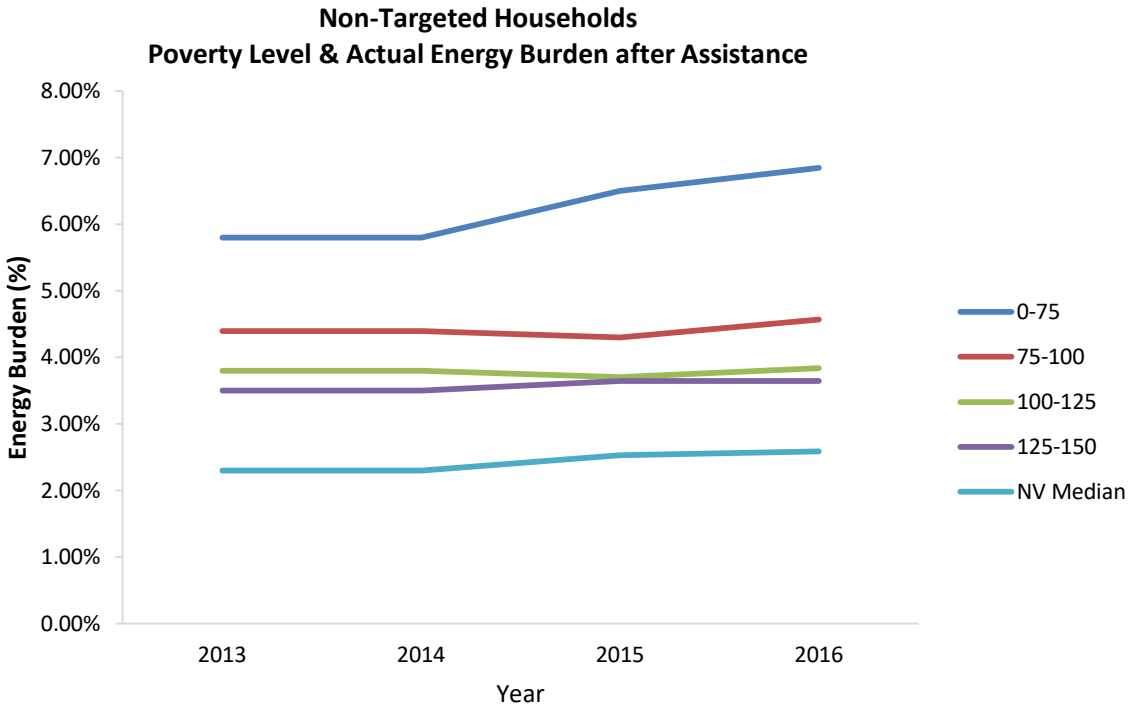

Figure 5: Non-Targeted Households.

The energy burden was successfully reduced in 2016 for those under 75% of poverty if their households had children, elderly members or disabled members (Figures 2-5). The energy burden continued to rise substantially for non-targeted households under 75% of poverty (Figure 5). Moreover, the energy burden jumped above 2013 levels among households with disabled or elderly members between 75 and 125% of poverty (Figures 3 and 4). This bump up was also observed among households with children between 125 and 150% of poverty (Figure 2).

In each of Figures 2-5, the curves deviate from the target of the Nevada median household income due to the limitation of available funding. The drops and upswings of energy burden depicted within and between Figures 2-5 indicate that assistance is being shifted among the impoverished to lighten the burden on some while increasing the burden on others. The only way to ensure that the needs of the elderly are not being pitted against those of young children or disabled households is to increase funding for EAP to meet statewide need. If there were full funding, all the curves would follow the path of the Nevada Median curve. This leads to a second recommendation, which is stated on Page 22.

1.23. Numbers Served by Vulnerable Status and Energy Type Used

Households with a variety of energy sources were served by EAP, as shown in Figure 6.

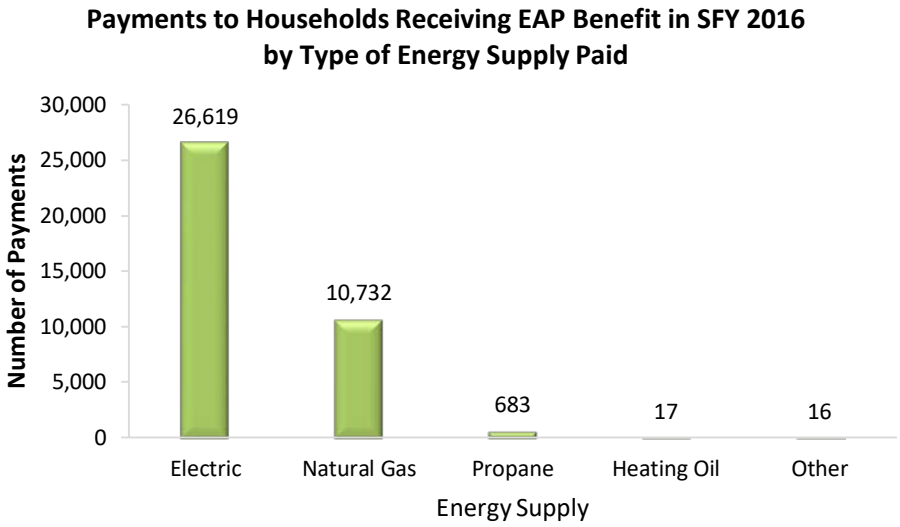

Figure 6: Number of Payments by Type of Energy Supply.

In Figure 6, the category, "Other" includes wood, pellets, and kerosene. The number of payments shown in Figure 6 (38,067) does not sum to the number of households receiving EAP benefits (26,919), because some households directed payments to more than one energy source.

DWSS served more total households with elderly, disabled, or children under 6 than households without targeted members (Figure 7).

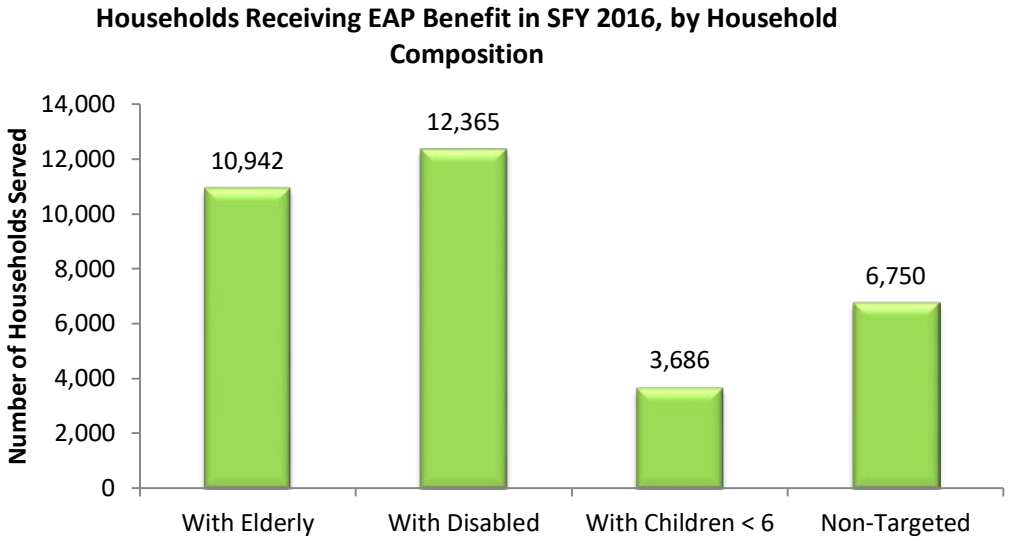

Figure 7: Number and Percentage of EAP Households with and without Vulnerable Members.

The groups shown in Figure 7 are not mutually exclusive (some of the households may include both elderly and disabled residents, or some other combinations, and so are counted more than once).

During SFY 2012, there was a substantial and statistically significant decline in the proportion of applicants receiving Social Security Income who were eligible for EAP benefits (Figure 8). This was owing to a combination of the reduced eligibility criteria and a small increase in federal Social Security benefits that pushed many applicants above the income limits for 2012.

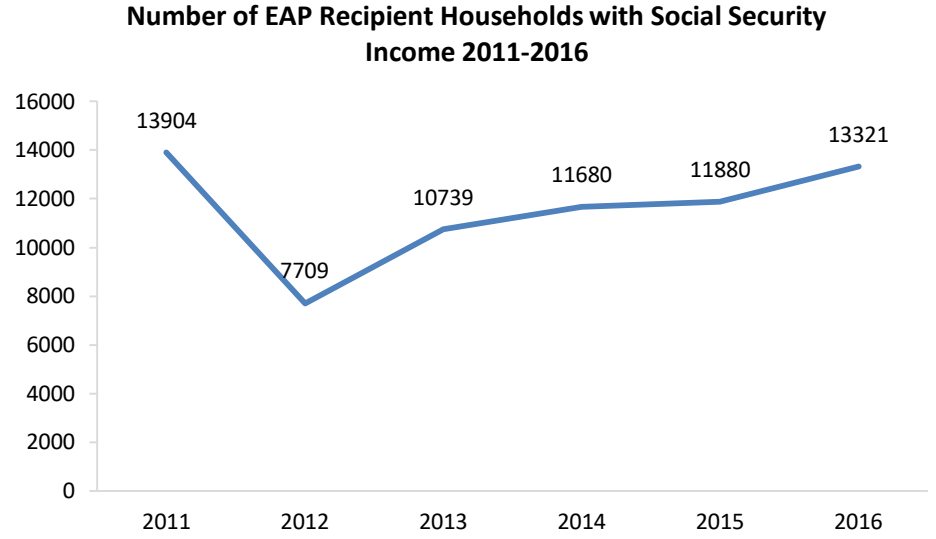

Figure 8: Number of EAP Recipients with Social Security Income (SFY 2011-2016).

As can be seen in Figure 8, the number of EAP recipients with Social Security income declined by nearly half from 2011 to 2012. While there was a partial recovery from SFY 2012 to SFY 2013, and a smaller but continuing increase in households on Social Security who received benefits in SFY 2014 and SFY 2015

as compared with SFY 2013, the number has nearly reached the SFY 2011 level in 2016, reflecting the emphasis of DWSS in bringing back households on Social Security. DWSS has continued outreach to seniors who may not realize that they are again eligible for energy assistance.

Several new intake sites were added in SFY 2015, with additional sites requesting inclusion for SFY 2016. Intake sites, which are often senior centers or food banks, can be an excellent mechanism to raise awareness and increase enrollment of senior citizens in the EAP program. Some seniors may not have access to or understanding of computer technologies for computer-based applications. Intake sites are an important resource to eliminate technological barriers to services for elderly residents.

EAP Summary and Conclusions

DWSS distributed the FEAC funds in a coordinated manner consistent with the requirements of the defining legislation. Through the EAP, DWSS provided 26,919 households assistance with their heating and cooling costs during FY 2016. The average benefit per household during this year was $679 if the arrearage average is not included, and $734[8] if included.

DWSS worked within the requirements of NRS 702 to the extent possible. The level of funding available in the FEAC from the Federal LIHEA Program and UEC funds was insufficient to reduce the energy burden of eligible households to the state median.

Finding 1: The evaluation team finds DWSS fully compliant with the requirements of NRS 702.

[8] Source: EAP Management Monitoring Summary July 2016

WEATHERIZATION ASSISTANCE PROGRAM: OVERVIEW

This evaluation covers the Universal Energy Charge/Fund for Energy Assistance and Conservation (FEAC) Weatherization Assistance Program administered by the Nevada Housing Division (NHD) for State Fiscal Year (SFY) 2016. Nevada SFY 2016 began July 1, 2015 and ended June 30, 2016. Financial reporting was completed in September. Performance requirements for this program are codified in Nevada Revised Statutes (NRS) 702.

For SFY 2016, the primary program activities and major contextual factors affecting the UEC Weatherization Assistance Program include:

- **Planning** – As is required each year, during SFY 2015 and to prepare for SFY 2016, the NHD Weatherization Assistance Program and the Division of Welfare and Supportive Services (DWSS) Energy Assistance Program (EAP) collaborated on the development of two State Plans:
  - One is the 2016 Nevada Fund for Energy Assistance and Conservation State Plan required by NRS 702.280.
  - The second is the 2016 State of Nevada Low Income Home Energy Assistance Program (LIHEA Program) State Plan. The LIHEA Program plan is required by the US Department of Health and Human Services.[9]
- **Planning Targets and Accomplishments** - For SFY 2016, NHD received UEC/FEAC funds for the UEC Weatherization Assistance Program in the amount of $3,284,210[10]. In addition, there was a carryover of $31,506 within the Subgrantee agencies and a reserve from the previous program year. In all, the operating budget for SFY 2015 was $3,530,683.[11] Of this total, $2,663,731 was expended by the Subgrantee agencies and $283,740 by NHD, leaving a balance of $613,213 to be carried over at the end of the Program Year. A total of 383 Universal Energy Charge/Fund for Energy Assistance and Conservation households were completed on time and within budget.

[9] Additionally, during SFY 2016 NHD and DWSS developed the plans required for 2017. The state plan follows the state fiscal year which ends each June 30th; the plan for the LIHEA Program follows the federal fiscal year that ends each September 30th.

[10] The Division of Welfare and Supportive Services (DWSS) receives funds collected by the Public Utilities Commission of Nevada and distributes twenty-five percent of net funding to the Nevada Housing Division (NHD) for the UEC Weatherization Assistance Program. DWSS reports transfer of $3,284,210 to NHD. This includes $3,183,533 in principle and $677 in interest. Source: Financials spreadsheet provided by DWSS.

[11] Source: NHD spreadsheet FY 2016, received September 6, 2016. For the evaluation, all spreadsheet numbers are rounded to the nearest dollar. Note that initial numbers in the NHD financial spreadsheet are estimates and that actual receipts are only know after a fiscal year is completed (the final transfer of UEC/FEAC funds to NHD occurs after the end of the fiscal year). The operating budget reported here is backed out from end of year expenditures and reserve plus the total of UEC/FEAC funds for the fiscal year.

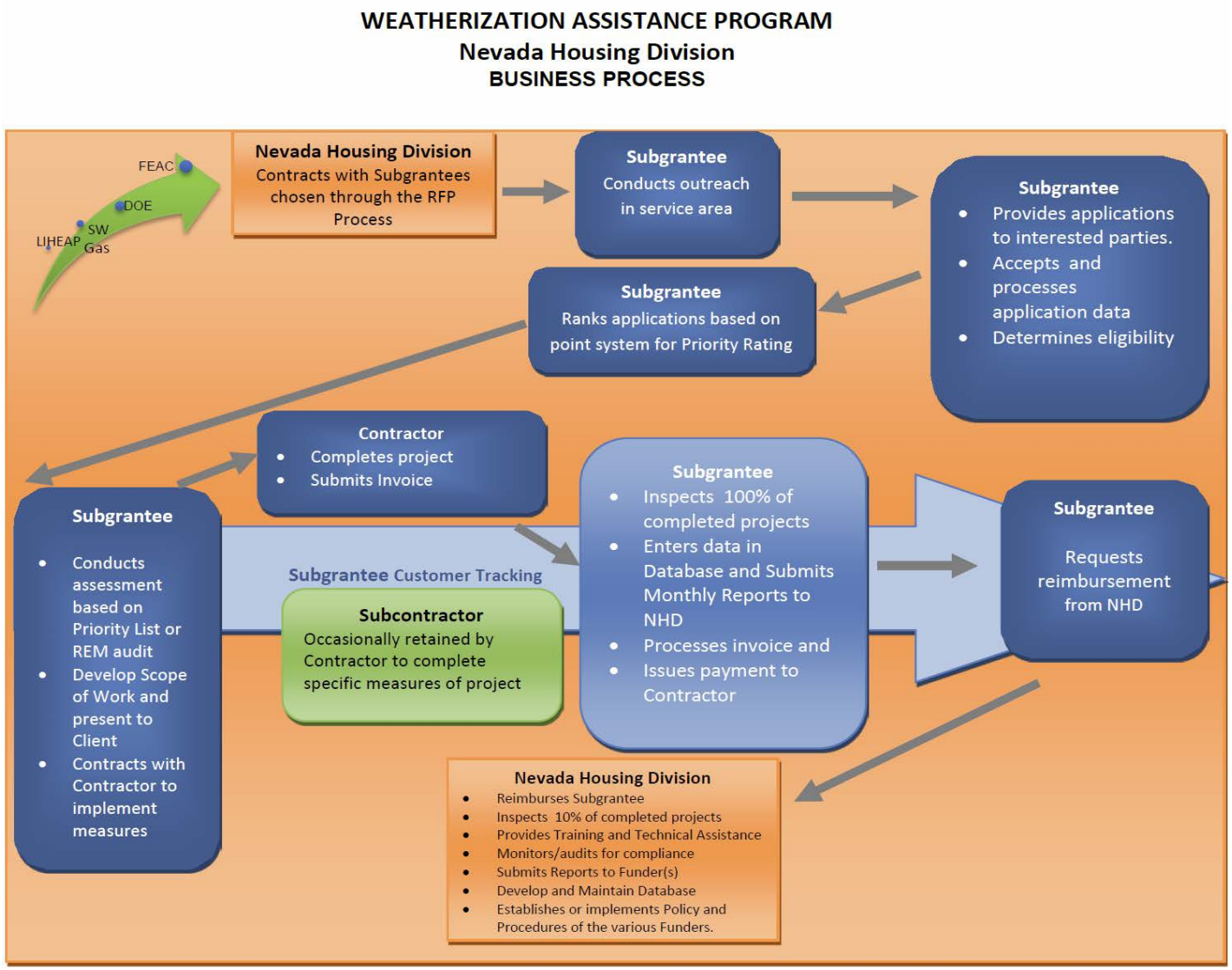

Figure 9: Business Process for the Nevada Housing Division Weatherization Assistance Program.

- **Program Implementation** – The revised Business Process developed in the later part of SFY 2012 continued in place through SFY 2016. The Business Process is summarized in Figure 9. The Nevada Universal Energy Charge/Fund for Energy Assistance and Conservation, the US Department of Energy, and the US Department of Health and Human Services Low-Income Home Energy Assistance Program provided primary funding Weatherization Assistance Program effort for SFY 2016.
- **Changes in the Percentage of Persons living in Poverty** – Following a substantial increase in persons living in poverty since 2001, the percentage of persons living in poverty was about 15.2% in 2015 (the latest year for which data is available). For the US, the percentage of persons living in poverty was 14.8% in 2015. A time series comparison of percentage of persons in poverty is graphed below (Figure 10).[12] Some selected representative percentages are shown in Table 10.

  As can be seen in this graph, since at least 1959 Nevada in most years has had a much lower poverty rate than the US. However, this pattern changed and poverty in Nevada increased sharply beginning in economic recession of the early 2000's (sometimes referred to as the "dotcom bubble"), then began to moderate, but then resumed a sharp increase through the Great Recession of 2007 (sometimes called the "derivatives bubble" or the "housing bubble")

  - For percent of persons living in poverty, Nevada reached a peak that exceeded the US percentage in 2010.
  - Nevada's percent of persons living in poverty was equal to the rate of official poverty in US for 2013 (15.8%) and 2014 (14.8%).
  - For 2015, the percentage of persons living in poverty in Nevada again slightly exceeded the rate for the US (15.2% vs. 14.8%).

[12] For 1959 and 1969, the information used in the figure is from *Poverty in the United States: 2000*, Appendix Table A-1 and from US Census Bureau Table CPH-L-162, Persons by Poverty Status by State. The data from that point through 2011 is from the US Bureau of the Census, Current Population Survey, Annual Social and Economic Supplement, Table 5, Percent of People by Ratio of Income to Poverty Level: 1970 to 2011 and Table 21: Number of Poor and Poverty Rate by State: 1980 to 2011. The data source for 2012 and 2013 is Poverty 2012 and 2013, American Community Survey Briefs by Alemayehu Bishaw and Kayla Fontenot, US Department of Commerce, Economics and Statistics Administration, US Census Bureau, September 2014. Data for 2014 is from QuickFacts Beta, Persons in Poverty, Percent (http://www.census.gov/quickfacts/table/PST045214/00) and is also based on the American Community Survey. Data for 2015 is from QuickFacts, Persons in Poverty, Percent (http://www.census.gov/quickfacts/table/INC110214/00,32). Note that since the Census Bureau is now using smaller samples (but producing more frequent information) the survey error caused by using small samples may make comparisons of data points difficult and the Bureau warns against making comparisons. So, here we present these comparisons as approximately true and based on the best data available.

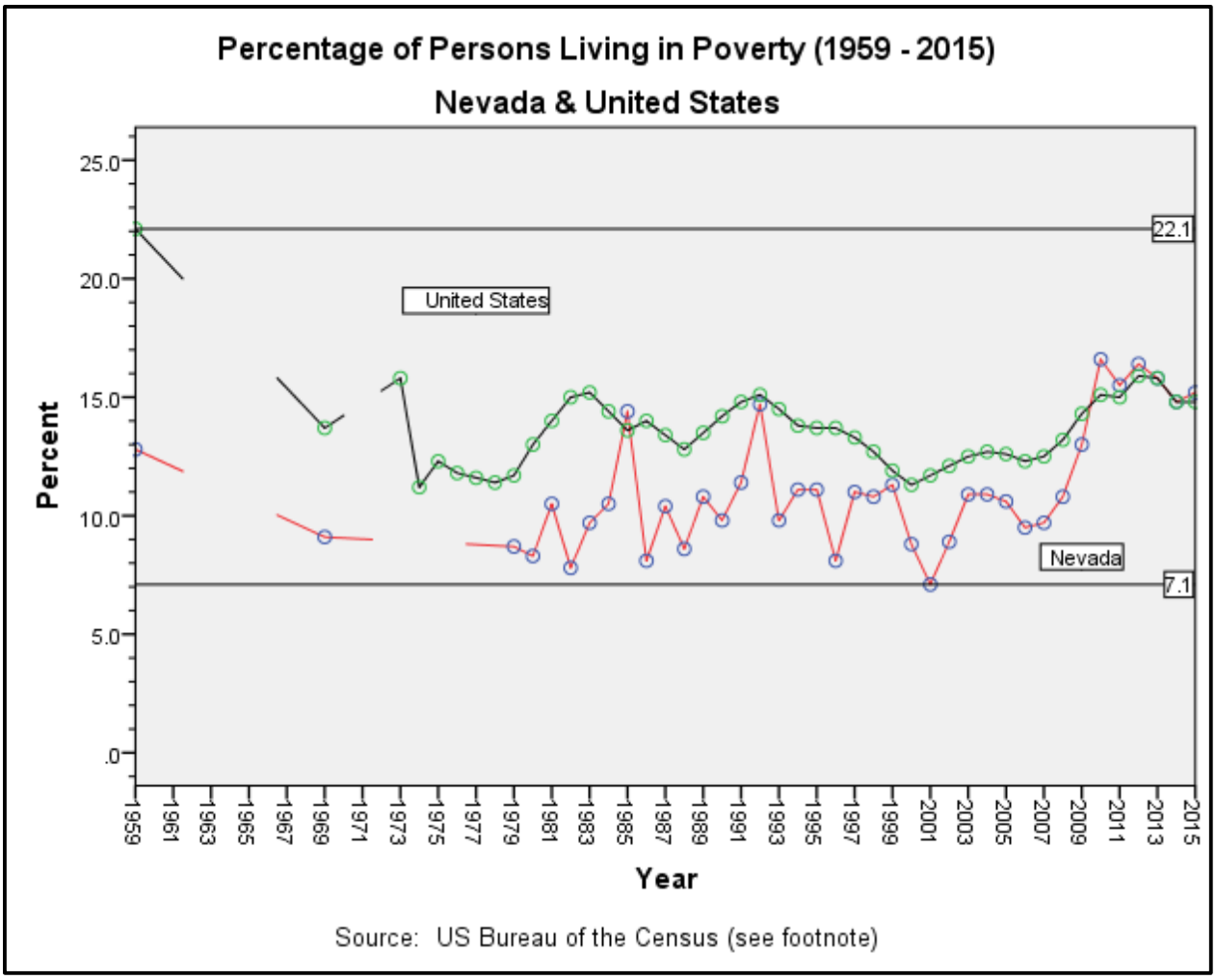

Figure 10: Percentage of Persons in Poverty (1959 - 2016).

Table 10: Percentage of Persons in Poverty in Selected Years.

Persons in Poverty (Percentage) - Selected Years							
	1959	**1969**	**1979**	**1989**	**1999**	**2009**	**2016**
US	22.1	13.7	11.7	13.5	11.9	14.3	14.8
Nevada	12.8	9.1	8.7	10.8	11.3	13	15.2

The import of this pattern of change in the percentage of persons in poverty is that the need for services has substantially increased in Nevada. Need is further analyzed in the next section.

Finding 2: The percent of persons living in poverty has increased in Nevada over several years, and has recently leveled out at around 15%. This indicates an increased level of need for services as compared with past years.

Recommendation 2: To meet the increase in need under the current eligibility criteria, funding for the Universal Energy Charge should be increased, if possible.

Needs Analysis

There are two primary methods for assessing income insufficiency or need. The official analysis makes use of multiples of the federal poverty level (FPL); and unofficial but more careful assessment is based on analysis of household budgets.

Multiples of the Federal Poverty Level Approach to Assessing Income Insufficiency - The NRS 702 definition of need is based on 150% of the Federal Poverty Level (FPL). Using an alternative measure actual need can be defined as income insufficiency and, using this alternative definition, need is meaningfully higher than indicated by the original FPL.[13] For this reason, federal and state programs seldom use the FPL directly as a program eligibility criterion, and NRS 702 uses 150% of the FPL.

[13] Federal indicators of need, such as the poverty metric, unemployment and the consumer price index each have the virtue of being systematic time series measurements with a record of explicit changes in definition over the years for which they have been reported. However, they have become distorted (gradually, over time) and now significantly understate the conditions that it was originally developed to measure. Each official indicator and each change to the indicators are academically defensible in an abstract sense. Each may be useful as general indicators. Yet the federal indicators correspond poorly to what people mean by poverty, unemployment and the increasing cost of a standard basket of goods. They do not make sense in terms of what people experience. Each indicator quantitatively underestimates economic hardship as experienced. The size of the gaps between the indicators and reality as experienced increases over time. Now, the Federal Poverty Level (FPL) is a discredited measure of income insufficiency. Now, unemployment has been progressively redefined so that it is a misleading measure of actual unemployment. The degree of inadequacy of the consumer price index (CPI-U) is, on the other hand, somewhat controversial. A good way to appreciate its inadequacy is to look at a jurisdiction in which family budget studies have been done at two points in time and compare the simple CPI-U adjustment of the earlier study with the results of the later family budget study. This kind of comparison demonstrates that the CPI-U captures a part of inflation as actually experienced by households and can be useful for very short-term comparisons. However, it also demonstrates that over time the drift of the CPI-U from reality becomes a serious gap. One set of replacement indicators for unemployment and CPI is at http://www.shadowstats.com/. A critical review of this website can be found on Wikipedia: http://en.wikipedia.org/wiki/Shadowstats.com. Our own assessment is that the proposed Shadowstats alternate indicators are much better than the official indicators but that the alternate CPI may be somewhat overstated.

Use of this multiple of the FPL is useful because FPL data is maintained by the federal government; federal guidance is framed in terms of the FPL; and since the FPL offers the advantage of comparative ease in administration of programs. Use of a multiple of the FPL is a way to adjust for the inadequacy of the official FPL as a measure of income insufficiency.

Some examples of the use of multiples of the FPL include:

- The US Department of Health and Human Services Low Income Home Energy Assistance Program (the LIHEA Program) uses 150% of the FPL for eligibility.
- The Nevada Universal Energy Charge/Fund for Energy Assistance and Conservation Payment Assistance Program is harmonized to this 150% level for household eligibility (as required by NRS 702.260.3).
- The US Department of Energy permits a range of eligibility levels for the federal Weatherization Assistance Program. Most states use either 60% of state median household income or 200% of poverty. Nevada uses 200% of the FPL for this program.
- In Nevada, the Nevada Universal Energy Charge/Fund for Energy Assistance and Conservation Weatherization Assistance Program eligibility criterion is set at 150% of the FPL (as required by NRS 702.270.3).

An Alternative Measure: The Family Budget Method – A more exact method for estimating income insufficiency to indicate need for service is to use the *family budget method* and, at the same time, to allow eligibility to vary by county or place. The family budget method is a traditional approach that has been used by social workers and community workers since at least the early 1900's.

The "self-sufficiency standard" (a form of the family budget method; sometimes also identified as a "living wage" standard) better reflects reality as experienced by households. The self-sufficiency standard is designed to take into account most *immediate* needs of a family at a minimal level of living, for households without special problems (for example, medical problems).

Strengths of the Family Budget method and self-sufficiency standard over the FPL multiple method are that it captures:

- Cost of transportation to work
- Cost of child care when needed to permit a parent to work.

Weaknesses of the self-sufficiency standard are that it does not include several expenses faced by families over the long term (the FPL multiple method also does not include these expenses):

- Provision for retirement
- Provision for college for children
- Provision of resources children need to participate in many normal school activities in grade school and high school (most of these costs have been isolated by the schools and are transferred as direct "add-on" costs to families)
- Provision for special medical problems

- Provision for some meals outside the home
- Provision for recreation

While not fully inclusive,[14] the self-sufficiency standard is a more careful assessment of income insufficiency than is a fixed multiple of the FPL. This contrast is shown first in Tables 11 & 12. Table 11 provides estimates of what an individual must earn to support their household, on a (lean) living wage if they are the sole provider and working full-time (2,080 hours per year). Table 12 shows the same information in the form of percentages of the Federal Poverty Level. The percentages are computed for different family structures and sizes based on tables updated for 2012 by Dr. Amy K. Glasmeier at Pennsylvania State University. Glasmeier expresses the result in the form of an hourly pay rate, which has here been converted to an annual income level.[15]

In Table 11, we multiply the tabled values of Glasmeier's hourly living wage by work hours in a year (2080); then by 1.05 since according to the US Bureau of Labor Statistics (BLS) it takes $1.05 in 2016 to purchase what a dollar would have bought in 2012; then divide by the 2016 Federal Poverty Level as adjusted for household size. As is shown in Table 11, family budgets for the same lean level of living (self-sufficiency standard) vary by county or place. They are not uniform across the state. In contrast, the FPL, although adjusted for household size, is applied uniformly in the forty-eight contiguous states and the District of Columbia. It does not take county/place variation into account.

Table 12 coverts the dollar values from Table 11 into percentages of the Federal Poverty Level (FPL). Note that the lean living wage for different family structures and sizes is *almost always above 150% of the FPL*. Also, as in Table 11, results differ by county or place.

[14] The lack of inclusion of other normal expenses means that even the best analytic work based on the family budget method does is insufficient. It does not take into account the growing chasm of increasingly severe economic inequality that squeezes households out of normal participation in society. When the upper one-percent is allocated incredibly larger and larger amounts of income, the households with incomes below 95% lose income. As time goes by, this erosion of both real and relative income means he middle class cannot fully support (through taxes and voluntary donations) the level of public services they supported in the 1950s or 1960s. The incomes of ordinary citizens are no longer large enough to support public institutions to the degree that they were supported during the more egalitarian era that ran from the end of WWII through approximately 1970. These reallocations from the lower, middle and lower upper-middle parts of the income distribution and from the public sector to the very rich cause, in turn, much hidden rationing apportioned throughout our economic system (in the form of extra fees assessed to households and declining quality of goods and services each year, though this rationing is not acknowledged in most conventional economic analysis.

[15] Glasmeier's 2012 results are been converted to 2015 dollars using the Bureau of Labor Statistics (BLS) Consumer Price Index (CPI) calculator (http://www.bls.gov/data/inflation_calculator.htm). This can be called a "lean" living wage since it covers an adequate family budget for everyday expenses, but does not cover the costs of living lives that include full participation in society (listed above as weaknesses of this method).

Table 11: Lean Living Wage, in Dollars (2016).

Lean Living Wage - Yearly (by County or Place - Adjusted to July 2016)					
Place	**1 Adult**	**1 Adult, 1 Child**	**2 Adults**	**2 Adults, 1 Child**	**2 Adults, 2 Children**
			Dollars		
Washoe	$19,896	$44,532	$31,166	$39,094	$41,976
Clark County	$21,032	$45,143	$32,345	$39,705	$42,588
Carson City	$18,892	$42,785	$30,052	$37,325	$40,229
Elko	$18,608	$41,998	$28,610	$36,538	$39,443
Nye	$16,511	$40,011	$28,545	$34,529	$37,456
FPL Reference	$11,880	$16,020	$16,020	$20,160	$20,160
Note: Table adjusted using official Bureau of Labor Statistics CPI Calculator.					

Table 12: Lean Living Wage as a Percentage of the Federal Poverty Level (FPL).

Lean Living Wage as Percentage of FPL (by County or Place - Adjusted to July 2016)					
Place	**1 Adult**	**1 Adult, 1 Child**	**2 Adults**	**2 Adults, 1 Child**	**2 Adults, 2 Children**
Washoe	167%	278%	195%	194%	208%
Clark County	177%	282%	202%	197%	211%
Carson City	159%	267%	188%	185%	200%
Elko	157%	262%	179%	181%	196%
Nye	139%	250%	178%	171%	186%
FPL Reference	100%	100%	100%	100%	100%
Note: Table values adjusted using official Bureau of Labor Statistics CPI calculator.					

The 2016 Federal Poverty Level by household size used in the calculation of Tables 11 and 12 is shown in Table 13.

Table 13: 2016 Poverty Guidelines (Federal Poverty Level).

2016 Poverty Guidelines for the 48 Contiguous States and the District of Columbia	
Persons in Family/ Household	**Poverty Level ($)**
1	$11,880
2	$16,020
3	$20,160
4	$24,300
5	$28,440
6	$32,580
7	$36,730
8	$40,890
For families/households with more than 8 persons, add $4,160 for each additional person. Source: Federal Register, Volume 81, No. 15, Page 4036. Annual Update of HHS Poverty Guidelines, January 25, 2016.	

Similar calculations to those reported in the tables above have been performed by Fang Lin at the University of Nevada, Las Vegas. Lin calculated reasonable family budgets for a two-adult, two-child family in the Las Vegas-Paradise area and in the Reno-Sparks area at $48,650.96 and $46,445.11 per year, respectively in the fall of 2008.[16] Using the Bureau of Labor Statistics Inflation Calculator in September 2016,[17] the multiplier is 1.12 for equivalent incomes of $54,489 for the Las Vegas-Paradise area and $52,019 for Reno-Sparks for 2016. If we convert these incomes to FPL equivalents using the 2016 percentage guidelines for a similarly-sized family from Table 13, the results are 224% and 214%.

Also, in a more detailed analysis for different family types, Diana Pierce and Jennifer Brooks found that a family of two adults with one pre-school and one school age child required a budget of $39,153 in Washoe County in 2002.[18] Updating this budget with the Bureau of Labor Statistics Inflation Calculator in October 2014 (a multiplier of 1.34) yields an equivalent value of $52,465 in 2016 or 216% of the 2016 FPL adjusted for household size. For a family of one adult, one preschool age child and one school age

[16] Lin, Fang, *Nevada Kids Count*, "How Much is Enough: Family Budgets in Nevada," Issue No. 4. Las Vegas: University of Nevada, Center for Business and Economic Research, Fall 2008.
[17] See the Bureau of Labor Statistics website (http://www.bls.gov/data/inflation_calculator.htm/).
[18] Pierce, Diana & Jennifer Brooks, *The Self-Sufficiency Standard for Nevada*, prepared for the Progressive Leadership Alliance of Nevada. Seattle: University of Washington, March 2002 (http://www.selfsufficiencystandard.org/docs/Nevada%202002.pdf).

child in 2002, the budget calculated by Pierce and Brooks was $32,621. This is equivalent to $43,712 in 2015 or 217% of the FPL as adjusted for household size. For a family of one adult and one preschool child, Pierce and Brooks found a budget of $28,864 was required in 2002. This is equivalent in value to $38,678 in 2016 as assessed using the BLS calculator, or 241% of the 2016 FPL when adjusted for household size.

While estimates of actual need based on Glasmeier, Lin and Pierce & Brooks show very small difference from each other, they all indicate that program eligibility should be in the range of 139% -282% of poverty, depending on county or place. Taken together, the analysis of the family budget method leads to a recommendation: The basis for determination of eligibility should be the family budget method. If necessary for ease of administration, administration of eligibility could be moved to a higher multiple of the FPL. As shown in Table 12, a reasonably conservative multiple would be 250%.

If we use the alternative Shadowstats CPI calculator, the CPI multiplier of 1.05 used in Table 13 is replaced by a corrected multiplier of 1.41. This yields the values shown in Table 14, replacing the Bureau of Labor Statistics CPI results shown in Table 13. The corresponding effect on percentage of FPL is shown in Table 15.

Table 14: Lean Living Wage updated using Shadowstats CPI Calculator.

Shadowstats Lean Living Wage - Yearly in Dollars (by County or Place - Adjusted to July 2016)					
Place	**1 Adult**	**1 Adult, 1 Child**	**2 Adults**	**2 Adults, 1 Child**	**2 Adults, 2 Children**
			Dollars		
Washoe	$26,718	$59,800	$41,851	$52,497	$56,368
Clark County	$28,243	$60,621	$43,435	$53,318	$57,190
Carson City	$25,369	$57,454	$40,355	$50,122	$54,022
Elko	$24,987	$56,398	$38,420	$49,066	$52,966
Nye	$22,172	$53,729	$38,332	$46,368	$50,298
FPL Reference	$11,880	$16,020	$16,020	$20,160	$20,160
Note: Table adjusted using Shadowstats Alternative CPI Calculator.					

Table 15: Shadowstats Lean Living Wages as Percent of FPL.

Shadowstats Lean Living Wage as Percentage of FPL (by County or Place - Adjusted to July 2016)					
Washoe	225%	373%	261%	260%	280%
Clark County	238%	378%	271%	264%	284%
Carson City	214%	359%	252%	249%	268%
Elko	210%	352%	240%	243%	263%
Nye	187%	335%	239%	230%	249%
FPL Reference	100%	100%	100%	100%	100%
Note: Table adjusted using Shadowstats Alternative CPI Calculator.					

Here, the range of results is from 187% of poverty to 378% of the FPL. The difference between the results using the Shadowstats CPI and the BLS CPI is that Shadowstats attempts to correct for various changes in BLS CPI methodology over the years to keep the method of calculation as close as possible to the original BLS CPI calculating method.

Although the analysis above shows that the poverty multiple for eligibility should be higher than it now is (150%), the Bureau of the Census is experimenting with several alternative poverty measures, some of which make poverty appear higher and some lower as indicated by the FPL (or use of a multiple of the FPL).[19] This work is ongoing. However, a middle course would be to use an eligibility level of 250% rather than 150%. This would be a ratio of about 1.67 times the current 150% level and would correspond to the 1.50% ratio of the difference between the original poverty level and median income (about 50% less than median income) and the relationship of poverty to median income today (about 75% less). These calculations are approximate but to keep this relationship constant over time, the 150% eligibility should be increased to 250%. The logic of this analysis leads to Recommendation 3.

Finding 3: The eligibility level for the UEC/FEAC programs is at 150% of poverty. While this may have been appropriate for an earlier year, today a better eligibility criterion would be 250% of poverty.

Recommendation 3: Consider seeking an Amendment to NRS 702 to use the Family Budget Method by County or, if better for ease of administration, raise the FPL multiple for eligibility to 250% of the FPL.

[19] See: https://www.census.gov/hhes/povmeas/ for a list of publications in this area.

An Insurance Concept: Temporary emergencies for other households - There are also households at middle income levels and occasionally at upper income levels that need assistance due to a temporary or a situational problem such as sudden illness or death of a provider. While middle and upper income households typically have the resources to recover from these situations, some do not and while some can recover using their own resources and resource networks, some may require short term help. A list of such encounters with the chances of life include:

- Injury or illness
- Sudden illness
- Divorce in a middle-income, two-earner household
- High medical bills
- Medically related usage
- Death of an income provider
- Sudden loss of employment and household income
- Disabled persons
- Aging out; a household that has become infirm elderly

These emergency events for middle-income households are not fully recognized within the current scope of NRS 702, due to the income eligibility cap (although some flexibility for emergency situations within the income cap has been included in NRS 702). The program concept could be extended to a temporary and situational insurance concept for all households that pay into the Universal Energy Charge.[20] Since everyone pays into the UEC, it seems reasonable to seek an amendment to NRS 702 to define a new component of the Universal Energy Charge/FEAC as a form of short term help for all households. This would broaden the emergency provisions for inclusion of all households in temporary economic difficulties by removing the income limit for a set of emergency situations and provide additional discretion to the program administrator.[21] This would introduce a quasi-insurance component to the program.

Recommendation 4: Consider seeking an amendment to NRS 702 to broaden the emergency provisions to include all households in temporary economic difficulties.

[20] An exception is that there is an emergency provision in NRS 702 for households technically above the eligibility level that experience severe un-reimbursable medical problems that suddenly bring them to the 150% FPL eligibility level and there are certain other provisions that can provide emergency exceptions.

[21] The program would remain primarily a low-income program but, through inclusion of a quasi-insurance component would also become a general residential program. Redevelopment of the basic program concept as social insurance would lead to a different type of benefit-cost analysis.

Other Factors - Other factors in the general socioeconomic context that influence need for services include:

- Nominal electric and natural gas rates generally increase over time, though there are some temporary exceptions. However, fracking has reduced the commodity cost of natural gas.
- "[B]etween 2000 and 2012 wages were flat or declined for the entire bottom 60 percent of the wage distribution"[22]
- Nationally, there were about 1.5 unemployed people for every job opening in July 2015 (Bureau of Labor Statistics), down from about 2.1 the year before.[23] This is a recovery essentially (but not quite) to the level just prior to the 2001 recession and represents a major recovery from the Great Recession (2008-2009).
- The Nevada unemployment rate has slowly improved to 6.5% in July 2016 (see graph)[24], a little better than 2008 which included the first year of the Great Recession. Recovery is slow but is proceeding.
- In the US, the adjusted wage share of the functional income distribution declined from about 64% in 1968 to about 56 % in 2015.[25] In other words, economic return to workers is declining (except for the highest paid workers) and income is going elsewhere.
- Income inequality "…has increased markedly over the past few decades in the U.S. and at a much faster rate than in other countries."[26]

[22] Mishel, Lawrence and Heidi Shierholz, "A Decade of Flat Wages, The Key Barrier to Shared Prosperity and a Rising Middle Class." Washington, DC: Economic Policy Institute Briefing Paper, August 21, 2013, Briefing Paper No. 365.
[23] US Bureau of Labor Statistics, Unemployed Job Seekers per Opening (JOLTS historical chart). See http://www.labor.ny.gov/stats/job-seekers-per-opening.shtm.
[24] Graphed rates are averaged from monthly rates provided by the Bureau of Labor Statistics (see data file at http://data.bls.gov/timeseries/LASST320000000000003?data_tool=XGtable). The rate for July 2016 is from http://www.unemployment-extension.org/unemployment-rate-nevada.php. Note that Figure 11 shows the official unemployment rate for Nevada. As a rule of thumb taught in grad school economics, to convert the usual federal report of unemployment (CPI-U) into an everyday commonsense value, multiply it by two. More recently, this has changed to "multiply by two and then add from one to three percent." So, actual unemployment is running at about 13-15% in Nevada, down from a peak of about 30% in 2010. By "everyday commonsense" we mean, for example, that if Uncle Jack does not have a job, he is unemployed even if the federal statistics reclassify him as a "discouraged worker" in order to drop him from their official calculation by changing the earlier federal definition of unemployment. There are other similar "technical adjustments" that make official statistics biased indicators of the things they indicate. No one is fooled by this kind of statistical trick when it involves a family member, but we do tend to be fooled by the statistical talk at an abstract level when it its repeated constantly. Also, in common talk, we make a distinction between a "job" (underemployment or piecing together part-time work from two or three underpaid and under resourced jobs) and a "real job" (full time, decent pay, medical benefit, secure career prospect and defined benefit pension). Federal statistics in the areas of employment and unemployment do not take these realities into account. However, they are still useful as general indicators of direction of change, which is currently in the direction of increased employment.
[25] Apel, Holgar, "Income Inequality in the US from 1950 to 2010 –The Neglect of the Political," Pp. 2-15 in *Real World Economics Review*, Issue 71, September 30, 2015 (http://www.paecon.net/PAEReview/).
[26] Deaton, Angus, "Will Civil Society Endure; the Threat of Inequality," Scientific American, Special Issue on The Future, September 2016, Pp. 48-53.

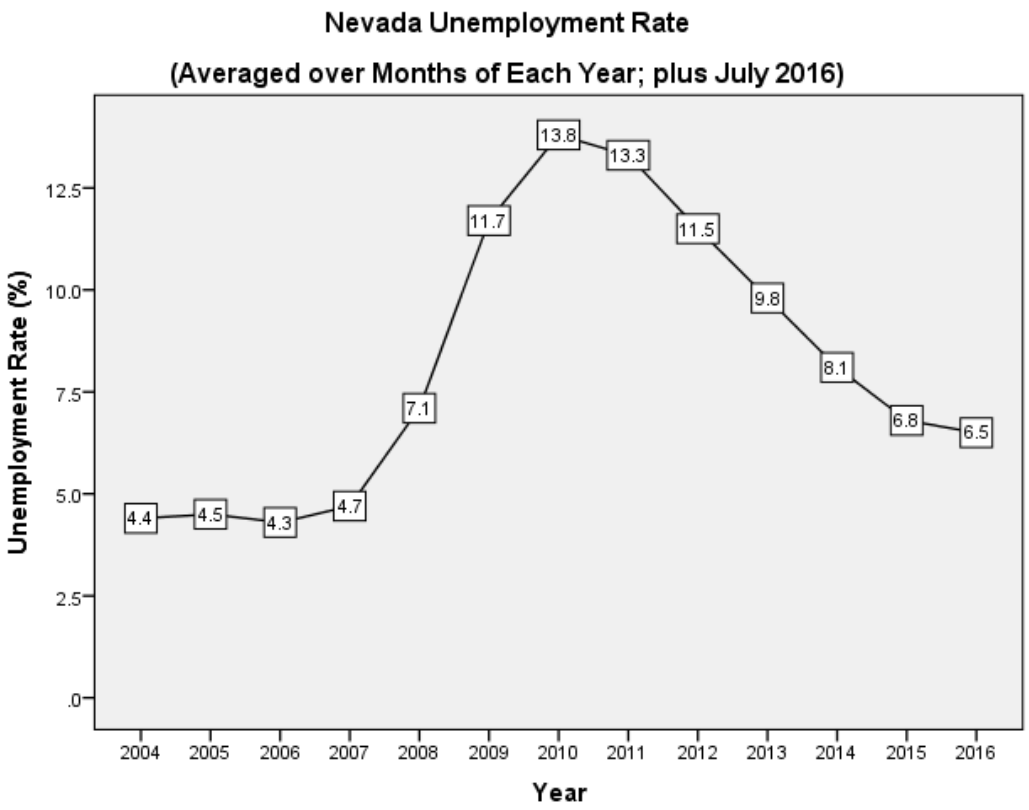

Figure 11: Nevada Unemployment Rate (Percentage).

Household eligibility for both Energy Assistance and Weatherization Assistance is set at 150% of poverty by NRS 702. There were approximately 227,857 eligible households in Nevada (households at or below 150% of the FPL) in 2012.[27] We retain this estimate though 2016 and adjust the number of households to arrive at an estimate of approximately 23% of households. These results further document that at the current yearly funding levels need exceeds ability to serve.[28]

The program logic of the Universal Energy Charge/Fund for Energy Assistance and Conservation Weatherization Assistance Program is shown in terms of resource inputs and program goals in Figure 12.

[27] This estimate was developed in 2012 using three different calculation methods. The methods provided estimated results of 226,239; 227,857 and 229,219. The middle number (the number adopted for this study) is based on the Governor Certified Population and its development was assisted by the State Demographer (electronic communication of 7/23/2012 from Jeff Hardcastle to Gil Peach and NHD). The middle number (227,857) represents about 23% of Nevada households (1,005,958) using 2010-2014 household data from the Bureau of the Census Quickfacts for Nevada (http://quickfacts.census.gov/qfd/states/32000.html).

[28] Viewed as a process, the current level of funding enables a certain number of homes to be weatherized each year. Since the stock of eligible homes is not fixed but is a flow with new additions each year and the total of eligible homes is beyond the capability provided by the annual funding level for the program, the program effort is always a process that never reaches an end.

The logic diagram shows resources that are drawn upon by the program. In addition to UEC/FEAC funding, for SFY 2016 the program leveraged federal DOE funding. Support is also provided from the Nevada Housing Trust Fund, and LIHEA.

As shown in the logic diagram, the direct resources used to carry out the principal activities for SFY 2016 were the NHD; the Subgrantees, the Contractors, building science technologies and equipment, the BWR database and IT support coupled with the specialized knowledge required to administer and manage the overall WAP.

The immediate outcomes of the weatherization work are reduced energy use and lower energy bills for low-income homes, improvement in health and safety condition of homes, reduced illnesses, and in some cases, saved lives. The program also provides community education and contractor training.

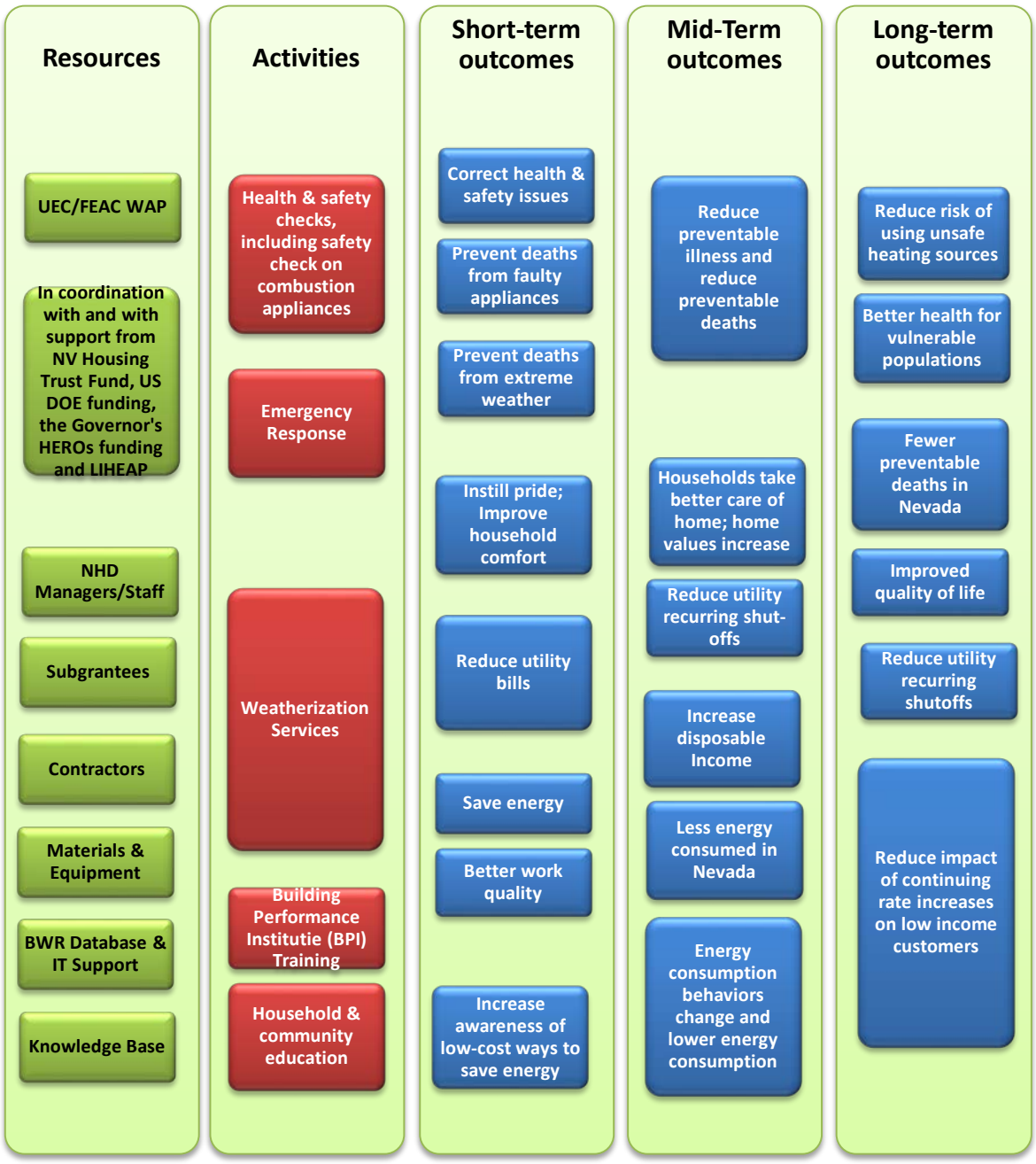

Figure 12: Logic Diagram for Universal Energy Charge Weatherization Assistance Program.

WEATHERIZATION ASSISTANCE PROGRAM: COMPLIANCE WITH NRS 702

This section of the study is focused on direct answers to specific legislative questions reflecting compliance with the provisions of NRS 702.

2.1. Did NHD use no more than 6% of FEAC funds for its administrative expenses?

[Reference: NRS 702.270.1; Deliverable 3.5.1]

Yes, NHD's total cost for program administration was $148,740, or about 5% of the total FEAC funds used for Program Year 2014 ($2,917,470).

2.2. Did NHD provide eligible households with services of basic home energy conservation and efficiencies or assist households in acquiring services of load management?

[Reference: NRS 702.270.2(a); Deliverable 3.5.2]

Yes, NHD provided eligible households with services of basic home energy conservation and efficiencies which assisted households in reducing energy consumption over time. Performance was confirmed during NHD Monitoring Reviews of sample projects and reviews of the Buildings Weatherization Reports database (BWR database). Load management was not a focus of the program in 2016; the energy focus was on reducing energy use. Production numbers are provided in the effectiveness section of this evaluation.

2.3. Did NHD pay for appropriate improvements associated with energy conservation, weatherization and energy efficiency?

[Reference: NRS 702.270.2(b); Deliverable 3.5.2.1]

Yes. Monitoring Reviews by NHD Weatherization Assistance Program staff of a sample of projects verifies that NHD paid for appropriate improvements associated with energy conservation, weatherization and energy efficiency measures.

2.4. Did NHD carry out activities related to consumer outreach?

[Reference: NRS 702.270.2(c); Deliverable 3.5.2.2]

The Energy Assistance Program carried out outreach for both EAP and NHD. Throughout the year, consumer outreach was also conducted by NHD Subgrantee agencies. NHD and its Subgrantees responded to phone calls referred by NV Energy, Southwest Gas bill inserts and NHD and Subgrantees' websites. NHD or its Subgrantee also participated in NV Energy's Senior Energy Assistance Expositions (one in southern Nevada and one in northern Nevada). Subgrantees also provided outreach at local social service offices, senior centers, through radio and television interviews, newspaper ads, community meetings, energy savings events, poster with tear tabs, and distributed of brochures, flyers and door hangers (documented by Subgrantees). The Subgrantees provided intake sites and online service to process applications. NHD, Subgrantees and Contractors distributed brochures and the "Your Home Energy Savers Book" and Energy Calendars to the public at energy fairs. Outreach through the Subgrantees was verified through Monitoring Review by NHD Weatherization Assistance Program staff.

2.5. Did NHD pay for program design?

[Reference: NRS 702.270.2; Deliverable 3.5.2.3]

No. Primary program design for UEC/FEAC WAP was accomplished by NHD in 2002-2003 and updates were carried out in other years. During SFY 2016 there were no major program design activities.

However, there was substantial progress on development of a new database. This is a major focus, working with the University of North Dakota EERC and is expected to be in the pilot phase during SFY 2017.

2.6. Did NHD pay for annual program evaluation?

[Reference: NRS 702.270.2(e); Deliverable 3.5.2.4]

Yes. In SFY 2016, NHD paid its prorated share of the cost for the SFY 2015 annual program evaluation.

2.7. Did NHD determine eligibility of households at a maximum income level of no more than 150% of the federally designated level signifying poverty (FPL)?

[Reference: NRS 702.270.3; Deliverable 3.5.3]

Yes. Eligibility criteria were communicated to Subgrantees through verbal and written communications. Income eligibility was verified by the Subgrantee and during NHD staff Monitoring Reviews of samples of Client applications from completed projects. Note that other funding permits treatment of house up to and including 200% of poverty.

2.8. Did NHD render emergency assistance to health/safety-threatened households experiencing an emergency because of the structural, mechanical or other failure of their occupied dwelling?

[Reference: NRS 702.270.4(a); Deliverable 3.5.4]

No, this year, emergency assistance was not provided for buildings with structural, mechanical or similar failure. The problem with dwellings in which there is major structural, mechanical or other failure of the whole dwelling (for example, very old homes with knob and tube wiring throughout) is that the cost of repairs would be so substantial that the building cannot be treated, although the authority exists to do so. During SFY 2016, although authorized in NRS 702, no emergency assistance was provided to repair/replace the structural, mechanical or other failure of an occupied dwelling.

2.9. Did NHD render emergency assistance to health/safety-threatened households experiencing an emergency because of a failure of a component or system of their occupied dwelling?

[Reference: NRS 702.270.4(a) and(b); Deliverable 3.5.4.1]

Yes. Emergency assistance to health/safety threatened households was provided to thirty-seven (37) households that experienced an emergency because of a failure of a component or system of their occupied dwelling. Three of the five Subgrantee agencies did not provide emergency services (CSA, NHRA and RNDC). The two Subgrantee agencies that provided emergency services are HELP and the Urban League of Las Vegas.

Tables 16 and 17 depict the n**umber and nature of FEAC funded emergency services rendered during SFY 2016.**

Table 16: HELP of Southern Nevada

Project Number	Emergency Service	Specific Equipment Failure	Resolution
HF26250	No heat. 62° In client's home. Inoperable furnace.	Repair on 4-ton gas split system by Installing pressure switch and cleaned coils.	Client now has an operating heating system.
F26162	No heat. 58° In client's home. Inoperable system.	New 4-ton gas split system and central return installed.	Client now has an operating heating system.
F26090	No heat. 66° in client's home. Inoperable furnace.	Repair on 3.5-ton gas pack by replacing ignition coil and condensation line and cleaned coils.	Client now has an operating heating system.
HF25848	No A/C In client's home. Unit completely out.	Tempstar gas package unit replaced with 4-ton gas package due to failed compressor because of blocked evaporator coil being plugged and fan motor locked.	Client now has an operating cooling system.
HF25651	No A/C. 91° In client's home. Inoperable cooling unit.	5-ton gas package unit replaced due to bad condenser, run capacitor and contactor along with failing fan motor and age.	Client now has an operating cooling system.
F25766	No A/C. 124° In client's home. Inoperable unit.	3-ton gas package unit replaced due to age and compressor locking.	Client now has an operating cooling system.
HF25621	No A/C. Inoperable cooling unit.	2.5-ton gas split system. Unit replaced (Repairs not recommended).	Client now has an operating cooling system.
HF26220	No A/C. Inoperable cooling unit.	Installed new blower motor on 2.5-ton gas split system.	Client now has an operating cooling system.
F25714	No A/C. 84° in client's home. Inoperable unit.	Replaced Carrier gas package unit with 3.5-ton gas package unit due to bad indoor motor and cabinet insulation falling into it.	Client now has an operating cooling system.

F25904	No A/C. 83° in client's home. Inoperable unit.	4-ton condenser installed due to bad compressor and condensing fan motors.	Client now has an operating cooling system.
F25886	No A/C. 91° in client's home. Inoperable unit.	Repaired 3.5-ton gas split system by installing new cased coil, removing and reinstalling furnace to fire rate closet and replacing main circuit board due to drain pan rot causing water to run into return and on floor and circuit board shortage.	Client now has an operating cooling system.
HF25963	No A/C. 84° in client's home. Inoperable unit.	Carrier gas pack unit replaced with 3-ton unit due to many issues found that repairing would exceed the cost of replacing; compressor failure, electrical issues.	Client now has an operating cooling system.
HFL25546	No A/C. Inoperable unit.	Replaced 4-ton gas split system due to melted coil pan, damaged heat exchanger, lack of air flow and collapsed central return duct.	Client now has an operating cooling system.
HF25970	No A/C. 82° in client's home. Inoperable unit.	Replaced 2.5 gas package unit.	Client now has an operating cooling system.
HFL25596	No A/C. 96° in client's home. Inoperable unit.	Replaced 3.5-ton gas split system with 2 ton due to blower motor drawing high amps, bad bearings, inadequate air flow and seized air compressor.	Client now has an operating cooling system.
HF25706	No A/C. 85° in client's home. Inoperable unit.	Installed new 3.5-ton gas split system due to bad blower motor, condensing fan motor drawing high amps, compressor not working and contactors burnt.	Client now has an operating cooling system.

		Repairs would exceed replacement.	
HFL25300	No heat. 67° in client's home. Furnace system inoperable.	2 ton straight cool package replaced with 1.5-ton gas split system due to unmet housing specifications, blower motor damage, blower motor ID seize.	Client now has an operating heating system.
F25641	No A/C. 81° in client's home. Inoperable unit.	Replaced furnace with 2-ton gas split system and installed new breaker due to inoperable furnace not rated for manufactured housing.	Client now has an operating cooling system.
HF26251	No heat. 59° in client's home. Unit inoperable.	Replaced Ducane electric heat pump unit with 4-ton package due to locked compressor and blower motor and a detected leak. Repairs would have exceeded replacement.	Client now has an operating heating system.
HF25849	No heat. 59° in client's home. Furnace inoperable.	Tappan heat pump unit replaced with 3.5-ton heat pump package due to no refrigerant, locked compressor, fan motor drawing high amps and out of balance, burnt contactors. Repairs would have exceeded replacement.	Client now has an operating heating system.
F26221	No heat. Furnace inoperable.	Aqua therm furnace repaired by installing cartridge circulator pump and relay switch.	Client now has an operating heating system.
HF25363	No heat. 67° in client's home. Furnace inoperable.	5-ton heat pump package repaired by replacing indoor blower motor and programmable module and replacing fan relay.	Client now has an operating heating system.
F25623	No A/C. Inoperable unit.	3.5-ton gas package unit replaced due to burnt wires from	Client now has an operating cooling system.

		disconnect to unit and a grounded compressor.	
F25793	No A/C. 99° in client's home. Inoperable unit.	Replaced 2-ton heat pump package unit with 2.5 ton.	Client now has an operating cooling system.
HF26069	No heat. 65° in client's home. Unit inoperable.	3-ton gas package unit replaced due to wiring and circuit board burn out.	Client now has an operating cooling system.

Table 17: Las Vegas Urban League

Project Number	Emergency Service	Specific Equipment Failure	Resolution
F16013	Heat Pump	bad indoor blower motor and outdoor condenser fan	Install new heat pump package
F16014	Water Heater	tank is rusted and sever leak	Install new mobile home water heater
F16017	A/C	Compressor/outdoor condenser fan motor bad. Indoor coils dirty	Install new compressor/filter/dryer and install condenser fan motor. Clean indoor/outdoor coil and charge to factory specifications.
F16018	A/C	Condenser fan motor. Indoor coils dirty	Replace condenser fan motor/run capacitor. Clean indoor coils
F16023	Water Heater	High CO	Install new furnace
F16024	Heat Pump	Indoor TXV has gone bad	Install new indoor TXV valve
F16028	Furnace	Cracked heater exchanger and oversized unit	Install new 3 ton split system
F16032	Heater	2 systems High Co at flue band back drafting into attic	Install 2-ton condenser
L36003	A/C	Run capacitor, coils and drain pan rusted out	Install new indoor coils, drain pan and clean outdoor coils and install new run capacitor and charge system.
L36006	A/C	System Inoperable	Install new 3-ton gas package unit complete

2.10. Did NHD adopt regulations to carry out and enforce the provisions of NRS 702.270?

[Reference: NRS 702.270.5; Deliverable 3.5.5]

No. The necessary regulations were established primarily in 2002-2003. No new regulations were adopted in SFY2016 by NHD.

2.11. Did NHD solicit advice from DWSS and from other knowledgeable sources?

[Reference: NRS 702.270.6(a); Deliverable 3.5.6]

Yes. Please see the answer to question 2.17.

2.12. Did NHD identify and implement appropriate delivery systems to distribute money from FEAC?

[Reference: NRS 702.270.6(b); Deliverable 3.5.6.1]

Yes. Please see the NHD WAP Business Process diagram.

2.13. Did NHD coordinate with other federal, state and local agencies that provide conservation services to low-income persons?

[Reference: NRS 702.270.6(c); Deliverable 3.5.6.2]

Yes. NHD coordinated with appropriate federal, state and local agencies.

Federal coordination: During SFY 2016, NHD coordinated with federal officials through the National Association for State and Community Services Programs, whose members are state administrators of the US Department of Health and Human Services, Community Service Block Grant (CSBG) and the US Department of Energy/Weatherization Assistance Program for DOE programs. Coordination at the federal, state and local agency levels also occurred through the Energy OutWest conference with training in state-of-the-art best practice building sciences techniques.

State coordination: NHD coordinated with state officials through continuing contact with the Division of Welfare and Supportive Services and through the Low-Income Energy Assistance Program Advisory Group (FEAC Advisory Group). Participants in this group include representatives of the Division of Welfare and Supportive Services and the Public Utility Commission of Nevada. Also in this group are representatives of NV Energy, Southwest Gas, service and community based organizations and advocates.

This year, the Housing Trust Fund and the Governor's Home Energy Assistance Retrofits for Seniors (HEROS) made possible treatment of homes that required additional work.

Regarding coordination specifically with DWSS, both NHD and DWSS exchange client referrals. NHD uses a one-page application form which includes the question, "Are you currently receiving Energy Assistance (LIHEA or Energy Assistance)?" The applicant's response is NHD's opportunity through its Subgrantees to refer clients to DWSS/EAP. NHD also accepts referrals from DWSS and forwards the list of eligible clients

provided by DWSS to its Subgrantee agencies and, when possible, to projects funded by others.[29] While NHD and DWSS are unable to use the same application form due to different eligibility criteria—both agencies are committed, to the fullest extent practicable, to efficiency in the application process.

Local coordination: NHD coordinated with many local agencies though its Subgrantee agencies, serving different areas of the state. This local work by the Subgrantees provides education in energy conservation and program outreach.

2.14. Did NHD encourage other persons to provide resources and services to the extent practicable, to schools and programs providing training in the building trades and apprenticeship programs?

[Reference: NRS 702.270.6(d); Deliverable 3.5.6.3]

No UEC/FEAC funds were used or leveraged during SFY 2016 to encourage other persons to provide resources and services to schools and programs providing training in the building trades and apprenticeship programs. During the economic stimulus (American Recovery and Reinvestment Act or ARRA), NHD implemented training. When the stimulus funding ended but the economy had only begun to improve, there was not a need for any major support of training and there will not be a need for another major focus on training until there is a sufficient need for new trainees. However, Building Performance Institute (BPI) training was provided to Subgrantees.

2.15. Did NHD establish a process for evaluating the Weatherization Assistance Program (WAP)?

[Reference: NRS 702.270.6(e); Deliverable 3.5.6.4]

For the SFY 2016 WAP, as in each year since the requirements of NRS 702 were legislated, the NHD has established a process for evaluating the Weatherization Assistance Program (WAP). For the WAP evaluations for SFY 2012 through SFY 2019, the evaluation criteria have been set to conform exactly to the explicit provisions of NRS 702.

2.16. Did NHD establish a process for making changes to WAP?

[Reference: NRS 702.270.6(f); Deliverable 3.5.6.5]

Yes. The state UEC/FEAC WAP has a process for making changes to WAP to conform to changes in federal requirements to ensure the programs are undiluted and cost effective.

2.17. Did NHD engage in annual planning and evaluation processes with DWSS?

[Reference: NRS 702.270.6(g); Deliverable 3.5.6.6]

[29] Qualifying referrals are not automatically accepted in the Weatherization Assistance Program because referrals are also generated from other sources and only occasionally is there capacity to accept a few qualifying households (the UEC/FEAC Weatherization Assistance is underfunded in relation to need). Also, NHD is required to prioritize service according to specific criteria. This means that some households will never be accepted since there are always households above them in order of priority selection.

Yes. During SFY 2016, NHD engaged in annual planning and evaluation processes with the Division of Welfare and Supportive Services. Meetings with the Low-Income Advisory Group were part of the planning process; that is, since input and ideas are solicited from the Advisory Group at each meeting. Also, NHD made presentations at each meeting regarding funding levels, expenditures and production performance, as well as solicited member responses. Further, an annual evaluation for SFY 2016 program was chartered and sponsored jointly by NHD and the Division of Welfare and Supportive Services. The formal planning process proceeded according to state and federal requirements, with public participation and formal hearings conducted, resulting in the approved Nevada Fund for Energy Assistance and Conservation State Plan for 2017 and the companion State of Nevada LIHEAP State Plan for 2017. While the UEC program year runs from the first day of July through the end of the following June, the LIHEAP program year is the same as the federal program year, beginning on October 1 each year and ending on the 30th of the following September.

WEATHERIZATION ASSISTANCE PROGRAM: PROGRAM EFFECTIVENESS

In SFY 2016, Nevada Housing Division Subgrantees weatherized 383 homes (Table 18), exceeding the goal of 364 homes by 5.2% (Table 19). The energy savings target for SFY 2015 was an average of 20% per home weatherized.[30]

Table 18: Work Completed by each WAP Subgrantee (SFY 2016).

Work Completed by each Subgrantee Agency (SFY 2016)		
Agency	**Number of Homes**	**Percent**
HELP	235	61.4
Urban League	80	20.9
NRHA	32	8.4
CSA	29	7.6
RNDC	7	1.8
Total	383	100.0

Table 19: Work Completed vs. Performance Goal by Subgrantee (SFY 2016).

Performance against Goals: Work Completed by each Subgrantee Agency (SFY 2016)			
Agency	**Planned**	**Actual**	**Percent of Agency Goal Achieved**
HELP	194	235	121%
Urban League	79	80	101%
NRHA	23	32	139%
CSA	56	29	52%
RNDC	12	7	58%
Total	364	383	105%

Of the homes completed during SFY 2016, services to special needs households are as shown in Table 20.[31]

[30] Goal provided by Nevada Housing Division.
[31] A household may have more than one special needs classification.

Table 20: Services to Special Needs Households (SFY 2016).

Services to Special Needs Households (SFY 2016)		
Category	**Number of Homes**	**Percent**
Elderly over 60	196	51.2%
Persons with Disabilities	170	44.4%
Children under 6	36	9.4%
Native American	9	2.3%
High Energy Users	115	30.0%
Note: Percentages sum to over 100% due to overlaps.		

Homes completed by county are shown in Table 21. These completions approximately follow the population sizes of Nevada counties. Some Nevada counties do not have utilities that arrange for payment into the Universal Energy Charge, so housing units weatherized by NHD in those counties are funded from federal and other funds (and are not reported here).

Table 21: Number of Homes by County (SFY 2016).

Homes Completed by County (SFY 2016)		
County	**Number of Homes**	**Percent**
CLARK	315	82.2
WASHOE	29	7.6
LYON	20	5.2
CARSON CITY	7	1.8
DOUGLAS	3	0.8
HUMBOLDT	3	0.8
CHURCHILL	2	0.5
ELKO	2	0.5
MINERAL	2	0.5
Total	383	100.0

Table 22 shows the distribution of completed homes by type of housing and the source of heating fuel. This table reflects the relative frequency in the population of natural gas as a heating source as compared with electricity and propane.

Table 22: Primary Heat Source by Type of Housing (SFY 2016)

Type of House and Primary Heating Fuel (SFY 2016)					
House Type	**Fuel Type**			**Total**	**Percent**
	Electric	**Natural Gas**	**Propane**		
2-4 Family	15	24	0	39	10.2%
5+ Family	0	60	0	60	15.7%
Mobile Home	7	103	7	117	30.5%
Single Family	43	120	4	167	43.6%
Total	65	307	11	383	100.0%
Percent	17%	80%	3%	100%	

Qwn/rent status by housing type is shown below.

Table 23: Owned/Rental by Housing Type (SFY 2016).

Ownership Status by Type of House (SFY 2016)				
House Type	**Rent/Own**		**Total**	**Percent**
	Rental	**Owned**		
2-4 Family	8	31	39	10.2%
5+ Family	59	1	60	15.7%
Mobile Home	2	115	117	30.5%
Single Family	23	144	167	43.6%
Total	92	291	383	100.0%
Percent	24.0%	76.0%	100.0%	

Much of the weatherization work involves the strong emphasis on health and safety goals inherent in the federal and state guidelines for weatherization assistance. Certain measures are not primarily for energy savings but to enable a family to remain in its home. In FY 2016 these installations included 63 refrigerators replaced, 79 air conditioner replacements, 6 evaporative cooler replacements, 28 heat pump replacements, 17 gas appliance repairs and 62 furnace replacements.

A summary of direct weatherization costs per home is shown in Table 24. Direct weatherization cost includes all contractor costs (including materials and labor).[32]

[32] Direct weatherization cost excludes that Subgrantee agency costs and NHD costs.

Table 24: Direct Weatherization Costs.

Project Direct Weatherization Cost by Type of House (SFY 2016)			
House Type	**Number**	**Median**	**Mean**
2-4 Family	39	$2,850	$3,819
5+ Family	60	$670	$849
Mobile Home	114	$5,172	$5,644
Single Family	167	$5,280	$5,298
Total	380	$4,279	$4,548

Energy savings improvements to homes have a life of at least five to twenty years, and the major improvements, such as insulation, will last thirty-five years or more. Savings are expected to gradually decrease as different types of improvements reach the end of their effective measure lives. Using the Building Weatherization Report database, estimated electric savings are 1,673,108 kWh and the estimated natural gas/propane savings are 101,093 therms.

WAP Summary and Conclusions

Regarding all the specific provisions of NRS 702.270 for NHD, NHD was fully compliant for SFY 2016.

Finding 4: The Evaluation Team finds the Nevada Housing Division's Weatherization Assistance Program fully compliant with the provision of NRS 702.

DWSS and NHD COMPLIANCE WITH JOINT REQUIREMENTS

DWSS and NHD are also subject to joint requirements for compliance with NRS 702.

3.1. Did DWSS and NHD jointly establish an annual plan to coordinate their activities and programs?

[Reference: NRS 702.280.1; Deliverable 3.6.1]

Yes. Each year, the Department of Welfare and Supportive Services (DWSS) and the Nevada Housing Division (NHD) jointly develop an annual plan, the *Nevada Fund for Energy Assistance and Conservation State Plan*, to coordinate their activities and programs in accordance with NRS 702.280. The plan for SFY 2016 became effective July 1, 2015 and the plan for SFY 2017 became effective July 1, 2016. Each of these plans includes a description of resources and services used by each program and a description of efforts undertaken to improve services and resources [NRS 702.280.1(a)]. The programs are funded by the Universal Energy Charge (UEC) /Fund for Energy Assistance and Conservation (FEAC). These funds support the FEAC Energy Assistance Program (EAP) which is administered by DWSS and the FEAC Weatherization Assistance Program (WAP), administered by NHD.

- EAP assists eligible Nevadans in paying their utility costs on an annual basis and provides emergency assistance for eligible households in crisis. The program also has a one-time arrearage component.
- WAP assists low-income households in reducing their utility costs and energy consumption by providing for energy conservation and health and safety measures.

3.2. Did the plan include resources and services used by each program and efforts to increase or improve resources and services?

[Reference: NRS 702.280.1(a); Deliverable 3.6.1.2]

Yes. The joint annual plan includes resources and services used by each program and there have been efforts to increase and improve both resources and services. Both the Division of Welfare and Supportive Services and the Nevada Housing Division continually work to improve resources and services. The type of problem is essentially that of optimization subject to constraints. The largest constraint is that for each program, the need for the program is much higher than the combined resources available to meet the need. This is the major constraint when need as defined using the official definition of eligibility provided in NRS 702. The force of the constraint can be seen to be even stronger when need is defined more complete methods of determining income insufficiency (for example, the family budget method used in social work for the past 100 years). Resources applied include the combination of UEC and other state funding, available federal and city funding, private-sector funding, and funding from institutional, religious and community organizations.

This is not unusual. It is the general pattern for these kinds of program efforts in the United States. Within each state there is a high level of need (defined officially and/or using other methods) and a much lower level of resource.

3.3. Did the plan include efforts to improve administrative efficiencies?

[Reference: NRS 702.280.1(b); Deliverable 3.6.1.3]

Yes. Both DWSS and NHD engage in continual improvement.

- For 2016, the Division of Welfare and Supportive Services Energy Assistance Program was ready to apply for federal leveraging credit but did not apply since there were no leveraging dollars available.[33]
- DWSS continually analyzes business practices and tries to be as efficient and effective as practicable, making program revisions within the scope of NRS 702 in consultation with the low-income advisory committee. This year DWSS improved efficiency by replacing temporary positions with civil service staff. Past evaluations have documented that temporary staff (including the turnover problem) is less efficient than civil service staff in this work.
- For the Nevada Housing Division, the addition of the Governor's Home Energy Retrofits for Seniors funding provided substantial benefit in that it made it possible to coordinate funding to make the program more effective by treating some homes that required more work and otherwise would not have been treated.
- The Nevada Housing Division has been engaged in development of a better database and reporting system. The new system will be the test phase in the fall of 2016. All forms will be electronic, including field reporting. This will eliminate manual entry of paper records.
- Utility Demand-Side Management Programs (Gas & Electric)
  - Natural Gas: The Nevada Housing Division could not continue its arrangement for program coordination with Southwest Gas through SFY 2016 due to a determination by the Public Utility Commission of Nevada (PUCN) related to special rules for utility program cost effectiveness. Across the US, coordination of utility low-income DSM effort implemented with WAP programs is generally considered to improve program efficiency and effectiveness,[34] but in the utility area there are unusual cost effectiveness criteria which were established using the model of utility resource acquisition relevant to the 1980's (rather than a cost-effectiveness criterion relevant to a low-income or social service model). Depending on interpretation by the utility commission, the resource acquisition cost-effectiveness criteria can sometimes prevent coordination of programs between state and utilities, even though that approach is typically more efficient and more effective on a practical basis. It is a policy question, the answer to

[33] The federal LIHEAP leveraging system was created to reward states with a small allocation of additional federal program dollars in relation to non-federal funding developed within the state to support the programs. However, in many years the Congress does not fund the leveraging provision. For specifics, see "Leveraging Nonfederal Resources for LIHEAP," compiled by the LIHEAP Clearinghouse, November 2013, https://liheapch.acf.hhs.gov/pubs/820.htm,

[34] Brown, M.A, and L.J. Hill, Low-Income DSM programs: The cost-effectiveness of coordinated partnerships. Oak Ridge, Tennessee: Oak Ridge National Laboratory, May 1994 (ORNL/CON 375); Brown, Marilyn A., Mark A. Beyer, Joel Eisenberg, Edward J. Laps and Meg Power, Utility Investments in Low-Income Energy Efficiency Programs. Oak Ridge, Tennessee: Oak Ridge National Laboratory, September 1994 (ORNL/CON 379), http://weatherization.ornl.gov/pdfs/ORNL_CON-379.pdf.

which may change from time to time and which is answered independently by each state commission. California provides a relevant example of a state which coordinates low-income government and utility funding for residential weatherization. This is done through California Public Utility Commission adoption of specific policy rules. Resolution in moving towards the practical benefits of coordinated programs in Nevada would need to take place within PUCN regulatory proceedings.

- Electricity: NV Energy has had difficulty in developing a low-income DSM effort that is cost-effective using the resource acquisition model required for electric utilities by the PUCN. A program scope for working with NHD and the Subgrantee agencies was approved by PUCN and was technically operative in the first half of FY 2014, but the envisioned implementation did not occur in 2014 - 2016 due to anticipated benefit-cost expectations on the part of the utility. Due to the way the regulatory process works, utilities are normally not granted cost-effectiveness for a program (and thus full cost recovery) until the program is evaluated. This uncertainty can cause reluctance to implement a program that might be borderline for cost-effectiveness using a resource planning test such as the Total Resource or the Utility Cost Test. Such problems can usually only be resolved by more specification cost-effectiveness calculation rules by a utility commission, so the utility can have high confidence in full cost recovery. Resolution in moving towards the practical benefits of coordinated programs in Nevada would need to take place within PUCN regulatory proceedings.

3.4. Did the plan include efforts undertaken to coordinate with other federal, state and local agencies, nonprofit organizations and any private business or trade organizations providing energy assistance or conservation services to low-income persons?

[Reference: NRS 702.280.1(c); Deliverable 3.6.1.4]

Yes. The plan for SFY 2016 includes efforts to coordinate with federal, state and local agencies, nonprofit organizations and utilities to provide energy assistance and conservation services to low-income persons [NRS 702 280.1(c)]. Trade organizations were not included in the 2016 annual plan. For 2016, coordination is specifically discussed with the following entities:

- **Special Assistance Fund for Energy (SAFE)** – Sierra Pacific Power/NV Energy's fund. This fund provides some utility bill payment assistance to low-income, elderly and disabled customers, as well as families facing short-term financial crisis. This program is administered through several local social service agencies. Sierra Pacific Power provides all administrative costs for the program and provides annual financial support.
- **Emergency Shelter Grant (ESG)** – This program is administered though NHD and funded by the US Department of Housing and Urban Development (HUD). It covers some households experiencing sudden reduction of income with an inability to pay bills. It is aimed at preventing homelessness when there is a reasonable prospect that the household will resume their regular payments in a reasonable amount of time.
- **Emergency Food and Shelter Program (EFSP)** – United Way's program to help people with economic emergencies not related to disasters. Funding can be used to help some households supplement food, shelter, rent/mortgage and utility assistance.

- **Energy Share** – Southwest Gas's direct assistance program for qualified people with unexpected financial difficulties, such as job loss and medical emergency. This program is administered by the Salvation Army.
- **Seniors Helping Seniors Weatherization Program** – Seniors Helping Seniors provides some qualified Southwest Gas customers with weather-stripping, caulking, door sweeps, low-flow showerheads, pipe insulation, switch and outlet gaskets, water heater blankets and energy education. This program is limited to Southern Nevada, to homeowners at least 55 years of age or disabled and with annual income not exceeding $25,000.
- **Rebuilding Together with Christmas in April (RTCA)** – RTCA operates in Southern Nevada to provide free housing repairs to low-income seniors and the disabled. It includes an annual corporate volunteers event day in which over 3,000 corporate volunteers make home improvements at no charge to qualifying households. RTCA also maintains rapid repair services for home heating, cooling, plumbing and electrical programs to qualifying homeowners.
- **Low-Income Housing Trust Fund Welfare Set-Aside Program** – NHD allocates 15% of the funds received for the Account for Low-Income Housing (Trust Fund) to city and county social service agencies for families who are or are in danger of becoming homeless and need assistance with utilities, security deposits and rental or mortgage payment assistance. Eligibility is restricted to individuals and families with income at or below 60% of area median income as designated by the Department of Housing and Urban Development.
- **Governor's Home Energy Retrofits for Seniors** – In addition, this new initiative provides funding that can permit substantial improvement in seniors' homes. It can provide for upgrades that permit some homes to be served that would otherwise be "walkaways" – homes that require more work than is sustainable under the regular weatherization rules.

For SFY 2016, WAP's funding sources are: 1) the Nevada Fund for Energy Assistance and Conservation which is funded by the universal energy charge (UEC), 2) the U.S. Department of Energy (DOE), 3) U.S.D.H.H.S. LIHEAP, 4) The Low-Income Housing Trust Fund, and 5) the Governor's Home Energy Retrofits for Seniors. EAP has two funding sources: 1) the federal Low-Income Home Energy Assistance Program grant from the U.S. Department of Health and Human Services, and 2) the Nevada Fund for Energy Assistance and Conservation which is funded by a universal energy charge (UEC) assessed to every public utility retail customer in the state, with some exceptions.

3.5 Did the plan include measures concerning program design that will be undertaken to improve program effectiveness?

[Reference: NRS 702.280.1(d); Deliverable 3.6.1.5]

Yes. The Energy Assistance Program (EAP) was designed to assist qualifying households with utility cost that exceeds the median state household energy burden, but provides flexibility in altering the design when funding runs short of need.[35] By basing the UEC energy assistance on the Nevada's median state

[35] The "median" is the middle value of a statistical distribution. In this case, half of Nevada households for a given year have energy burdens larger than the median value and half have energy burdens less than the median value for that year. The calculation of median energy burden in Nevada begins with the most recent value of median household income. This is used as the denominator of a fraction. The numerator of the fraction is the cost of household energy use (natural gas and electricity used by the household) for the year. Household energy use data is calculated for each of the two major utilities, Southwest Gas and NV Energy, and the energy use (gas and

household energy burden (Nevada's median energy burden was computed to be 2.59% of household income for SFY 2016) the Energy Assistance Program (EAP) establishes a realistic and fair level of assistance. The level is inherently rooted in a principle of fairness: energy assistance is provided at the level of the median percentage of household income required for household energy use for the state. Each household in the program is responsible for paying this portion of their utility bills for the year. The portion above that amount may be covered by the Energy Assistance Program.

The EAP has been repeatedly adjusted to meet changing conditions. During the recent national economic crisis (sometimes referred to as the "Great Recession"), it became necessary to further cap assistance to stretch existing funds to serve more households. In SFY 2011 and in prior years, energy assistance was provided to households up to and including 150% of the Federal Poverty Level (FPL) as specified in NRS 702. For SFY 2012 assistance eligibility was capped at 110% of the FPL[36] due to shortage of funding in relation to increased need. For SFY 2013 eligibility was initially capped at 125% but was raised back to 150% of the FPL when additional federal funds became available late in fiscal year. For 2014, the program again operated at its design level of 150% of FPL.[37] However, to stretch funding to more households, benefit caps were used during 2014, with the caps based on poverty level and a designation for vulnerability. Benefit caps were also applied during 2015 and 2016. The need for the program exceeds available funding, so the use of caps is designed to support continuing operation throughout the year using flexibility envisioned in the enabling legislation to provide smaller grants and serve more households.

In 2015, The Nevada Housing Division Universal Energy Charge/Fund for Energy Assistance and Conservation Weatherization Assistance Program, following USDOE guidance, standardized job descriptions and certification requirements for positions in weatherization work. It has also introduced Building Performance Institute certification both for the NHD WAP Compliance/Audit Investigator and for some field staff at each Subgrantee agency. In addition, NHD separated the building audit role from the contractor services role so that the auditing is independent. These changes, implemented in 2015 increased program effectiveness for 2016 and across future years.

Also, NHD continues to move towards replacement of its current audit software by a new system that will be more comprehensive and that will better align energy savings estimates at audit with post-installation energy savings as recorded in utility customer information systems. This work is ongoing and replacement will likely occur during SFY 2017. This improvement in the database and reporting system is the primary change for NHD weatherization for 2016-2017.

electricity) is applied to the current residential rate structure of the utilities to derive the cost of energy per household. This cost is then divided by the Nevada median household income to provide the median household energy burden for the year. The actual calculation has some more details and is carried out separately for Northern Nevada and Southern Nevada.

[36] This was raised to 125% FPL when additional federal funds became available in April of 2012.

[37] There are no asset or resource criteria for eligibility. There are some more detailed rules for special situations.

3.6. Did the jointly-developed DWSS/NHD annual plan include the efforts that will be undertaken to improve program effectiveness?

[Reference: NRS 702.280.1(e); Deliverable 3.6.1.6]

Yes. The most recent evaluation (of SFY 2015 programs, dated December 8, 2015) contained five recommendations. Of the five, three were implemented to the degree possible and two were not. The evaluation recommendations from SFY 2015 and actions during SFY 2016 are as follows:

1. The establishment of a cash reserve or carry-over fund would allow the EAP to plan and budget for the "most likely scenario" while also preserving the ability to maintain program consistency in the event of federal funding shortage.

   Both DWSS and NHD take precautions to account for timing of funding and take the need for carry over into account.

2. DWSS should take further steps to restore EAP benefits to fully reduce the energy burden to the statewide median, according to the intent of NRS 702. Households under 125% of poverty should be prioritized for this benefit.

   DWSS, following consultation with the Low-Income Advisory Group took steps to modify benefits during 2016 to provide better service subject to the overall funding constraint.

3. DWSS should increase outreach efforts to seniors and other vulnerable populations.

   DWSS continued outreach efforts in 2016.

4. DWSS and NHD should seek an amendment to NRS 702 to use the Family Budget Method by County, or, if better for ease of administration, raise the Federal Poverty Level multiple for eligibility to 250% of the FPL (from 150% of the FPL).

   This recommendation was not implemented in 2016.

5. NHD should seek an amendment to NRS 702 to broaden the emergency provisions for inclusion of all households in temporary economic difficulties.

   This recommendation was not implemented in 2016.

3.7. Continuing Evaluation

[Reference: NRS 702.280.2(a); Deliverable 3.6.2]

The Division of Welfare and Supportive Services and Nevada Housing Division jointly conducted an annual evaluation of the EAP and WAP for the State Fiscal Year 2015 programs during SFY 2016 and are currently conducting the SFY 2016 evaluation covering the programs from July 1, 2015 through June 30, 2016.

3.8. Did DWSS/NHD jointly solicit advice from the Nevada Public Utilities Commission as part of the annual evaluation?

[Reference: NRS 702.280.2(b); Deliverable 3.6.2.1]

There was extensive work with the Nevada Public Utilities Commission in 2013-2014. This work ended with a recommendation in the SFY 2014 evaluation consistent with the PUCN conclusion that the utilities should disperse annual DWSS funding to customers on a pro-rated monthly basis (see Figure 13). This is a recommendation that would need to be implemented by the utilities, rather than DWSS or NHD. It has not been implemented.

As part of the upcoming SFY Evaluation, the Commission should advise that DWSS continue to evaluate utility customers for EAP eligibility on an annual basis and EAP payments continue to be disbursed to the utilities in annual lump sum payments for EAP customers. However, utilities should now credit 1/12th of each payment to the corresponding EAP customer on a monthly basis over a 12-month period.

Figure 12: Public Utility Commission of Nevada, Finding.

We checked with commission staff in 2016 and the PUCN advice will remain constant until there is another proceeding regarding the Universal Energy Charge/Fund for Energy Assistance and Conservation. The use of the word, "should", means that this is not an order to the utilities but is an expression of PUCN deliberation and input for the yearly evaluation. It is an expression of the commission's deliberative desire which the utilities may or may not decide to implement.

3.9. Report to Governor, Legislative Commission and Interim Finance Committee

[Reference: NRS 702.280.2(c) & NRS 702.280.3(a-3); Deliverables 3.6.2.2, 3.6.3 & 3.6.3.1 through 3.6.3.4]

Yes. During SFY 2016 DWSS/NHD jointly prepared a report concerning the annual evaluation for SFY 2015 and submitted the report to the Governor, Legislative Commission and Interim Finance Committee in accordance with NRS 702 280.2(c).

The report consisted of the SFY 2015 evaluation and the SFY 2015 executive summary with a cover letter. The evaluation includes a full description of the objectives of each program [NRS 702 280.3(a)], an analysis of the effectiveness and efficiency of each program in meeting the objectives of the program [NRS 702 280.3(b)], the amount of money distributed from FEAC for each program and a detailed description of the use of that money for each program [NRS 702 280.3(c)], and analysis of the

coordination between the Divisions concerning each program [NRS 702 280.3(d)], and any changes planned for each program [NRS 702 280.3(e)].

SUMMARY OF RECOMMENDATIONS

For SFY 2016, this evaluation has four recommendations:

1. For SFY 2017, DWSS has already optimized the Energy Assistance Program by accomplishing key staffing goals and training. For this year, and in the absence of any unusual events, DWSS should operate normally within this optimized structure while monitoring the operation of the new caps applied for SFY 2017.
2. To meet the increase in need under the current eligibility criteria, funding for the Universal Energy Charge should be increased
3. Consider seeking an Amendment to NRS 702 to use the Family Budget Method by County, or, if better for ease of administration, raise the Federal Poverty Level (FPL) multiple for eligibility from 150% to 250% of the FPL.
4. Seek an amendment to NRS 702 to broaden the emergency provisions to include all households in temporary economic difficulties.

SUMMARY OF EVALUATION FINDINGS

For SFY 2016, there are four primary findings:

1. The evaluation team finds DWSS fully compliant with the requirements of NRS 702.
2. The percent of persons living in poverty has increased in Nevada over several years, and has recently leveled out at around 15%. This indicates an increased level of need for services as compared with past years.
3. The eligibility level for the UEC/FEAC programs is at 150% of poverty. While this may have been appropriate for an earlier year, today a better eligibility criterion would be 250% of poverty.
4. The Evaluation Team finds the Nevada Housing Division's Weatherization Assistance Program fully compliant with the requirements of NRS 702.

OVERALL EVALUATION SUMMARY

Overall Finding: The Evaluation Team finds the Department of Welfare and Supportive Services' EAP and the Nevada Housing Division's WAP to be fully compliant with the requirements of NRS 702, including the joint requirements.

Overall Finding: The Evaluation Team finds the Department of Welfare and Supportive Services' EAP and the Nevada Housing Division's WAP fully compliant with the joint provisions of NRS 702.