



Standard Classification for Serviceability of an Office Facility for Work Outside Normal Hours or Conditions^{1,2}

This standard is issued under the fixed designation E 1666; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This classification contains 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 E 1334. The scales in this classification are complimentary to and compatible with Practice E 1334. Each requires the other.

¹ This classification is under the jurisdiction of ASTM Committee E-6 on Performance of Buildings and is the direct responsibility of Subcommittee E06.25 on Whole Buildings and Facilities.

Current edition approved April 15, 1995. Published July 1995. Originally published as E 1666 – 95. Last previous edition E 1666 – 95.

² 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:

E 631 Terminology of Building Constructions³

E 1334 Practice for Rating Serviceability of a Building or Building-Related Facility³

E 1679 Practice for Setting Requirements for Serviceability of a Building or Building-Related Facility³

2.2 ISO Document:⁴

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.

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 (see Terminology E 631).

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.

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 (see Terminology E 631).

3.1.3 *office*—a place, such as a room, suite, or building, in which business, clerical or professional activities are conducted (see Terminology E 631).

3.1.4 For standard definitions of additional terms applicable to this classification, see Terminology E 631.

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.

³ *Annual Book of ASTM Standards*, Vol 04.11.

⁴ Available from American National Standards Institute, 11 W. 42nd St., 13th 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 E 1334 and E 1679.

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

A.10. Work Outside Normal Hours or Conditions

Scale A.10.1. Operation outside normal hours

Occupant Requirement Scale	
<p>9</p> <p><input type="checkbox"/> ○ PREDICTING WORK OUTSIDE NORMAL HOURS: 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>○ FREQUENCY OF WORK OUTSIDE NORMAL HOURS: This happens most days.</p> <p>○ ADVANCE NOTICE FOR ACTIVATION OF SERVICES: 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>○ RESTRICTION OF SERVICE TO OCCUPIED AREA: 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>8</p> <p><input type="checkbox"/></p>
<p>7</p> <p><input type="checkbox"/> ○ PREDICTING WORK OUTSIDE NORMAL HOURS: 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>○ FREQUENCY OF WORK OUTSIDE NORMAL HOURS: This happens at least 90 days a year.</p> <p>○ ADVANCE NOTICE FOR ACTIVATION OF SERVICES: 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>○ RESTRICTION OF SERVICE TO OCCUPIED AREA: 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>6</p> <p><input type="checkbox"/></p>
<p>5</p> <p><input type="checkbox"/> ○ PREDICTING WORK OUTSIDE NORMAL HOURS: 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>○ FREQUENCY OF WORK OUTSIDE NORMAL HOURS: This happens less than 90 days per year.</p> <p>○ ADVANCE NOTICE FOR ACTIVATION OF SERVICES: Required advance notice must not exceed half a day.</p> <p>○ RESTRICTION OF SERVICE TO OCCUPIED AREA: For energy conservation and to reduce cost, space of other occupant groups should not be affected.</p>	<p>4</p> <p><input type="checkbox"/></p>

Facility Rating Scale	
<p>9</p> <p><input type="checkbox"/> ○ Operating building: 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>○ Lead-time to change operating hours or conditions: One hour notice is required for change in hours for ventilation, temperature control, illumination or security systems, for specific zones.</p>	<p>8</p> <p><input type="checkbox"/></p>
<p>7</p> <p><input type="checkbox"/> ○ Operating building: 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>○ Lead-time to change operating hours or conditions: Two hours notice is required for change in hours for ventilation, temperature control, illumination or security systems, for specific zones.</p>	<p>6</p> <p><input type="checkbox"/></p>
<p>5</p> <p><input type="checkbox"/> ○ Operating building: 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>○ Lead-time to change operating hours or conditions: Two to four hours notice is required to operate ventilation, temperature control, illumination or security systems outside normal hours.</p>	<p>4</p> <p><input type="checkbox"/></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>3 ○ PREDICTING WORK OUTSIDE NORMAL HOURS: <input type="checkbox"/> Operations seldom require use of the facility outside normal scheduled hours. (Normal may be a single shift or some other regular schedule). ○ FREQUENCY OF WORK OUTSIDE NORMAL HOURS: Operations seldom require use of the facility outside normal scheduled hours. (Normal may be a single shift or some other regular schedule). ○ ADVANCE NOTICE FOR ACTIVATION OF SERVICES: Required advance notice must not exceed one day to arrange operation of ventilation, temperature control, illumination and security systems.</p>	2	<p>3 ○ Operating building: 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. <input type="checkbox"/> ○ Lead-time to change operating hours or conditions: One day notice is required to operate building systems outside normal hours.</p>
<p>1 ○ PREDICTING WORK OUTSIDE NORMAL HOURS: <input type="checkbox"/> Operations rarely require occupancy of the building outside normal hours, or operation on a shift basis and require the entire building. ○ FREQUENCY OF WORK OUTSIDE NORMAL HOURS: Operations rarely require occupancy of the building outside normal hours, or operate on a shift basis and require the entire building. ○ ADVANCE NOTICE FOR ACTIVATION OF SERVICES: Required to give building operator one weeks notice to change hours of operation, or indoor environment conditions.</p>		<p>1 ○ Operating building: Only whole building can be operated, e.g. not able to run the heating, ventilating systems or lighting on separate floors or wings. <input type="checkbox"/> ○ Lead-time to change operating hours or conditions: Two or more days notice is required to operate building systems outside normal hours.</p>

<input type="checkbox"/> <u>E</u> xceptionally important. <input type="checkbox"/> <u>I</u> mportant. <input type="checkbox"/> <u>M</u> inor Importance.	
Minimum <u>T</u> hreshold level =	<input type="checkbox"/> <u>N</u> A <input type="checkbox"/> <u>N</u> R <input type="checkbox"/> <u>Z</u> ero <input type="checkbox"/> <u>D</u> P

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

Occupant Requirement Scale	Facility Rating Scale
<p><input type="checkbox"/> 9 ○ FOOD SERVICE: Require very good food service outside day-shift hours. ○ ACCESS TO STORAGE: Require access to off-floor storage outside normal hours. ○ SECURITY OF STAFF LEAVING AFTER HOURS: 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"/> 9 ○ Food: 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. ○ Access to storage: Off-floor storage is accessible to any occupant working outside normal hours, e.g. during shift work. ○ Added physical protection: 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"/> 7 ○ FOOD SERVICE: Require good food service outside day-shift hours, e.g. lunchroom with vending machines for use by night shift, or fast and convenient access to fast food outlets. ○ ACCESS TO STORAGE: Access is required to off-floor storage during transition hours. ○ SECURITY OF STAFF LEAVING AFTER HOURS: 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"/> 7 ○ Food: 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. ○ Access to storage: Off-floor storage is accessible during transition hours. ○ Added physical protection: 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"/> 5 ○ FOOD SERVICE: Require some nearby food service after day-shift hours. ○ ACCESS TO STORAGE: Rarely need access to storage after-hours. ○ SECURITY OF STAFF LEAVING AFTER HOURS: 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"/> 5 ○ Food: 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. ○ Access to storage: After-hours access to off-floor storage area is not possible, except by special arrangement. ○ Added physical protection: 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"/> 3 ○ FOOD SERVICE: Minimal after-hours food service needed. ○ ACCESS TO STORAGE: No access needed to storage after-hours. ○ SECURITY OF STAFF LEAVING AFTER HOURS: 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"/> 3 ○ Food: 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. ○ Access to storage: There is no after-hours access to off-floor storage area. ○ Added physical protection: 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"/> 2</p>	<p><input type="checkbox"/> 2</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"/> 1	<ul style="list-style-type: none"> <input type="radio"/> FOOD SERVICE: No requirement for after-hours food service. <input type="radio"/> ACCESS TO STORAGE: No requirement for after-hours access to storage area. <input type="radio"/> SECURITY OF STAFF LEAVING AFTER HOURS: No requirement for after-hours added physical protection, e.g. no operational need to work during silent hours.

Facility Rating Scale	
<input type="checkbox"/> 1	<ul style="list-style-type: none"> <input type="radio"/> Food: 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="radio"/> Access to storage: There is no after-hours access to off-floor storage area. <input type="radio"/> Added physical protection: 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)

A.10. Work Outside Normal Hours or Conditions

Scale A.10.3. Temporary loss of external services

Occupant Requirement Scale	Facility Rating Scale
<p>9 <input type="checkbox"/> REQUIRED STANDBY SERVICES: Operations require total continuity of most office functions, including telecommunications. Major standby facilities are required.</p>	<p>9 <input type="checkbox"/> Disruption to occupants: Occupants have never had to evacuate the building or interrupt normal hours of operation because of temporary loss of external services.</p> <p><input type="checkbox"/> Continued occupant operations: Conditions inside building are temporarily tolerable to continue occupant operations during failure of any 2 building services from the list in Table A.10.A., for up to one day. Windows are openable allowing sufficient daylight to enable almost all occupants to read, or, standby power is sufficient for the continuation of essential occupant operations.</p> <p><input type="checkbox"/> Standby during loss of external power: A standby power supply exists and is sufficient to maintain full office operations, with moderate inconvenience for all occupants. There is ample space in mechanical rooms and shafts to install additional standby equipment and cabling for occupants requiring added standby power. Added installation is possible at a low cost, with minimal effort and disruption.</p> <p><input type="checkbox"/> Alternative telecommunications services: There is existing standby telecommunications in case the primary circuit or power is lost, e.g. an extra land line or microwave relay to an alternative telephone central office, or link via satellite, and standby power for telephone services.</p>
8	<input type="checkbox"/>
<p>7 <input type="checkbox"/> REQUIRED STANDBY SERVICES: Operations require standby power for critical office functions (specify). No present need for standby telecommunications, but may have a need in the future.</p>	<p>7 <input type="checkbox"/> Disruption to occupants: Occupants have never had to evacuate the building because of temporary loss of external services, but work has been interrupted in some non-critical functions within the past two years.</p> <p><input type="checkbox"/> Continued occupant operations: Conditions inside building are temporarily tolerable to continue occupant operations during failure of any 2 building services from the list in Table A.10.A., for up to half a day. Windows are openable. During a daytime power outage, there is sufficient daylight to enable most occupants to read.</p> <p><input type="checkbox"/> Standby during loss of external power: A standby power supply exists to supply partial electrical power for the whole building, and includes sufficient capacity to maintain critical office operations for one designated occupant group occupying less than one quarter of the building. There is sufficient space in mechanical rooms and shafts to install additional standby equipment and cabling for occupants requiring added standby power. Added installation is possible at moderate effort, cost and disruption.</p> <p><input type="checkbox"/> Alternative telecommunications services: No standby telecommunications exist. The building has the capability to add alternative service at moderate effort and cost. Power-fail telephone jacks exist at every reception point.</p>
6	<input type="checkbox"/>
<p>5 <input type="checkbox"/> REQUIRED STANDBY SERVICES: No present need for standby power or telecommunications, but possibly a need in the future.</p>	<p>5 <input type="checkbox"/> Disruption to occupants: Occupants have never had to evacuate the building because of temporary loss of external services, but staff have been sent home within half a day of interruption of services, or told not to come in to work the next day.</p> <p><input type="checkbox"/> Continued occupant operations: It is temporarily tolerable to continue occupant operations during failure of any one building service from the list in Table A.10.A., for up to half a day. Windows are not openable. During a daytime power outage, there is sufficient daylight to enable most occupants to read.</p> <p><input type="checkbox"/> Standby during loss of external power: No standby power supply exists, only backup power for life-safety. There is limited space in mechanical rooms to install standby power equipment. Installation is possible at considerable effort, cost and disruption.</p> <p><input type="checkbox"/> Alternative telecommunications services: No standby telecommunications exist. The building has the capability to add alternative service, but it is difficult and expensive.</p>
4	<input type="checkbox"/>

Scale A.10.3. continued on next page

FIG. 3 Scale A.10.3 for Temporary Loss of External Services

A.10. Work Outside Normal Hours or Conditions

Scale A.10.3. Temporary loss of external services (continued)

Occupant Requirement Scale	Facility Rating Scale
<p>3 <input type="radio"/> REQUIRED <input type="checkbox"/> STANDBY SERVICES: No foreseeable need for standby power or tele-communications.</p> <p style="text-align: center;">2 <input type="checkbox"/></p> <p>1 <input type="radio"/> REQUIRED <input type="checkbox"/> STANDBY SERVICES: There is no requirement at this level.</p>	<p>3 <input type="checkbox"/> Disruption to occupants: Occupants evacuate all or part of the building occasionally because of temporary loss of external services, e.g. 1 time in the last 1 to 3 years. <input type="radio"/> Continued occupant operations: It is temporarily tolerable to continue occupant operations during failure of any building services for up to 2 hours from the list in Table A.10.A. Windows are not openable. During a daytime power outage, there is sufficient daylight to enable some occupants to read. <input type="radio"/> Standby during loss of external power: No standby power supply exists. Space is very limited in mechanical rooms or elsewhere to install standby power equipment. Installation is possible but it is very difficult and expensive. <input type="radio"/> Alternative telecommunications services: No standby telecommunications exist. The building does not have the capability to add standby services.</p> <p>1 <input type="checkbox"/> Disruption to occupants: Occupants quite frequently evacuate all or part of the building because of temporary loss of external services, e.g. 2 or more times in the last 12 months. <input type="radio"/> Continued occupant operations: It is not temporarily tolerable to continue occupant operations during failure of any building services from the list in Table A.10.A. Windows are not openable. During a daytime power outage, there is not sufficient daylight to enable occupants to read. <input type="radio"/> Standby during loss of external power: No standby power supply exists. There is no space in mechanical rooms or elsewhere to install standby power equipment. <input type="radio"/> Alternative telecommunications services: No standby telecommunications exist. The building does not have the capability to add standby services.</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. 3 Scale A.10.3 for Temporary Loss of External Services (continued)

A.10. Work Outside Normal Hours or Conditions

Scale A.10.4. Continuity of work (during breakdowns)

Occupant Requirement Scale	Facility Rating Scale
<p><input type="checkbox"/> 9 ○ REQUIREMENT FOR CONTINUITY OF WORK: Operations require total continuity of work. ○ TOLERANCE FOR LOSS OF PRODUCTIVITY: Any loss of productivity due to breakdown of building services cannot be tolerated.</p>	<p><input type="checkbox"/> 9 ○ Work during breakdown: Normal office work can continue in the event of a breakdown of one or more building services, e.g. temperature control, ventilation, elevators. A breakdown is only a minor inconvenience, e.g. alternative or backup systems are sufficient until repairs are completed. ○ Frequency of breakdowns: Breakdowns rarely occur, or there have been no occurrences to date. ○ Duration of breakdowns: If a breakdown does occur, it is fixed within hours. ○ Loss of productivity: No loss of productivity has been experienced, and none is likely.</p>
<p><input type="checkbox"/> 7 ○ REQUIREMENT FOR CONTINUITY OF WORK: Operations require very good continuity of work. ○ TOLERANCE FOR LOSS OF PRODUCTIVITY: Breakdown of building services can be tolerated if occurring rarely, and having negligible effect on productivity.</p>	<p><input type="checkbox"/> 7 ○ Work during breakdown: Normal office work can continue for about a day during a breakdown of one or more building services, e.g. temperature control, ventilation, elevators. ○ Frequency of breakdowns: Infrequent breakdowns, e.g. 2 or 3 over a 2 year period. ○ Duration of breakdowns: Breakdowns are usually quick to fix, e.g. a few hours or half a day. ○ Loss of productivity: Occupants rarely lose time or productivity due to breakdowns, e.g. about 1 occasion every 2 or 3 years, or 1-2 hours per year.</p>
<p><input type="checkbox"/> 5 ○ REQUIREMENT FOR CONTINUITY OF WORK: Operations require good continuity of work. ○ TOLERANCE FOR LOSS OF PRODUCTIVITY: Breakdown of building services can be tolerated if rarely occurring, and having a minor effect on productivity.</p>	<p><input type="checkbox"/> 5 ○ Work during breakdown: Normal office work can continue for about half a day during a breakdown of one or more building services, e.g. temperature control, ventilation, elevators. ○ Frequency of breakdowns: Infrequent breakdowns, e.g. 1 or 2 per year. ○ Duration of breakdowns: Breakdowns are usually quick to fix, e.g. 1 day. ○ Loss of productivity: Occupants seldom lose time or productivity due to breakdowns; e.g. about 1 occasion per year, or 2-5 hours per year.</p>
<p><input type="checkbox"/> 3 ○ REQUIREMENT FOR CONTINUITY OF WORK: Some interruptions of work can be tolerated, provided staff have time to shut down in an orderly way. ○ TOLERANCE FOR LOSS OF PRODUCTIVITY: Disruptions due to breakdown of building services can be tolerated on 3 or 4 occasions a year, or up to 10 hours in a year.</p>	<p><input type="checkbox"/> 3 ○ Work during breakdown: Normal office work can continue for about 2 hours during a breakdown of one or more building services, e.g. temperature control, ventilation, elevators. ○ Frequency of breakdowns: Occasional breakdowns, e.g. 3 to 5 per year. ○ Duration of breakdowns: Some breakdowns take a long time to fix, e.g. more than 1 day. ○ Loss of productivity: Occupants occasionally lose time or productivity due to breakdowns, e.g. on 3-4 occasions per year, or 5-10 hours per year.</p>
<p><input type="checkbox"/> 2</p>	

Scale A.10.4 continued on next page

FIG. 4 Scale A.10.4 for Continuity of Work (During Breakdowns)

A.10. Work Outside Normal Hours or Conditions

Scale A.10.4. Continuity of work (during breakdowns).(continued)

Occupant Requirement Scale	
<p>1 <input type="checkbox"/></p>	<p>○ REQUIREMENT FOR CONTINUITY OF WORK: There is no requirement at this level.</p> <p>○ TOLERANCE FOR LOSS OF PRODUCTIVITY: There is no requirement at this level.</p>

Facility Rating Scale	
<p>1 <input type="checkbox"/></p>	<p>○ Work during breakdown: Normal work can continue for less than 1 hour during a breakdown of one or more building services, e.g. temperature control, ventilation, elevators.</p> <p>○ Frequency of breakdowns: Frequent breakdowns, e.g. more than 5 per year.</p> <p>○ Duration of breakdowns: Breakdowns normally take a long time to fix, e.g. more than 1 day, and some take many days.</p> <p>○ Loss of productivity: Occupants regularly lose time or productivity due to breakdowns, e.g. on more than 4 occasions per year, or more than 20 hours per year.</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. 4 Scale A.10.4 for Continuity of Work (During Breakdowns) (continued)

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