

APPENDIX G

MINIMUM EFFICIENCY ADJUSTMENT FACTORS

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For those participants and nonparticipants who installed the appliance or equipment regardless of its efficiency level, the effects of state and federal standards on pre-installation usage, base usage and load impact estimates must be accounted for. There are two methods to **explicitly** account for these effects.

METHOD A

This method requires four pieces of information:

1. the efficiency ratio (EER) of the appliance replaced
2. the UEC of the equipment replaced
3. the EER of the appliance that meets state/federal standards
4. the UEC of the newly installed efficient equipment

The sources of the data for the new equipment and the equipment being replaced may be:

1. premise-specific data based on on-site observations and used in performing customer cost-effectiveness for the purpose of establishing the terms and conditions of financial assistance, or, if unavailable or unusable, and
2. premise-specific data collected on-site from a sub-sample.

The sources of the data for the EER of the equipment that meets state/federal standards may be:

1. state/federal efficiency standards, or
2. assumptions used in performing customer cost-effectiveness for the purpose of establishing the terms and conditions of financial assistance, or, if unavailable or unusable, or
3. sales data concerning average efficiencies for the less efficient equipment sold in a given region.

Once these four pieces of information have been obtained, the adjustment factor can be calculated by dividing the EER of the appliance that was replaced by the EER of the appliance that meets state/federal standards. Next, the UEC of the replaced equipment is multiplied by this factor. Finally, the proper gross load impact can then be calculated by subtracting the UEC for the newly installed efficient equipment from this standards-adjusted UEC.

METHOD B

This method requires three pieces of information:

1. the EER of newly installed efficient equipment
2. the UEC of newly installed efficient equipment
3. the EER of the appliance that meets state/federal standards

The sources of the data for the efficient equipment being installed may be:

1. premise-specific data based on on-site observations and used in performing customer cost-effectiveness for the purpose of establishing the terms and conditions of financial assistance, or, if unavailable or unusable,
2. premise-specific data collected on-site from a sub-sample.

The sources of the data for the EER of the equipment that meets state/federal standards may be:

1. state/federal efficiency standards, or
2. assumptions used in performing customer cost-effectiveness for the purpose of establishing the terms and conditions of financial assistance, or, if unavailable or unusable, or
3. sales data concerning average efficiencies for the less efficient equipment sold in a given region.

Once these three pieces of information have been obtained, the adjustment factor can be calculated by dividing the EER of the newly installed efficient equipment by the EER of the appliance that meets state/federal standards. Next, the UEC of the newly installed efficient appliance is multiplied by this factor. Finally, the proper gross load impact can then be calculated by subtracting the UEC of the newly installed efficient equipment from this standards-adjusted UEC for the newly installed efficient equipment.

It should be noted that some net load impact models **implicitly** correct for the effect of state/federal standards. In such cases, the utility will provide estimates of the impact of state/federal standards using models other than those used to estimate net load impacts.

EXAMPLES

Consider a customer who replaces an old air conditioner with a new efficient one.

Under Method A, assume the following are known:

- the UEC for the old replaced equipment was 2000 kWh per month,
- the EER of the old replaced equipment was 6,
- the UEC of the efficient model is 1000 kWh per month, and
- the EER of the model that meets state/federal standards is 8.

The gross load impact can be calculated as follows:

$$((6/8) * 2000) - 1000 = 500$$

Under Method B, assume the following are known:

- the UEC of the newly installed equipment is 1000 kWh per month,
- the EER of the newly installed equipment is 12, and
- the EER of the model that meets state/federal standards is 8.

The gross load impact can be calculated as follows:

$$((12/8) * 1000) - 1000 = 500$$