

# Minimum Energy Code Requirements for Facilities Constructed within VISN 6

Source: ASHRAE Standard 90.1 2010

Insulation Values							
Station	Climate Zone	Roof Insulation	Wall Insulation	Floor Insulation	Door Max overall U	Windows Max U	Windows Max SHGC
Beckley	5A	For All: R-20 ci; Metal R-13 + R-13, Attic R38	R-13, 7.5ci; Metal R-19; Mass 9.5 ci, except 11.4 ci Beckley	R-30, Slab R- 15 for 24"	0.7	0.45	0.4
Salisbury & Fayetteville	3A					0.6	0.25
All others	4A					0.5	0.4

Notes:

1. ci continuous insulation minimum (overlapping the studs).
2. Door overall U-Value includes any glass.
3. Any glazing within an exterior door shall have a minimum U value = 0.8, except for Salisbury & Fayetteville = 0.9.
4. Provide Shading for all E, W & S window if possible, overhangs or other permanent shading.

Lighting W/SF	
Office	1.11
Wtg/Lobby	0.90
Rest Rm	0.98
Corridor	0.66
Multi Purpose	1.23
Conf. Rm	1.23
Operating Rm	1.89
Emergency	2.26
Patient Rm	0.62
Recovery	1.15
Nurse Station	0.87
Exam Rm	1.66

Lighting Notes:

1. Provide combined infra-red/motion occupancy sensors (set for 30 min).
2. Provide Bldg Auto control to turn off all nonsafety lighting.
3. Provide daylighting control for spaces with windows or skylights.
4. VA Required FootCandle lighting levels shall be maintained within the lighting densities listed. See Chapter 6 2008 Electrical Design Guide.
5. Provide Exterior Lighting Densities as required in ASHRAE Standard 90.1-2010, and utilize LED exterior fixtures. Generally Parking Areas are 0.1W/SF
6. Consider LED Interior Fixtures, especially for corridors.

## Receptacles (15 & 20 Amp): 50% Shall have Automatic Control, unless critical

HVAC (Heat Pump)				VRF System or GSPH preferred HVAC System s Min SEER = 22 Min COP = 4.5
Size	Min Clg	Min Htg	Test	
< 5 Tons	13 SEER	7.7 HSPF	ARI 210/240	
5 to 11 Tons	11 EER	3.3 COP	ARI 340/360	
> 11 Tons	10.6 EER	3.2 COP	ARI 340/360	

Notes: 1. Any HVAC > 4.5 tons shall be provided with economizer control.

2. In order to meet the 20% "better than" for renovation & 30% "better than" for new work, HVAC Min SEER & EER shall be increased to 18 when equipment is available.

## Domestic Water Heater <= 12KW

Min EF = 0.97 - (0.00132)(Volume) Test:  
DOE 10 CFR Part 430  
Min Tank Insulation: R-12.5

DWH can be instantaneous (steam conversion), or instantaneous under sink as the application allows. If steam is to be in the bldg, then use steam instantaneous.

Notes: 1. For bldgs not occupied 24/7, provide DHW pump controls to start & stop pump according to occupancy schedule.

2. For all new bldgs & additions, solar thermal DHW shall be Life Cycle Cost evaluated for installation. Solar Thermal Evaluation shall be a part of the project file and installed if life cycle cost effective.



## Water Requirements



Plumbing Fixtures:

EPA Water Sense



Fixture	Existing	New	How
Toilet	1.6 - 6 gpf	1 - 1.6 gpf	Location
Urinal	1 - 4 gpf	0 - 1pt/f	40 to 70k Gal
Faucet	2 - 5 gpm	1.5 gpm	25 Min/Dy
Shower Head	2 - 3 gpm	1.5 gpm	15 Min/Prsn/Dy

1. Leases: there are some exemptions.
2. Construction: Handout and code explanation, handout "Notice to Employees"