



## Standard Classification for Serviceability of an Office Facility for Work Outside Normal Hours or Conditions<sup>1, 2</sup>

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### 1. Scope

1.1 This classification covers pairs of scales for classifying an aspect of the serviceability of an office facility, that is, the capability of an office facility to meet certain possible requirements to be able to do normal office tasks outside scheduled hours.

1.2 Within that aspect of serviceability, each pair of scales, shown in Figs. 1-4, are for classifying one topic of serviceability. Each paragraph in an Occupant Requirement Scale (see Figs. 1-4) summarizes one level of serviceability on that topic, which occupants might require. The matching entry in the Facility Rating Scale (see Figs. 1-4) is a translation of the requirement into a description of certain features of a facility which, taken in combination, indicate that the facility is likely to meet that level of required serviceability.

1.3 The entries in the Facility Rating Scale (see Figs. 1-4) are indicative and not comprehensive. They are for quick scanning to estimate approximately, quickly, and economically, how well an office facility is likely to meet the needs of one or another type of occupant group over time. The entries are not for measuring, knowing, or evaluating how an office facility is performing.

1.4 This classification can be used to estimate the level of serviceability of an existing facility. It can also be used to estimate the serviceability of a facility that has been planned but not yet built, such as one for which single-line drawings and outline specifications have been prepared.

1.5 This classification indicates what would cause a facility to be rated at a certain level of serviceability, but does not state how to conduct a serviceability rating nor how to assign a serviceability score. That information is found in Practice E1334. The scales in this classification are complimentary to and compatible with Practice E1334. Each requires the other.

<sup>1</sup> This classification is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.25 on Whole Buildings and Facilities.

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<sup>2</sup> Portions of this document are based on material originally prepared by the International Centre for Facilities (ICF) and © 1993 by ICF and Minister of Public Works and Government Services Canada. Their cooperation in the development of this standard is acknowledged.

### 2. Referenced Documents

#### 2.1 ASTM Standards:<sup>3</sup>

E631 Terminology of Building Constructions

E1334 Practice for Rating the Serviceability of a Building or Building-Related Facility

E1679 Practice for Setting the Requirements for the Serviceability of a Building or Building-Related Facility

#### 2.2 ISO Document:<sup>4</sup>

ISO 6240 International Standard, Performance Standards in Building—Contents and Presentation

### 3. Terminology

#### 3.1 Definitions:

3.1.1 *facility*—a physical setting used to serve a specific purpose. **E631**

3.1.1.1 *Discussion*—A facility may be within a building, a whole building, or a building with its site and surrounding environment; or it may be a construction that is not a building. The term encompasses both the physical object and its use.

3.1.2 *facility serviceability*—the capability of a facility to perform the function(s) for which it is designed, used, or required to be used. **E631**

3.1.2.1 *Discussion*—The scope of this performance is of the facility as a system, including its subsystems, components and materials and their interactions, such as acoustical, hydrothermal, air purity, and economic; and of the relative importance of each performance requirement.

3.1.3 *office*—a place, such as a room, suite, or building, in which business, clerical or professional activities are conducted. **E631**

3.1.4 For standard definitions of additional terms applicable to this classification, see Terminology E631.

#### 3.2 Definitions of Terms Specific to This Standard:

##### 3.2.1 *hours of operation*:

3.2.1.1 *active hours*—the time when a facility is normally fully occupied and operational.

<sup>3</sup> For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>4</sup> Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

3.2.1.2 *normal working hours*—in a multi-tenant building, the normal hours of the building are established by the building owner or operator; when there is a two-shift operation, that two-shift operation applies for the whole building, even though staff may not be working in some parts of the building.

3.2.1.3 *silent hours*—the period when a facility is essentially unoccupied, although security, cleaning, and building operations staff may be present.

3.2.1.4 *transitional hours*—the time in the morning after the first workers normally arrive until a facility is fully operational, and in the evening from the end of normal work until the normal workers have left, although security, cleaning, and building operations staff may be present.

#### 4. Significance and Use

4.1 Each Facility Rating Scale (see **Figs. 1-4**) in this classification provides a means to estimate the level of serviceability of a building or facility for one topic of serviceability and to compare that level against the level of any other building or facility.

4.2 This classification can be used for comparing how well different buildings or facilities meet a particular requirement for serviceability. It is applicable despite differences such as location, structure, mechanical systems, age, and building shape.

4.3 This classification can be used to estimate the amount of variance of serviceability from target or from requirement, for a single office facility, or within a group of office facilities.

4.4 This classification can be used to estimate the following:

4.4.1 Serviceability of an existing facility for uses other than its present use.

4.4.2 Serviceability (potential) of a facility that has been planned but not yet built.

4.4.3 Serviceability (potential) of a facility for which remodeling has been planned.

4.5 Use of this classification does not result in building evaluation or diagnosis. Building evaluation or diagnosis generally requires a special expertise in building engineering or technology and the use of instruments, tools, or measurements.

4.6 This classification applies only to facilities that are building constructions, or parts thereof. (While this classification may be useful in rating the serviceability of facilities that are not building constructions, such facilities are outside the scope of this classification.)

4.7 This classification is not intended for, and is not suitable for, use for regulatory purposes, nor for fire hazard assessment nor for fire risk assessment.

#### 5. Basis of Classification

5.1 The scales in **Figs. 1-4** contain the basis for classification.

5.2 Instructions for the use of this classification are contained in Practices **E1334** and **E1679**.

#### 6. Keywords

6.1 building; building operation; after hours; building services; loss of; facility; facility occupants; food services; after hours; function; office; performance; rating; rating scale; requirements; serviceability

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**A.10. Work Outside Normal Hours or Conditions**

**Scale A.10.1. Operation outside normal hours**

| Occupant Requirement Scale   | Facility Rating Scale   |
|--|---|
| <p><b>9</b> <input type="checkbox"/> ○ <b>PREDICTING WORK OUTSIDE NORMAL HOURS:</b><br/>Occupants cannot predict, even an hour or two in advance, which parts of the facility will be used outside normal hours or shifts, and need operation of ventilation, temperature control, illumination and security systems.</p> <p>○ <b>FREQUENCY OF WORK OUTSIDE NORMAL HOURS:</b><br/>This happens most days.</p> <p>○ <b>ADVANCE NOTICE FOR ACTIVATION OF SERVICES:</b><br/>Either the occupants must be able to give only one hour advance notice, or they must be able to turn the systems on and off themselves.</p> <p>○ <b>RESTRICTION OF SERVICE TO OCCUPIED AREA:</b> For energy conservation and to reduce cost, after-hours services should only be turned on in the small portions of the facility that are actually occupied.</p>      | <p><b>9</b> <input type="checkbox"/> ○ <b>Operating building:</b> Ventilation, temperature control, illumination and security systems can be switched on or off, and adjusted, floor by floor or by parts of a floor. Control is either by the building operator (from a central control station), or an occupant group (from the office floor).</p> <p>○ <b>Lead-time to change operating hours or conditions:</b> One hour notice is required for change in hours for ventilation, temperature control, illumination or security systems, for specific zones.</p> |
| <p><b>7</b> <input type="checkbox"/> ○ <b>PREDICTING WORK OUTSIDE NORMAL HOURS:</b><br/>Occupants cannot predict, even half a day in advance, which parts of the facility will be used outside normal hours or shifts, and need operation of ventilation, temperature control, illumination and security systems.</p> <p>○ <b>FREQUENCY OF WORK OUTSIDE NORMAL HOURS:</b><br/>This happens at least 90 days a year.</p> <p>○ <b>ADVANCE NOTICE FOR ACTIVATION OF SERVICES:</b><br/>Either the occupants must be able to give only two hours advance notice, or they must be able to turn the systems on and off themselves.</p> <p>○ <b>RESTRICTION OF SERVICE TO OCCUPIED AREA:</b> For energy conservation and to reduce cost, after-hours services should only be turned on in the portions of the facility that are actually occupied.</p> | <p><b>7</b> <input type="checkbox"/> ○ <b>Operating building:</b> Ventilation, temperature control, and security systems can be operated floor by floor, and lights can be switched on a single floor or part of a floor.</p> <p>○ <b>Lead-time to change operating hours or conditions:</b> Two hours notice is required for change in hours for ventilation, temperature control, illumination or security systems, for specific zones.</p>   |
| <p><b>5</b> <input type="checkbox"/> ○ <b>PREDICTING WORK OUTSIDE NORMAL HOURS:</b><br/>Occupants sometimes use the facility for additional hours or shifts, into the evening or on weekends. The building must allow operation of ventilation, temperature control and illumination systems outside normal office hours.</p> <p>○ <b>FREQUENCY OF WORK OUTSIDE NORMAL HOURS:</b><br/>This happens less than 90 days per year.</p> <p>○ <b>ADVANCE NOTICE FOR ACTIVATION OF SERVICES:</b><br/>Required advance notice must not exceed half a day.</p> <p>○ <b>RESTRICTION OF SERVICE TO OCCUPIED AREA:</b> For energy conservation and to reduce cost, space of other occupant groups should not be affected.</p>  | <p><b>5</b> <input type="checkbox"/> ○ <b>Operating building:</b> Building can be operated floor by floor or in major sections such as wings, e.g. able to run heating and ventilating systems, and switch lights on separate floors or wings.</p> <p>○ <b>Lead-time to change operating hours or conditions:</b> Two to four hours notice is required to operate ventilation, temperature control, illumination or security systems outside normal hours.</p>  |

**Scale A.10.1 continued on next page**

FIG. 1 Scale A.10.1 for Operation Outside Normal Hours

**A.10. Work Outside Normal Hours or Conditions**

**Scale A.10.1. Operation outside normal hours (continued)**

| Occupant Requirement Scale   | Facility Rating Scale  |
|--|--|
| <p><b>3</b> <input type="checkbox"/> ○ <b>PREDICTING WORK OUTSIDE NORMAL HOURS:</b><br/>Operations seldom require use of the facility outside normal scheduled hours. (Normal may be a single shift or some other regular schedule).</p> <p>○ <b>FREQUENCY OF WORK OUTSIDE NORMAL HOURS:</b><br/>Operations seldom require use of the facility outside normal scheduled hours. (Normal may be a single shift or some other regular schedule).</p> <p>○ <b>ADVANCE NOTICE FOR ACTIVATION OF SERVICES:</b><br/>Required advance notice must not exceed one day to arrange operation of ventilation, temperature control, illumination and security systems.</p> <p><b>1</b> <input type="checkbox"/> ○ <b>PREDICTING WORK OUTSIDE NORMAL HOURS:</b><br/>Operations rarely require occupancy of the building outside normal hours, or operation on a shift basis and require the entire building.</p> <p>○ <b>FREQUENCY OF WORK OUTSIDE NORMAL HOURS:</b><br/>Operations rarely require occupancy of the building outside normal hours, or operate on a shift basis and require the entire building.</p> <p>○ <b>ADVANCE NOTICE FOR ACTIVATION OF SERVICES:</b><br/>Required to give building operator one weeks notice to change hours of operation, or indoor environment conditions.</p> | <p><b>3</b> <input type="checkbox"/> ○ <b>Operating building:</b> Building can only be operated in major sections such as wings, e.g. able to run heating and ventilating systems on all floors on one side, and switch lights on separate floors or wings.</p> <p>○ <b>Lead-time to change operating hours or conditions:</b> One day notice is required to operate building systems outside normal hours.</p> <p><b>1</b> <input type="checkbox"/> ○ <b>Operating building:</b> Only whole building can be operated, e.g. not able to run the heating, ventilating systems or lighting on separate floors or wings.</p> <p>○ <b>Lead-time to change operating hours or conditions:</b> Two or more days notice is required to operate building systems outside normal hours.</p> |

|  |   |
|--|---|
| <input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor Importance. |   |
| Minimum Threshold level =  | <input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP |

**NOTES** Space for handwritten notes on Requirements or Ratings

FIG. 1 Scale A.10.1 for Operation Outside Normal Hours (continued)

**A.10. Work Outside Normal Hours or Conditions****Scale A.10.2. Support after-hours**

| <b>Occupant Requirement Scale</b>   | <b>Facility Rating Scale</b>  |
|---|---|
| <p><input type="checkbox"/> <b>9</b> ○ <b>FOOD SERVICE:</b> Require very good food service outside day-shift hours.<br/>○ <b>ACCESS TO STORAGE:</b> Require access to off-floor storage outside normal hours.<br/>○ <b>SECURITY OF STAFF LEAVING AFTER HOURS:</b> Because many people arrive or leave alone outside day-shift hours, there must be very low risk, actual and perceived, of violence to individuals in the immediate area around the building and for gaining access to parked cars and public transportation.</p>               | <p><input type="checkbox"/> <b>9</b> ○ <b>Food:</b> The lunchroom has vending machines and a self-serve microwave. There is a choice of after-hours food services in the same building and nearby area.<br/>○ <b>Access to storage:</b> Off-floor storage is accessible to any occupant working outside normal hours, e.g. during shift work.<br/>○ <b>Added physical protection:</b> This is a very low risk locality. Excellent physical protection is provided after-hours, e.g. guard service, good lighting, and alarms on windows and doors and in parking structures. Few people feel vulnerable in the building or carpark after-hours.</p>               |
| <p><input type="checkbox"/> <b>7</b> ○ <b>FOOD SERVICE:</b> Require good food service outside day-shift hours, e.g. lunchroom with vending machines for use by night shift, or safe and convenient access to fast food outlets.<br/>○ <b>ACCESS TO STORAGE:</b> Access is required to off-floor storage during transition hours.<br/>○ <b>SECURITY OF STAFF LEAVING AFTER HOURS:</b> Because many people arrive or leave alone, outside day-shift hours, access to parked cars and public transportation must involve low risk of violence.</p> | <p><input type="checkbox"/> <b>7</b> ○ <b>Food:</b> There is a choice of after-hours food services in the nearby area, or space and services (electrical and plumbing), or food vending machines and lunchrooms are available for after-hours food service.<br/>○ <b>Access to storage:</b> Off-floor storage is accessible during transition hours.<br/>○ <b>Added physical protection:</b> This is a low risk locality. Enhanced physical protection is provided after-hours, e.g. guard service, good lighting, and alarms on all ground floor windows and doors. Few people feel vulnerable in the building or carpark after-hours.</p>                       |
| <p><input type="checkbox"/> <b>5</b> ○ <b>FOOD SERVICE:</b> Require some nearby food service after day-shift hours.<br/>○ <b>ACCESS TO STORAGE:</b> Rarely need access to storage after-hours.<br/>○ <b>SECURITY OF STAFF LEAVING AFTER HOURS:</b> Although most staff arrive or leave at the same time as others, some do arrive or leave alone, so risk of violence to individuals in car park area must be low.</p>  | <p><input type="checkbox"/> <b>5</b> ○ <b>Food:</b> There is a choice of after-hours food services in a nearby commercial area, but no food service is publicly available in the building, e.g. no vending machines or lunchroom.<br/>○ <b>Access to storage:</b> After-hours access to off-floor storage area is not possible, except by special arrangement.<br/>○ <b>Added physical protection:</b> This is a low to medium risk locality. Added physical protection is provided after-hours, e.g. guard service, adequate lighting, and alarms on all ground floor windows and doors. Some people feel vulnerable in the building or carpark after-hours.</p> |
| <p><input type="checkbox"/> <b>3</b> ○ <b>FOOD SERVICE:</b> Minimal after-hours food service needed.<br/>○ <b>ACCESS TO STORAGE:</b> No access needed to storage after-hours.<br/>○ <b>SECURITY OF STAFF LEAVING AFTER HOURS:</b> Basic physical protection is required for personal safety after-hours, e.g. very few people work after-hours, and they arrive and leave together.</p>   | <p><input type="checkbox"/> <b>3</b> ○ <b>Food:</b> Limited after-hours food service is available in a nearby commercial area, but no food service is publicly available in the building, e.g. no vending machines or lunchroom.<br/>○ <b>Access to storage:</b> There is no after-hours access to off-floor storage area.<br/>○ <b>Added physical protection:</b> This is a medium to high risk locality. Some added physical protection can be provided after-hours, e.g. guard service or good lighting or alarms on doors and windows. People feel vulnerable in the building or carpark after-hours.</p>   |
| <p><input type="checkbox"/> <b>2</b></p>  | <p><input type="checkbox"/> <b>2</b></p>  |

Scale A.10.2. continued on next page

FIG. 2 Scale A.10.2 for Support After Hours

**A.10. Work Outside Normal Hours or Conditions**

**Scale A.10.2. Support after-hours (continued)**

| Occupant Requirement Scale |   |
|----------------------------|---|
| <input type="checkbox"/>   | <b>1</b> ○ <b>FOOD SERVICE:</b> No requirement for after-hours food service.  |
| <input type="checkbox"/>   | ○ <b>ACCESS TO STORAGE:</b> No requirement for after-hours access to storage area.  |
| <input type="checkbox"/>   | ○ <b>SECURITY OF STAFF LEAVING AFTER HOURS:</b> No requirement for after-hours added physical protection, e.g. no operational need to work during silent hours. |

| Facility Rating Scale    |   |
|--------------------------|---|
| <input type="checkbox"/> | <b>1</b> ○ <b>Food:</b> No after-hours food service is available in any nearby commercial area, and no food service is publicly available in the building, e.g. no vending machines.  |
| <input type="checkbox"/> | ○ <b>Access to storage:</b> There is no after-hours access to off-floor storage area.   |
| <input type="checkbox"/> | ○ <b>Added physical protection:</b> This is a high risk locality. No added physical protection is provided after-hours, e.g. standard locks, no alarms, no guard service, few lights. People feel very vulnerable in the building or carpark after-hours. |

|  |   |
|--|---|
| <input type="checkbox"/> Exceptionally important. <input type="checkbox"/> Important. <input type="checkbox"/> Minor Importance. |   |
| Minimum Threshold level =  | <input type="checkbox"/> NA <input type="checkbox"/> NR <input type="checkbox"/> Zero <input type="checkbox"/> DP |

**NOTES** Space for handwritten notes on Requirements or Ratings

FIG. 2 Scale A.10.2 for Support After Hours (continued)

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