

## IN THIS ISSUE

**Reviewing Lighting Electric Usage Allowances by Public Housing Authorities**

## NOTE TO READERS

## ON-LINE DELIVERY

This document presents the bi-monthly electronic newsletter of Fisher, Sheehan & Colton: *FSC's Law and Economics Insights*. Previous issues of the newsletter can be obtained at FSC's World Wide Web site:

<http://www.fsconline.com/new/news.htm>

Fisher, Sheehan & Colton  
Public Finance and General Economics  
34 Warwick Road, Belmont, MA 02478  
(voice) 617-484-0597 \*\*\* (fax) 617-484-0594  
(e-mail) [roger@fsconline.com](mailto:roger@fsconline.com)

**The Adequacy of Lighting Utility Allowances for Public and Assisted Housing should be Reviewed in Light of Existing Technical Standards**

One of the major low-income energy assistance programs in the country is a program operated by the U.S. Department of Housing and Urban Development (HUD). This program uses local public housing authorities (PHAs) to provide "utility allowances" to tenants of public and assisted housing throughout the country. In addition, HUD utility allowances are generally used as the touchstone for energy assistance provided through private affordable housing developments, such as those developed with Low-Income Housing Tax Credits (LIHTC).

While fewer households are served by HUD's utility allowance program than are served through the federal Low-Income Home Energy Assistance Program (LIHEAP), the dollars involved are much greater. While LIHEAP tends to be a winter heating assistance program (with cooling benefits provided in "warm weather states" and in some cold weather states), the HUD utility allowance is designed, or is supposed to be designed, to pay the entire home energy bill for a full twelve months a year.

Accordingly, it is critical that HUD utility allowances be appropriately designed. Any review of a PHA's utility allowance is not done in a legal vacuum. A local PHA has mandatory legal requirements with which it must comply in setting utility allowances.<sup>1</sup> This analysis identifies those requirements and then applies them to the calculation of one component of a utility allowance, indoor lighting.

<sup>1</sup> *Dorsey v. Housing Authority of Baltimore City*, 984 F.2d 622, 624 (1993).

### ***Substantive HUD Requirements***

HUD regulations establish nine "relevant factors" which a local PHA "shall take into account" in setting a utility allowance.<sup>2</sup> These nine mandatory factors include:

1. The equipment and functions intended to be covered by the allowances for which the utility will be used.
2. The climatic location of the housing projects.
3. The size of the dwelling units and the number of occupants per dwelling unit.
4. The type of construction and design of the housing project.
5. The energy efficiency of PHA-supplied appliances and equipment.
6. The utility consumption requirements of appliances and equipment whose reasonable consumption is intended to be covered by the total resident payment.
7. The physical condition, including insulation and weatherization of the housing project.
8. The temperature levels intended to be maintained in the unit during the day and at night, and in cold and warm weather.
9. The temperature of domestic hot water.

In addition to these nine mandatory factors explicitly listed in HUD's regulations regarding the preparation of utility allowances, two additional factors have judicially been read into the HUD regulations based upon HUD's explanation of its regulations at the time of their promulgation:

10. Utility allowances shall cover energy consumption that is attributable to factors not within the ability of the tenant to control,<sup>3</sup> and
11. The distinction "between consumption generated by necessary and luxury appliances [is] expect[ed] [to] reflect local usage and custom patterns."<sup>4</sup>

At a minimum, therefore, these two factors are additional "relevant factors" that the local housing authority must take into account in setting utility allowances: (1) the extent to which consumption is "within the ability of the tenant to control"; and (2) the extent to which the energy consumption allowed by the utility allowance "reflects local usage and custom patterns."

### ***"Shall Take Into Account."***

The HUD regulations require more than that a PHA merely "consider" the mandatory factors discussed above. HUD's regulations state quite explicitly that the PHA "shall take into account" these factors. (emphasis added). This process has considerable substance to it. A local PHA may not comply simply by indicating that it has taken some amorphous "consideration" of the factors. Instead, the courts have held that the local housing authority must examine the relevant data and *articulate a satisfactory explanation for its action including a rational connection between the facts found and the choices made.*<sup>5</sup>

### ***Legal Inferences to Take into Account.***

In addition to the mandatory factors that shall be taken into account in setting utility allowances in every instance, an additional legal inference must be accounted for in the local PHA's determination of a utility allowance should it arise. The courts

---

<sup>2</sup> 24 *C.F.R.* §965.505(d)(1) - (d)(9) (2006).

<sup>3</sup> *Dorsey*, at 629, citing 49 *Fed.Reg.* 31406.

<sup>4</sup> *Dorsey*, at 629, citing 49 *Fed. Reg.* 31404.

<sup>5</sup> *Dorsey*, 984 F.2d at 630, quoting *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416, 91 S.Ct. 814, 823, 28 L.Ed.2d 136 (1971). (emphasis added).

have explicitly stated that evidence that tenant consumption is routinely in excess of a local housing authority's proposed utility allowance "gives rise to an inference that the allowances were inadequate to provide for reasonable consumption by an energy-conservative household of modest means."<sup>6</sup> Given this inference, a local PHA whose utility allowance is generally exceeded by tenant consumption must provide evidence of "non-energy conservative consumption" on the part of the tenants.<sup>7</sup>

The courts have explained that, in addition, the housing authority must take into account the extent to which tenant consumption exceeds the proffered utility allowance, since excessive consumption is "material evidence that the PHA standard is out-of-line with the Section 965.476<sup>8</sup> standard, or that excess consumption may be due to factors not within the control of the tenants."<sup>9</sup>

The mandatory legal obligations associated with this inference are thus two-fold: (1) to determine whether tenant consumption is routinely in excess of the proposed utility allowance; and (2) if so, to develop and provide evidence of "non-energy conservative consumption" on the part of the tenants to rebut the inference that the utility allowances are inadequate. These obligations are mandatory. The PHA does not have the discretion to adopt a methodology that fails to take this inference into account or to fail to rebut the inference should it arise.

### INDOOR LIGHTING ALLOWANCES

In reviewing the electric usage that a local PHA provides for indoor lighting to tenants of public and assisted housing, the issue involved is *not* simply whether tenant advocates would calculate the lighting consumption using a different methodology than the local PHA. Nor should such a review seek simply to determine whether a different method, or somewhat different data,

would result in a different result. Instead, the local PHA's lighting calculation should be reviewed to determine whether that calculation complies with the eleven substantive requirements identified above.

In particular, the lighting calculations of a local PHA often fail to comply with the following:

- **Standard #6:** Setting a utility allowance shall take into account the utility consumption requirements of appliances and equipment whose reasonable consumption is intended to be covered by the total resident payment.<sup>10</sup>
- **Standard #10:** Utility allowances shall cover energy consumption that is attributable to factors not within the ability of the tenant to control.<sup>11</sup>

The *primary* problems with the PHA lighting calculations are often based on two specific problems: (1) the PHA allows for an unreasonable number of light fixtures in the public and assisted rental units; and (2) the PHA allows for unreasonably low luminescent light bulbs in those fixtures. Generally, no explanation or basis is provided for the decisions of how many fixtures to allow or what size of light bulb to consider.<sup>12</sup> In fact, those decisions do not provide for the utility consumption requirements of appliances and equipment whose reasonable consumption is intended to be covered by the total resident payment. The fact that the PHA decisions are unreasonable is not a value judgment, but an objectively-based determination.

---

<sup>6</sup> *Dorsey*, at 631.

<sup>7</sup> *Dorsey*, at 631.

<sup>8</sup> Now Section 976.505(d).

<sup>9</sup> *Dorsey*, at 629 - 630 *citing* 49 *Fed.Reg.* 31404.

---

<sup>10</sup> 24 *C.F.R.* §965.505(d)(6) (2006).

<sup>11</sup> *Dorsey*, at 629, *citing* 49 *Fed.Reg.* 31406.

<sup>12</sup> In fact, a utility allowance does not "allow" or "disallow" any particular energy use. A utility allowance does not *prohibit* a use. It simply provides a usage allowance that will either pay or not pay for the usage.

### ***The Number of Lighting Fixtures in a Room***

Local PHA usage allowances used in the calculation of utility allowances often provide an inappropriate number of lighting fixtures in a room. A review of the "lighting usage tables" provided by the local PHA will often show that the PHA provides for only one fixture per room for rooms such as the bedroom, kitchen and living room. The PHA provides for two lamps, each with a 60 Watt bulb (or one lamp with two 60 Watt bulbs) for the living room.

These lighting allowances are not based on what is "needed" for the activities that occur in each room. Nor are these lighting allowances based upon the local usage and custom, or upon what lighting is considered "necessary" versus what lighting is considered to be a "luxury." The allowance may be based on the number of built-in light fixtures in each room. Often times, no explanation is provided at all in support of the number of light fixtures provided in each room.

Objective technical standards document that allowing for one fixture per room does not account for the types of lighting needed in a room. To determine how much light is needed in a room, a room should be divided into three zones: (1) the task zone; (2) the immediate surroundings; and (3) the general surroundings.

As a general rule, the immediate surroundings should have an illumination of roughly one-third the task illumination. The general surroundings should not have an illumination of less than one-tenth the task. Because of this, there is a need to provide lighting in the visual surrounding that is in addition to the light sources directed to the specific tasks pursued in the room. A single light fixture per room cannot accomplish this result. As can be seen, the need for more than one light fixture is not one of luxury. The need is instead a matter of health; the need is a matter of having sufficient light for the PHA tenants to engage in normal daily activities in their respective rooms.

### ***The Allowed Illumination by Each Light Fixture***

A second reason that local PHA lighting calculations are lower than other authoritative lighting estimates is that the PHA will provide for an unreasonable amount of illumination in each room. The amount of illumination is a function of the light produced by the bulb placed in the light fixture as well as the amount of space to be lighted.

Again, standards exist for the amount of light needed for particular activities of daily living. Casual reading and general kitchen work, for example, generally require 30 footcandles of light.<sup>13</sup> Dining requires 15 footcandles.<sup>14</sup> A "footcandle" of light is a measure of light (measured in lumens per square foot). A lumen is a unit of light output from a particular bulb (and is generally reported on the box in which the bulb is sold). As a general rule, the higher the wattage of a light bulb, the greater number of lumens that light bulb will produce.

Assume, for example, a light bulb of 60 Watts. A 60 Watt bulb will have a light output of 800 to 900 lumens. If placed in a room with dimensions of ten feet by eight feet, this bulb will be required to light 80 square feet. Assuming no degradation in illumination as a function of distance, and assuming the light bulb is unshaded, this 60 Watt light bulb will produce from 10 to 11 footcandles of light (800 lumen / 80 = 10 fc; 900 lumen / 80 = 11.25 fc). Clearly, this single light is insufficient for reading or for other activities of daily living.

In fact, however, the light bulb *will* be shaded and illumination *does* degrade over distance. It is even more evident, therefore, that the 60 Watt bulbs provided in the living room and bedroom are

---

<sup>13</sup> IESNA Residence Lighting Committee, *Design Criteria for Lighting Interior Living Spaces*, at Table 4, American National Standard RP-11, Illuminating Engineering Society of North America: New York (NY).

<sup>14</sup> *Design Criteria for Lighting Interior Living Spaces*, *supra*, at Table 4.

insufficient to light the space for the purposes for which those spaces are intended to be used.

In sum, the question that is addressed above involves explaining why authoritative estimates of lighting use are greater than the lighting utility allowances provided by your local PHA. The implicit question is whether lighting consumption in excess of the lighting allowance provided by the PHA is evidence of non-energy conservative behavior on the part of PHA tenants. The answers can be summarized as follows:

- The PHA's lighting allowances are too low in part because the PHA failed to account for the equipment and functions intended to be covered by the allowances for which the utility will be used<sup>15</sup> (i.e., the necessary number of lighting fixtures to provide light for the general surroundings as well as light for specific activities of daily living);
- The PHA lighting allowances are too low because the PHA failed to account for the utility consumption requirements of appliances and equipment whose reasonable consumption is intended to be covered by the total resident payment<sup>16</sup> (i.e., the illumination output from light fixtures needed to accomplish the activities of daily living).

Indeed, a review of the local PHA's usage allowances underlying the utility allowances for tenants of public and assisted housing will document that, not only did your local PHA *not* take the above factors into account, the PHA did not even *consider* these factors in its calculation of a lighting allowance for your local tenants. This failure not only makes the utility allowance substantively unreasonable, but it also makes those allowances legally deficient.

For more information on how to review the adequacy of public housing authority utility allowances, readers may contact FSC directly at:

Roger[at]fsconline.com

Fisher, Sheehan and Colton, Public Finance and General Economics (FSC) provides economic, financial and regulatory consulting. The areas in which *FSC* has worked include energy law and economics, fair housing, affordable housing development, local planning and zoning, energy efficiency planning, community economic development, poverty and telecommunications policy, regulatory economics, and public welfare policy.

<sup>15</sup> 24 *C.F.R.* §965.505(d)(1) (2006).

<sup>16</sup> 24 *C.F.R.* §965.505(d)(6) (2006).