

# UTILITY ALLOWANCE STUDY

## SECTION 8 Okeechobee County

Prepared For:

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City of Fort Myers**  
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August 5, 2023

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# 1 Basis for Utility Allowance – Section 8

This utility allowance study for the Section 8 tenant-based assistance: housing choice voucher program conforms to 24CFR982.517 which follows:

982.517 Utility allowance schedule.

(a) *Maintaining schedule.* (1) The PHA must maintain a utility allowance schedule for all tenant-paid utilities (except telephone), for cost of tenant supplied refrigerators and ranges, and for other tenant-paid housing services (e.g., trash collection (disposal of waste and refuse)). (2) The PHA must give HUD a copy of the utility allowance schedule. At HUD's request, the PHA also must provide any information or procedures used in preparation of the schedule.

(b) *How allowances are determined.* (1) The utility allowance schedule must be determined based on the typical cost of utilities and services paid by energy conservative households that occupy housing of similar size and type in the same locality. In developing the schedule, the PHA must use normal patterns of consumption for the community as a whole and current utility rates. (2)(i) a PHA's utility allowance schedule, and the utility allowance for an individual family, must include the utilities and services that are necessary in the locality to provide housing that complies with the housing quality standards. However, the PHA may not provide any allowance for non-essential utility costs, such as costs of cable or satellite television. (ii) In the utility allowance schedule, the PHA must classify utilities and other housing services according to the following general categories: space heating; air conditioning; cooking; water heating; water; sewer; trash collection (disposal of waste and refuse); other electric; refrigerator (cost of tenant- supplied refrigerator); range (cost of tenant-supplied range); and other specified housing services. The PHA must provide a utility allowance for tenant-paid air-conditioning costs if the majority of housing units in the market provide centrally air-conditioned units or there is appropriate wiring for tenant-installed air conditioners. (3) The cost of each utility and housing service category must be stated separately. For each of these categories, the utility allowance schedule must take into consideration unit size (by number of bedrooms), and unit types (e.g., apartment, row-house, townhouse, single-family detached, and manufactured housing) that are typical in the community. (4) The utility allowance schedule must be prepared and submitted in accordance with HUD requirements on the form prescribed by HUD.

(c) *Revisions of utility allowance schedule.* (1) a PHA must review its schedule of utility allowances each year, and must revise its allowance for a utility category if there PHAs been a change of 10 percent or more in the utility rate since the last time the utility allowance schedule was revised. The PHA must maintain information supporting its annual review of utility allowances and any revisions made in its utility allowance schedule. (2) At HUD's direction, the PHA must revise the utility allowance schedule to correct any errors, or as necessary to update the schedule.

(d) *Use of utility allowance schedule.* (1) The PHA must use the appropriate utility allowance for the size of dwelling unit actually leased by the family (rather than the family unit size as determined under the PHA subsidy standards). (2) At reexamination, the PHA must use the PHA current utility allowance schedule.

(e) *Higher utility allowance as reasonable accommodation for a person with disabilities.* On request from a family that includes a person with disabilities, the PHA must approve a utility allowance which is higher than the applicable amount on the utility allowance schedule if a higher utility allowance is needed as a reasonable accommodation in accordance with 24 CFR part 8 to make the program accessible to and usable by the family member with a disability.

## 2 Introduction

The The Housing Authority of the City of Fort Myers provides vouchers for zero through five bedroom units in a variety of configurations including mobile homes, single family homes, duplexes, townhouses and multi-story, multi-family units. Each unit within each type can vary in age, size and configuration.

This Utility Allowance Study was performed for the purpose of complying with Federal Register 24 CFR Part 982. These regulations apply to allowances for all applicable types of utilities, regardless on the methodology used to calculate the allowances.

The study was performed with the assistance of the Utility Allowance Guidebook 7420.10G. This study uses the engineering-based methodology, one of two suggested methods that can be used to establish utility allowances. This method is based on engineering calculations and other technical information that is used to estimate the amount of energy or water a household should reasonable require.

The tenants are responsible for individual metered electric, natural gas, bottled gas (propane), water and sanitary sewer utilities. The tenants can also be responsible for non-metered utility services, such as trash collection.

The age and configuration of unit only has a significant effect on heating and air conditioning. Typical configurations of mobile homes, single family homes, duplexes, low rise / townhouses and multi-story, multi-family are used to estimate these costs. Considerations for allowances such as cooking, lighting and water consumption are typical to the same number of bedrooms and average occupancy. These allowances were developed for each number of bedrooms, zero through five and are based on a typical unit.

### 3 Utility Allowance Recommendations

#### 3.1 Mobile Home

Monthly Utility Allowance		0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Heating	Nat. Gas	\$6	\$7	\$7	\$10	\$12	\$16
	Propane	\$17	\$21	\$22	\$29	\$35	\$49
	Electric	\$8	\$10	\$11	\$15	\$18	\$25
	Electric - HP	\$3	\$4	\$4	\$6	\$7	\$10
Cooking	Nat. Gas	\$6	\$9	\$13	\$14	\$18	\$21
	Propane	\$19	\$27	\$35	\$42	\$54	\$61
	Electric	\$7	\$9	\$12	\$15	\$19	\$26
Other Electric		\$43	\$49	\$55	\$60	\$70	\$76
Air Conditioning		\$17	\$20	\$22	\$29	\$34	\$46
Water Heating	Nat. Gas	\$44	\$51	\$58	\$65	\$75	\$82
	Propane	\$65	\$85	\$105	\$125	\$156	\$176
	Electric	\$20	\$29	\$37	\$45	\$71	\$82
	Electric HP	\$5	\$7	\$9	\$11	\$18	\$20
Water		\$43	\$54	\$65	\$77	\$93	\$105
Sewer		\$56	\$68	\$80	\$93	\$111	\$124
Trash Collection		\$80	\$80	\$80	\$80	\$80	\$80
Range (Tenant Supplied)		\$6	\$6	\$6	\$6	\$6	\$6
Refrig. (Tenant Supplied)		\$6	\$6	\$6	\$6	\$6	\$6
Oxygen Concentrator		\$34	\$34	\$34	\$42	\$42	\$42

### 3.2 Single Family

Monthly Utility Allowance		0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Heating	Nat. Gas	\$9	\$9	\$10	\$11	\$13	\$21
	Propane	\$26	\$28	\$29	\$34	\$40	\$63
	Electric	\$13	\$14	\$15	\$17	\$21	\$32
	Electric - HP	\$5	\$6	\$6	\$7	\$8	\$12
Cooking	Nat. Gas	\$6	\$9	\$13	\$14	\$18	\$21
	Propane	\$19	\$27	\$35	\$42	\$54	\$61
	Electric	\$7	\$9	\$12	\$15	\$19	\$26
Other Electric		\$43	\$49	\$55	\$60	\$70	\$76
Air Conditioning		\$21	\$23	\$27	\$31	\$38	\$47
Water Heating	Nat. Gas	\$44	\$51	\$58	\$65	\$75	\$82
	Propane	\$65	\$85	\$105	\$125	\$156	\$176
	Electric	\$20	\$29	\$37	\$45	\$71	\$82
	Electric HP	\$5	\$7	\$9	\$11	\$18	\$20
Water		\$43	\$54	\$65	\$77	\$93	\$105
Sewer		\$56	\$68	\$80	\$93	\$111	\$124
Trash Collection		\$80	\$80	\$80	\$80	\$80	\$80
Range (Tenant Supplied)		\$6	\$6	\$6	\$6	\$6	\$6
Refrig. (Tenant Supplied)		\$6	\$6	\$6	\$6	\$6	\$6
Oxygen Concentrator		\$34	\$34	\$34	\$42	\$42	\$42

### 3.3 Duplex

Monthly Utility Allowance		0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Heating	Nat. Gas	\$6	\$7	\$8	\$9	\$10	\$19
	Propane	\$19	\$20	\$23	\$27	\$31	\$58
	Electric	\$10	\$10	\$12	\$14	\$16	\$29
	Electric - HP	\$4	\$4	\$5	\$5	\$6	\$11
Cooking	Nat. Gas	\$6	\$9	\$13	\$14	\$18	\$21
	Propane	\$19	\$27	\$35	\$42	\$54	\$61
	Electric	\$7	\$9	\$12	\$15	\$19	\$26
Other Electric		\$43	\$49	\$55	\$60	\$70	\$76
Air Conditioning		\$18	\$19	\$24	\$28	\$33	\$45
Water Heating	Nat. Gas	\$44	\$51	\$58	\$65	\$75	\$82
	Propane	\$65	\$85	\$105	\$125	\$156	\$176
	Electric	\$20	\$29	\$37	\$45	\$71	\$82
	Electric HP	\$5	\$7	\$9	\$11	\$18	\$20
Water		\$43	\$54	\$65	\$77	\$93	\$105
Sewer		\$56	\$68	\$80	\$93	\$111	\$124
Trash Collection		\$80	\$80	\$80	\$80	\$80	\$80
Range (Tenant Supplied)		\$6	\$6	\$6	\$6	\$6	\$6
Refrig. (Tenant Supplied)		\$6	\$6	\$6	\$6	\$6	\$6
Oxygen Concentrator		\$34	\$34	\$34	\$42	\$42	\$42



### 3.4 Low Rise / Townhouse / Garden Apartment

Monthly Utility Allowance		0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Heating	Nat. Gas	\$7	\$8	\$9	\$15	\$16	\$17
	Propane	\$20	\$23	\$26	\$45	\$49	\$52
	Electric	\$10	\$12	\$13	\$23	\$25	\$27
	Electric - HP	\$4	\$5	\$5	\$9	\$10	\$10
Cooking	Nat. Gas	\$6	\$9	\$13	\$14	\$18	\$21
	Propane	\$19	\$27	\$35	\$42	\$54	\$61
	Electric	\$7	\$9	\$12	\$15	\$19	\$26
Other Electric		\$43	\$49	\$55	\$60	\$70	\$76
Air Conditioning		\$18	\$22	\$26	\$35	\$40	\$43
Water Heating	Nat. Gas	\$44	\$51	\$58	\$65	\$75	\$82
	Propane	\$65	\$85	\$105	\$125	\$156	\$176
	Electric	\$20	\$29	\$37	\$45	\$71	\$82
	Electric HP	\$5	\$7	\$9	\$11	\$18	\$20
Water		\$43	\$54	\$65	\$77	\$93	\$105
Sewer		\$56	\$68	\$80	\$93	\$111	\$124
Trash Collection		\$80	\$80	\$80	\$80	\$80	\$80
Range (Tenant Supplied)		\$6	\$6	\$6	\$6	\$6	\$6
Refrig. (Tenant Supplied)		\$6	\$6	\$6	\$6	\$6	\$6
Oxygen Concentrator		\$34	\$34	\$34	\$42	\$42	\$42

### 3.5 High Rise / Multi-Family, Multi-Story

Monthly Utility Allowance		0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Heating	Nat. Gas	\$5	\$6	\$8	\$9	\$11	\$14
	Propane	\$14	\$19	\$25	\$27	\$32	\$41
	Electric	\$7	\$9	\$13	\$14	\$16	\$21
	Electric - HP	\$3	\$4	\$5	\$5	\$6	\$8
Cooking	Nat. Gas	\$6	\$9	\$13	\$14	\$18	\$21
	Propane	\$19	\$27	\$35	\$42	\$54	\$61
	Electric	\$7	\$9	\$12	\$15	\$19	\$26
Other Electric		\$43	\$49	\$55	\$60	\$70	\$76
Air Conditioning		\$16	\$23	\$26	\$32	\$37	\$43
Water Heating	Nat. Gas	\$44	\$51	\$58	\$65	\$75	\$82
	Propane	\$65	\$85	\$105	\$125	\$156	\$176
	Electric	\$20	\$29	\$37	\$45	\$71	\$82
	Electric HP	\$5	\$7	\$9	\$11	\$18	\$20
Water		\$43	\$54	\$65	\$77	\$93	\$105
Sewer		\$56	\$68	\$80	\$93	\$111	\$124
Trash Collection		\$80	\$80	\$80	\$80	\$80	\$80
Range (Tenant Supplied)		\$6	\$6	\$6	\$6	\$6	\$6
Refrig. (Tenant Supplied)		\$6	\$6	\$6	\$6	\$6	\$6
Oxygen Concentrator		\$34	\$34	\$34	\$42	\$42	\$42

## 4 Utilities Cost

### 4.1 Electricity

#### Space Heating

Monthly Electric Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Mobile Home	\$8.46	\$10.50	\$11.30	\$14.97	\$17.82	\$24.92
Single Family Home	\$13.07	\$14.49	\$14.90	\$17.41	\$20.60	\$32.18
Duplex	\$9.52	\$10.40	\$11.72	\$13.86	\$15.56	\$29.35
Low Rise / Townhouse	\$10.02	\$11.89	\$13.22	\$22.77	\$24.88	\$26.52
Multi-Story Multi-Family	\$7.37	\$9.43	\$12.69	\$13.79	\$16.16	\$20.74

#### Space Heating (Heat Pump)

Monthly Electric Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Mobile Home	\$3.25	\$4.04	\$4.35	\$5.76	\$6.86	\$9.58
Single Family Home	\$5.03	\$5.57	\$5.73	\$6.70	\$7.92	\$12.38
Duplex	\$3.66	\$4.00	\$4.51	\$5.33	\$5.98	\$11.29
Low Rise / Townhouse	\$3.85	\$4.57	\$5.09	\$8.76	\$9.57	\$10.20
Multi-Story Multi-Family	\$2.84	\$3.63	\$4.88	\$5.31	\$6.22	\$7.98

#### Cooking

Monthly Electric Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
<b>Total Electric</b>	<b>\$6.63</b>	<b>\$9.28</b>	<b>\$11.93</b>	<b>\$14.58</b>	<b>\$18.56</b>	<b>\$26.39</b>

#### Other Electric

Monthly Electric Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Customer Charge	\$27.94	\$27.94	\$27.94	\$27.94	\$27.94	\$27.94
Lighting and Refrigeration	\$15.07	\$21.09	\$27.12	\$31.82	\$42.18	\$48.21
<b>Total Electric</b>	<b>\$43.00</b>	<b>\$49.03</b>	<b>\$55.06</b>	<b>\$59.76</b>	<b>\$70.12</b>	<b>\$76.15</b>

### Air Conditioning

Monthly Electric Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Mobile Home	\$17.22	\$20.12	\$21.82	\$28.54	\$33.93	\$46.30
Single Family Home	\$20.64	\$22.51	\$26.60	\$30.86	\$37.54	\$46.60
Duplex	\$17.85	\$19.30	\$24.15	\$28.07	\$32.76	\$44.63
Low Rise / Townhouse	\$18.35	\$22.17	\$26.26	\$34.78	\$40.33	\$42.66
Multi-Story Multi- Family	\$15.85	\$23.06	\$26.07	\$31.57	\$37.26	\$42.66

### Water Heating

Monthly Electric Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Total Electric	\$20.49	\$28.68	\$36.88	\$45.08	\$71.39	\$81.58
Electric Heat Pump	\$5.12	\$7.17	\$9.22	\$11.27	\$17.85	\$20.40

### Oxygen Concentrator

Monthly Electric Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Total Electric	\$33.87	\$33.87	\$33.87	\$42.14	\$42.14	\$42.14

### 4.1.1 Electric Rates

Glades Electric Cooperative serves Okeechobee County. Glades Electric Cooperative rates can be found at [www.gladesec.com](http://www.gladesec.com) Glades Electric Cooperative rates are as follows:

Customer Charge:	\$46.15
Energy Charge (First 1,000kWh) =	\$0.11487
Energy Charge (All additional kWh) =	\$0.15333

FPL serves Okeechobee County. FPL rates can be found at [www.fpl.com](http://www.fpl.com) FPL rates are as follows:

Customer Charge:	\$9.72
Energy Charge (First 1,000kWh) =	\$0.12617
Energy Charge (All additional kWh) =	\$0.14660

The consolidated electric rates for two utilities are as follows:

Customer Charge:	\$27.94
Energy Charge (First 1,000kWh) =	\$0.12052
Energy Charge (All additional kWh) =	\$0.14997

Three, Four and Five bedroom units use more than 1,000 kWh/month if all electric appliances are used. Therefore, the following allowances were calculated using the higher electric rate:

- 3, 4 & 5 Bedroom - Oxygen Concentrator
- 4 & 5 Bedroom - Water Heating
- 5 Bedroom - Cooking

#### 4.1.2 Monthly Energy Charge

##### Space Heating (Mobile Home)

Space Heating	0BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	70	87	94	124	148	207
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$8.46	\$10.50	\$11.30	\$14.97	\$17.82	\$24.92

##### Space Heating (Single Family)

Space Heating	0BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	108	120	124	144	171	267
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$13.07	\$14.49	\$14.90	\$17.41	\$20.60	\$32.18

##### Space Heating (Duplex)

Space Heating	0BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	79	86	97	115	129	243
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$9.52	\$10.40	\$11.72	\$13.86	\$15.56	\$29.35

##### Space Heating (Low Rise / Townhouse)

Space Heating	0BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	83	99	110	189	206	220
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$10.02	\$11.89	\$13.22	\$22.77	\$24.88	\$26.52

**Space Heating (Multi-Family, Multi-Story)**

Space Heating	0BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	61	78	105	114	134	172
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$7.37	\$9.43	\$12.69	\$13.79	\$16.16	\$20.74

**Heat Pump****Space Heating (Mobile Home)**

Space Heating	0BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	27	34	36	48	57	80
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$3.25	\$4.04	\$4.35	\$5.76	\$6.86	\$9.58

**Space Heating (Single Family)**

Space Heating	0BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	42	46	48	56	66	103
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$5.03	\$5.57	\$5.73	\$6.70	\$7.92	\$12.38

**Space Heating (Duplex)**

Space Heating	0BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	30	33	37	44	50	94
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$3.66	\$4.00	\$4.51	\$5.33	\$5.98	\$11.29

**Space Heating (Low Rise / Townhouse)**

Space Heating	0BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	32	38	42	73	79	85
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$3.85	\$4.57	\$5.09	\$8.76	\$9.57	\$10.20

**Space Heating (Multi-Family, Multi-Story)**

Space Heating	0BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	24	30	40	44	52	66
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$2.84	\$3.63	\$4.88	\$5.31	\$6.22	\$7.98

**Cooking**

Cooking	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	55	77	99	121	154	176
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1500
Energy Cost	\$6.63	\$9.28	\$11.93	\$14.58	\$18.56	\$26.39

**Lighting and Refrigeration**

Miscellaneous Appliances	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	125	175	225	264	350	400
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$15.07	\$21.09	\$27.12	\$31.82	\$42.18	\$48.21

**Air Conditioning (Mobile Home)**

Air Conditioning	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	143	167	181	237	282	384
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$17.22	\$20.12	\$21.82	\$28.54	\$33.93	\$46.30

**Air Conditioning (Single Family)**

Air Conditioning	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	171	187	221	256	311	387
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$20.64	\$22.51	\$26.60	\$30.86	\$37.54	\$46.60

**Air Conditioning (Duplex)**

Air Conditioning	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	148	160	200	233	272	370
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$17.85	\$19.30	\$24.15	\$28.07	\$32.76	\$44.63

**Air Conditioning (Low Rise / Townhouse)**

Air Conditioning	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	152	184	218	289	335	354
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$18.35	\$22.17	\$26.26	\$34.78	\$40.33	\$42.66

### Air Conditioning (Multi-Family, Multi-Story)

Air Conditioning	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	132	191	216	262	309	354
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1205
Energy Cost	\$15.85	\$23.06	\$26.07	\$31.57	\$37.26	\$42.66

### Domestic Hot Water

Domestic Hot Water	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	170	238	306	374	476	544
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1500	\$0.1500
Energy Cost	\$20.49	\$28.68	\$36.88	\$45.08	\$71.39	\$81.58

### Domestic Hot Water (Heat Pump)

Domestic Hot Water	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	43	60	77	94	119	136
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1205	\$0.1500	\$0.1500
Energy Cost	\$5.12	\$7.17	\$9.22	\$11.27	\$17.85	\$20.40

### Oxygen Concentrator

Oxygen Concentrator	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electric (kWh)	281	281	281	281	281	281
Energy Charge (\$/kWh)	\$0.1205	\$0.1205	\$0.1205	\$0.1500	\$0.1500	\$0.1500
Energy Cost	\$33.87	\$33.87	\$33.87	\$42.14	\$42.14	\$42.14

## 4.2 Bottled Gas (Propane)

### Space Heating

Monthly Propane Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Mobile Home	<b>\$16.61</b>	<b>\$20.62</b>	<b>\$22.20</b>	<b>\$29.40</b>	<b>\$35.00</b>	<b>\$48.94</b>
Single Family Home	<b>\$25.66</b>	<b>\$28.46</b>	<b>\$29.27</b>	<b>\$34.19</b>	<b>\$40.46</b>	<b>\$63.19</b>
Duplex	<b>\$18.70</b>	<b>\$20.43</b>	<b>\$23.02</b>	<b>\$27.23</b>	<b>\$30.55</b>	<b>\$57.63</b>
Low Rise / Townhouse	<b>\$19.68</b>	<b>\$23.35</b>	<b>\$25.97</b>	<b>\$44.71</b>	<b>\$48.87</b>	<b>\$52.08</b>
Multi-Story Multi-Family	<b>\$14.48</b>	<b>\$18.51</b>	<b>\$24.92</b>	<b>\$27.09</b>	<b>\$31.75</b>	<b>\$40.74</b>



### Cooking

Monthly Propane Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
<b>Total Propane</b>	<b>\$19.21</b>	<b>\$26.90</b>	<b>\$34.58</b>	<b>\$42.27</b>	<b>\$53.80</b>	<b>\$61.48</b>

### Water Heating

Monthly Propane Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Customer Charge	\$14.32	\$14.32	\$14.32	\$14.32	\$14.32	\$14.32
Commodity Cost	\$50.44	\$70.61	\$90.78	\$110.96	\$141.22	\$161.39
<b>Total Propane</b>	<b>\$64.75</b>	<b>\$84.93</b>	<b>\$105.10</b>	<b>\$125.27</b>	<b>\$155.54</b>	<b>\$175.71</b>

### 4.2.1 Propane Rates

Propane rates are based on Ferrell Gas. Ferrell Gas can be reached at (561) 746-4534.

Tank Rental (\$/Month) \$14.32

Commodity Charge: \$/Gallon = \$4.42

### 4.2.2 Monthly Energy Charge

#### Space Heating (Mobile Home)

Space Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Propane (Gallons)	3.76	4.67	5.02	6.65	7.92	11.07
Commodity Charge (\$/Gallon)	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191
Commodity Cost	\$16.61	\$20.62	\$22.20	\$29.40	\$35.00	\$48.94

#### Space Heating (Single Family Home)

Space Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Propane (Gallons)	5.81	6.44	6.62	7.74	9.15	14.30
Commodity Charge (\$/Gallon)	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191
Commodity Cost	\$25.66	\$28.46	\$29.27	\$34.19	\$40.46	\$63.19

#### Space Heating (Duplex)

Space Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Propane (Gallons)	4.23	4.62	5.21	6.16	6.91	13.04
Commodity Charge (\$/Gallon)	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191
Commodity Cost	\$18.70	\$20.43	\$23.02	\$27.23	\$30.55	\$57.63

**Space Heating (Low Rise/Townhouse)**

Space Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Propane (Gallons)	4.45	5.28	5.88	10.12	11.06	11.78
Commodity Charge (\$/Gallon)	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191
Commodity Cost	\$19.68	\$23.35	\$25.97	\$44.71	\$48.87	\$52.08

**Space Heating (Multi-Family Multi-Story)**

Space Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Propane (Gallons)	3.28	4.19	5.64	6.13	7.18	9.22
Commodity Charge (\$/Gallon)	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191
Commodity Cost	\$14.48	\$18.51	\$24.92	\$27.09	\$31.75	\$40.74

**Domestic Hot Water**

Domestic Hot Water	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Propane (Gallons)	11.41	15.98	20.54	25.11	31.96	36.52
Commodity Charge (\$/Gallon)	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191
Commodity Cost	\$50.44	\$70.61	\$90.78	\$110.96	\$141.22	\$161.39

**Cooking**

Cooking	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Propane (Gallons)	4.35	6.09	7.83	9.57	12.17	13.91
Commodity Charge (\$/Gallon)	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191	\$4.4191
Commodity Cost	\$19.21	\$26.90	\$34.58	\$42.27	\$53.80	\$61.48

**4.3 Natural Gas****Space Heating**

Monthly Natural Gas Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Mobile Home	<b>\$5.53</b>	<b>\$6.87</b>	<b>\$7.39</b>	<b>\$9.79</b>	<b>\$11.66</b>	<b>\$16.30</b>
Single Family Home	<b>\$8.55</b>	<b>\$9.48</b>	<b>\$9.75</b>	<b>\$11.39</b>	<b>\$13.47</b>	<b>\$21.05</b>
Duplex	<b>\$6.23</b>	<b>\$6.81</b>	<b>\$7.67</b>	<b>\$9.07</b>	<b>\$10.18</b>	<b>\$19.20</b>
Low Rise / Townhouse	<b>\$6.56</b>	<b>\$7.78</b>	<b>\$8.65</b>	<b>\$14.89</b>	<b>\$16.28</b>	<b>\$17.35</b>
Multi-Story Multi-Family	<b>\$4.82</b>	<b>\$6.17</b>	<b>\$8.30</b>	<b>\$9.02</b>	<b>\$10.57</b>	<b>\$13.57</b>

### Cooking

Monthly Natural Gas Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
<b>Total Natural Gas</b>	<b>\$6.47</b>	<b>\$9.06</b>	<b>\$13.10</b>	<b>\$14.23</b>	<b>\$18.12</b>	<b>\$20.70</b>

### Water Heating

Monthly Natural Gas Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Customer Charge	\$27.18	\$27.18	\$27.18	\$27.18	\$27.18	\$27.18
Commodity Cost	\$16.98	\$23.78	\$30.57	\$37.36	\$47.55	\$54.35
<b>Total Natural Gas</b>	<b>\$44.16</b>	<b>\$50.96</b>	<b>\$57.75</b>	<b>\$64.54</b>	<b>\$74.73</b>	<b>\$81.53</b>

### 4.3.1 Natural Gas Rates

Florida Public Utilities Company serves natural gas in Okeechobee county. Florida Public Utilities Company rates can be found at [www.fpuc.com](http://www.fpuc.com). Natural gas utility rates for Florida Public Utilities Company are as follows:

Customer Charge: \$27.18

Commodity Charge: \$/Therms = \$1.6174

### 4.3.2 Monthly Commodity Charge

#### Space Heating (Mobile Home)

Space Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Natural Gas (Therms)	3.42	4.25	4.57	6.05	7.21	10.08
Commodity Charge (\$/Therm)	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174
Commodity Cost	\$5.53	\$6.87	\$7.39	\$9.79	\$11.66	\$16.30

#### Space Heating (Single Family Home)

Space Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Natural Gas (Therms)	5.28	5.86	6.03	7.04	8.33	13.01
Commodity Charge (\$/Therm)	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174
Commodity Cost	\$8.55	\$9.48	\$9.75	\$11.39	\$13.47	\$21.05

**Space Heating (Duplex)**

Space Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Natural Gas (Therms)	3.85	4.21	4.74	5.61	6.29	11.87
Commodity Charge (\$/Therm)	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174
Commodity Cost	\$6.23	\$6.81	\$7.67	\$9.07	\$10.18	\$19.20

**Space Heating (Low Rise/Townhouse)**

Space Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Natural Gas (Therms)	4.05	4.81	5.35	9.21	10.06	10.72
Commodity Charge (\$/Therm)	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174
Commodity Cost	\$6.56	\$7.78	\$8.65	\$14.89	\$16.28	\$17.35

**Space Heating (Multi-Family Multi-Story)**

Space Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Natural Gas (Therms)	2.98	3.81	5.13	5.58	6.54	8.39
Commodity Charge (\$/Therm)	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174
Commodity Cost	\$4.82	\$6.17	\$8.30	\$9.02	\$10.57	\$13.57

**Domestic Hot Water**

Domestic Hot Water	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Natural Gas (Therms)	10.50	14.70	18.90	23.10	29.40	33.60
Commodity Charge (\$/Therm)	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174
Commodity Cost	\$16.98	\$23.78	\$30.57	\$37.36	\$47.55	\$54.35

**Cooking**

Cooking	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Natural Gas (Therms)	4.00	5.60	8.10	8.80	11.20	12.80
Commodity Charge (\$/Therm)	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174	\$1.6174
Commodity Cost	\$6.47	\$9.06	\$13.10	\$14.23	\$18.12	\$20.70

## 4.4 Water

### Monthly Water Cost

Monthly Water Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Customer Charge	\$21.64	\$21.64	\$21.64	\$21.64	\$21.64	\$21.64
Water Charge	\$21.08	\$32.34	\$43.61	\$54.87	\$71.77	\$83.03
<b>Total Water</b>	<b>\$42.72</b>	<b>\$53.98</b>	<b>\$65.25</b>	<b>\$76.51</b>	<b>\$93.41</b>	<b>\$104.67</b>

### 4.4.1 Water Rates

Okeechobee Utility Authority can be found at [www.ouafl.com](http://www.ouafl.com). Their rates are as follows:

Base Rate: \$21.64

Water Charge (0-3,000 gal, \$/1000 gal): \$4.68

Water Charge (>3,001 gal, \$/1000 gal): \$7.04

### 4.4.2 Monthly Water Charge

Water	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Water Consumption (gal)	4,000	5,600	7,200	8,800	11,200	12,800
Water Charge (0-3,000gal)	\$14.04	\$14.04	\$14.04	\$14.04	\$14.04	\$14.04
Water Charge (>3,000gal)	\$7.04	\$18.30	\$29.57	\$40.83	\$57.73	\$68.99
<b>Total Water Charge</b>	<b>\$21.08</b>	<b>\$32.34</b>	<b>\$43.61</b>	<b>\$54.87</b>	<b>\$71.77</b>	<b>\$83.03</b>

## 4.5 Sewer & Stormwater

### Monthly Sewer Cost

Monthly Sewer Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Customer Charge	\$24.81	\$24.81	\$24.81	\$24.81	\$24.81	\$24.81
Sewer Charge	\$30.88	\$43.23	\$55.58	\$67.94	\$86.46	\$98.82
<b>Total Sewer</b>	<b>\$55.69</b>	<b>\$68.04</b>	<b>\$80.39</b>	<b>\$92.75</b>	<b>\$111.27</b>	<b>\$123.63</b>

### 4.5.1 Sanitary Sewer & Storm Water Rates

Okeechobee Utility Authority can be found at [www.ouafl.com](http://www.ouafl.com). Their rates are as follows:

Customer Charge: \$24.81

Sewer Charge (\$/1000 gal): \$7.72

#### 4.5.2 Monthly Sanitary Sewer Charge

Sewer	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Water Consumption (gal)	4,000	5,600	7,200	8,800	11,200	12,800
Total Sewer Charge	\$30.88	\$43.23	\$55.58	\$67.94	\$86.46	\$98.82

#### 4.6 Trash Collection

Monthly Trash Collection Cost	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Total Trash Collection	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00

##### 4.6.1 Trash Collection Rates

Trash collect is be Waste Management of Okeechobee, Their rates are as follows:

Customer Charge (\$/month): \$80.00

#### 4.7 Appliance Depreciation Allowance

Should the tenant provide their own range or refrigerator, the Housing Authority is required to reimburse the tenant for the cost of the appliance(s) over the life of the appliance. The following schedule provides the monthly allowance for providing their personal range and/or stove.

##### Appliance Allowance

Appliance	Estimated Cost	Expectant Life (Yrs)	Monthly Allowance
Range	\$683	10	\$6
Refrigerator	\$775	10	\$6

## 5 Consumption Studies

### 5.1 Space Heating Consumption

The following monthly energy consumption is based on the methodology recommended in the Utility Allowance Guidebook:

Design Outdoor Air Temperature (F):	42
Design Indoor Air Temperature (F):	72
Heating Degree Days:	418
Heat of Electricity (BTU/kWh)	3,412
Heat Pump COP	2.6
Furnace Efficiency:	70%
Heat of Propane (BTU/gal)	91,000
Heat of Natural Gas (BTU/Therm)	100,000

#### Monthly Energy Consumption Requirements for Heating (Mobile Home)

Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Design Load (BTU/hr)	8,593	10,665	11,484	15,206	18,107	25,315
Energy (BTU's)	239,458	297,198	320,021	423,741	504,582	705,445
Electricity (kWh)	70	87	94	124	148	207
Heat Pump (kWh)	27	34	36	48	57	80
Propane (gal)	3.76	4.67	5.02	6.65	7.92	11.07
Natural Gas (Therms)	3.42	4.25	4.57	6.05	7.21	10.08

#### Monthly Energy Consumption Requirements for Heating (Single Family)

Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Design Load (BTU/hr)	13,275	14,722	15,140	17,686	20,927	32,688
Energy (BTU's)	369,930	410,253	421,901	492,850	583,166	910,906
Electricity (kWh)	108	120	124	144	171	267
Heat Pump (kWh)	42	46	48	56	66	103
Propane (gal)	5.81	6.44	6.62	7.74	9.15	14.30
Natural Gas (Therms)	5.28	5.86	6.03	7.04	8.33	13.01

### Monthly Energy Consumption Requirements for Heating (Duplex)

Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Design Load (BTU/hr)	9,672	10,570	11,910	14,083	15,803	29,813
Energy (BTU's)	269,526	294,551	331,892	392,446	440,377	830,789
Electricity (kWh)	79	86	97	115	129	243
Heat Pump (kWh)	30	33	37	44	50	94
Propane (gal)	4.23	4.62	5.21	6.16	6.91	13.04
Natural Gas (Therms)	3.85	4.21	4.74	5.61	6.29	11.87

### Monthly Energy Consumption Requirements for Heating (Low Rise)

Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Design Load (BTU/hr)	10,181	12,077	13,432	23,128	25,280	26,939
Energy (BTU's)	283,711	336,546	374,305	644,500	704,469	750,700
Electricity (kWh)	83	99	110	189	206	220
Heat Pump (kWh)	32	38	42	73	79	85
Propane (gal)	4.45	5.28	5.88	10.12	11.06	11.78
Natural Gas (Therms)	4.05	4.81	5.35	9.21	10.06	10.72

### Monthly Energy Consumption Requirements for Heating (Multi Story)

Heating	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Design Load (BTU/hr)	7,492	9,576	12,891	14,014	16,422	21,072
Energy (BTU's)	208,777	266,851	359,229	390,523	457,626	587,206
Electricity (kWh)	61	78	105	114	134	172
Heat Pump (kWh)	24	30	40	44	52	66
Propane (gal)	3.28	4.19	5.64	6.13	7.18	9.22
Natural Gas (Therms)	2.98	3.81	5.13	5.58	6.54	8.39

## 5.2 Cooking Consumption

The following is the monthly energy consumption requirements for cooking as recommended in the Utility Allowance Guidebook:

### Monthly Energy Consumption Requirements for Cooking

Cooking	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electricity (kWh)	55	77	99	121	154	176
Propane (gal)	4.35	6.09	7.83	9.57	12.17	13.91
Natural Gas (Therms)	4	5.6	8.1	8.8	11.2	12.8



### 5.3 Lighting and Refrigeration Consumption

The following is the monthly energy consumption requirements for lighting and refrigeration as recommended in the Utility Allowance Guidebook:

#### Monthly Energy Consumption Requirements for Lighting and Refrigeration

Refrigeration	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electricity (kWh)	125	175	225	264	350	400

### 5.4 Air Conditioning Consumption

The following monthly energy consumption requirements for air conditioning consumption are based on calculations in HUD's Life Cycle Cost Analysis Handbook 7418.1 CHG-1. The calculations assume the following:

Unit Efficiency (BTU/Watt)	9.7
Equivalent Full Load Hours	1700

#### Monthly Energy Consumption Requirements for Air Conditioning (Mobile Home)

Air Conditioning	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Design Load (BTU/hr)	9,783	11,428	12,399	16,214	19,278	26,302
Electricity (kWh)	143	167	181	237	282	384

#### Monthly Energy Consumption Requirements for Air Conditioning (Single Family Home)

Air Conditioning	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Design Load (BTU/hr)	11,725	12,786	15,110	17,530	21,326	26,475
Electricity (kWh)	171	187	221	256	311	387

#### Monthly Energy Consumption Requirements for Air Conditioning (Duplex)

Air Conditioning	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Design Load (BTU/hr)	10,143	10,964	13,722	15,949	18,612	25,354
Electricity (kWh)	148	160	200	233	272	370

#### Monthly Energy Consumption Requirements for Air Conditioning (Low Rise)

Air Conditioning	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Design Load (BTU/hr)	10,427	12,595	14,920	19,759	22,911	24,233
Electricity (kWh)	152	184	218	289	335	354

**Monthly Energy Consumption Requirements for Air Conditioning (Multi-Family Multi-Story)**

Air Conditioning	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Design Load (BTU/hr)	9,007	13,101	14,813	17,937	21,167	24,233
Electricity (kWh)	132	191	216	262	309	354

**5.5 Domestic Hot Water Consumption**

The following is the monthly energy consumption requirements for water heating as recommended in the Utility Allowance Guidebook:

**Monthly Energy Consumption Requirements for Domestic Hot Water**

Domestic Hot Water	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Electricity (kWh)	170	238	306	374	476	544
Heat Pump (kWh)	43	60	77	94	119	136
Propane (gal)	11.41	15.98	20.54	25.11	31.96	36.52
Natural Gas (Therms)	10.50	14.70	18.90	23.10	29.40	33.60

**5.6 Water Consumption**

The following is the monthly energy consumption requirements for water consumption as recommended in the Utility Allowance Guidebook:

**Monthly Water Consumption**

Monthly Water Consumption	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR
Water (Gal)	4,000	5,600	7,200	8,800	11,200	12,800