

U.S. DOE Efficiency Standards for Water Heaters > 55 gallons EE vs. DR?

Ken Corum

PNDRP

February 14, 2013

Current Standard for EWH

- > 55 gallons must be heat pump WHs after 2015
- >55 gallons ~ 10-15% of EWH sales
- kWh reduced by ~ half

But.... (1)

- EWHs used to shift load where onpeak and offpeak costs are significantly different (e.g. upper Midwest)
- EWHs have potential for ancillary services (e.g. PNW)
- 100 gallon (non-HP) EWHs can store ~20 kWh at 170°F

But..... (2)

- HPWHs can't heat water as hot
- kWh per gallon is less, even at same temp,
SO
- HPWH are smaller batteries than
conventional EWHs

Proposal

- Exception for large EWHs that participate in grid programs like load shifting or balancing services

**Increased grid services + reduced
EWH capital cost**

vs.

Increased energy use

Use your imagination for mix and match,
values