Public Interest Energy Research (PIER) Program FINAL PROJECT REPORT

INDOOR ENVIRONMENTAL QUALITY AND HEATING, VENTILATING, AND AIR CONDITIONING SURVEY OF SMALL- AND MEDIUM-SIZE COMMERCIAL BUILDINGS

Appendices C through G

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Appendices

Appendix C: Telephone Questionnaire

Appendix D: HVAC Questionnaire

Appendix E: Codebook and Frequencies for the Indoor Environmental Quality and HVAC Survey of Small and Medium Commercial Buildings (SMCB)

Appendix F. Codebook for the Heating, Ventilation and Air Conditioning SAQ (2008)

Appendix G. Pie Charts for SMCB Survey Responses

Appendix C.

Telephone Questionnaire

CARB 2008 SMALL AND MEDIUM COMMERCIAL BUILDING STUDY (SMCB)

SUBSTANTIVE PORTION OF THE COMPUTER ASSISTED TELEPHONE QUESTIONNAIRE

>ci1< First, what is the name of this business (or office)? >ci2< What is the address of this building? Street address: @addr City: @city Zip: @zip [# REFUSED/DON'T KNOW IS NOT AN OPTION FOR THE TYPE OF BUSINESS SERIES >ci3< What is the MAIN business carried out in this building? <1> Office: Non-medical <2> Health Care <3> Restaurant/Food service <4> Food store <5> Retail store <6> Lodging (Hotels, Motels, Resorts) <7> Public assembly (Religious, Fitness, Theaters, Conference) <8> Services <9> Miscellaneous (Assembly/Manufacturing, Police/Fire, etc.) <10> Other/Cannot decide main business/Won't say (SPECIFY) @ >ci3a< [# ONLY ASK IF 'ci3' IS <1>] NON-MEDICAL OFFICES INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE <1> Data Processing/Computer Center <2> Lab/Research & Development facility <3> Other

```
>ci3b< [# ONLY ASK IF 'ci3' IS <2>]
        HEALTH CARE
        INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE
        <1> Hospital
        <2> Nursing Home
        <3> Dental Office
        <4> Orthodontist
        <5> Medical Office
        <6> Clinic/Outpatient
        <7> Other (SPECIFY)
         @
>ci3c< [# ONLY ASK IF 'ci3' IS <3>]
        RESTAURANT/FOOD SERVICE
        INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE
        <1> Fast Food/Self-serve
        <2> Specialty/Novelty (single item; bagels, yogurt, etc.)
        <3> Table Service
        <4> Bar/Tavern/Nightclub
        <5> Other (SPECIFY)
         @
>ci3d< [# ONLY ASK IF 'ci3' IS <4>]
        FOOD STORE
        INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE
        <1> Supermarket
        <2> Small Grocery
        <3> Specialty/Ethnic
        <4> Convenience, no gasoline
        <5> Liquor
        <6> Other (SPECIFY)
         @
```

```
>ci3e< [# ONLY ASK IF 'ci3' IS <5>]
```

RETAIL

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

- <1> Department/Variety
- <2> Warehouse/Club
- <3> Shop in enclosed mall
- <4> Shop in strip mall
- <5> Auto sales
- <6> Other (SPECIFY)

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>ci3f< [# ONLY ASK IF 'ci3' IS <6>]

LODGING

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

- <1> Hotel
- <2> Motel
- <3> Resort
- <4> Other (SPECIFY)

@

>ci3g< [# ONLY ASK IF 'ci3' IS <7>]

PUBLIC ASSEMBLY

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

- <1> Religious, worship only
- <2> Religious, mixed-use
- <3> Health/Fitness
- <4> Movie Theater
- <5> Theater/Performing Arts
- <6> Library/Museum
- <7> Conference/Convention
- <8> Other (SPECIFY)

```
>ci3h< [# ONLY ASK IF 'ci3' IS <8>]
        SERVICE
        INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE
        <1> Auto Repair, no gasoline
        <2> Gas Station
        <3> Services, non-automotive
        <4> Other (SPECIFY)
         @
>ci3i< [# ONLY ASK IF 'ci3' IS <9>]
        OTHER/MISCELLANEOUS
        INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE
        <1> Assembly/Light manufacturing
        <2> Police/Fire
        <3> Post Office
        <4> Other (SPECIFY)
         @
>ci5<
        Is the space leased or owned by the business owner?
        <1> Leased
        <5> Owned
>ci6< [# IF R SAID BUILDING HAS 2 OR MORE STORIES DURING SCREENING.</pre>
      You said your building has [2/3] stories.
        How many stories does your business actually use?
        (1-3) Stories: @
[# BUILDING DESCRIPTION
>bd1<
        In what year was this building's construction COMPLETED?
        (1979-2008) ENTER YEAR
```

>bd2<

Has there been a major renovation or addition since the completion of the original building?

```
<1> Yes
<5> No [SKIP TO 'sifA7']
```

(a

>bd2a<

In what year was the last major renovation or addition?

(1979-2008) ENTER YEAR

@

>bd2b<

Please describe the renovation, especially any changes to the ventilation system that might affect ventilation rates, such as new windows or doors, a new HVAC system, weatherizing or a large change in volume of the space. Choose from the following list:

(READ EACH AND CODE 1 IF APPLICABLE - OTHERWISE CODE 5)

- @1 New ventilation system
- @2 New windows and/or doors
- @3 Weatherization
- @4 Other (SPECIFY)

[# Space Interior Finishes
[# FIRST FLOOR

>sifA7<

What types of floor finishes are in the space on the first floor?

(CODE 1 IF APPLICABLE - OTHERWISE CODE 5)

- @a Carpet
- @b Wood
- @c Ceramic Tile
- @d Concrete
- @e Vinyl Flooring
- @f Linoleum
- @g Other (SPECIFY)

>sifA7a<

IF ONLY ONE ITEM IS CHECKED IN 'sifA7', THIS QUESTION IS AUTOCODED AND SKIPPED. OTHERWISE, ONLY ITEMS CODED <1> IN 'sifA7' WILL BE AVAILABLE OPTIONS.

Which of the floor finishes you mentioned is the primary one?

- <1> Carpet
- <2> Wood
- <3> Ceramic Tile
- <4> Concrete
- <5> Vinyl Flooring
- <6> Linoleum
- <7> Other (SPECIFY)

@

[# SECOND FLOOR >sifB7<</pre>

What types of floor finishes are in the space on the SECOND floor?

(CODE 1 IF APPLICABLE - OTHERWISE CODE 5)

- @a Carpet
- @b Wood
- @c Ceramic Tile
- @d Concrete
- @e Vinyl Flooring
- @f Linoleum
- @g Other (SPECIFY)

IF THE BUSINESS USES ONLY ONE FLOOR, THE INTERVIEW SKIPS TO 'bola'.

>sifB7a<

IF ONLY ONE ITEM IS CHECKED IN 'sifB7', THIS QUESTION IS AUTOCODED AND SKIPPED. OTHERWISE, ONLY ITEMS CODED <1> IN 'sifB7' WILL BE AVAILABLE OPTIONS.

Which of the floor finishes you mentioned is the primary one?

- <1> Carpet
- <2> Wood
- <3> Ceramic Tile
- <4> Concrete
- <5> Vinyl Flooring
- <6> Linoleum
- <7> Other (SPECIFY)

@

IF THE BUSINESS USES ONLY TWO FLOORS, THE INTERVIEW SKIPS TO 'bola'.

[# THIRD FLOOR >sifC7<</pre>

What types of floor finishes are in the space on the THIRD floor?

(CODE 1 IF APPLICABLE - OTHERWISE CODE 5)

- @a Carpet
- @b Wood
- @c Ceramic Tile
- @d Concrete
- @e Vinyl Flooring
- @f Linoleum
- @g Other (SPECIFY)

>sifC7a<

IF ONLY ONE ITEM IS CHECKED IN 'sifC7', THIS QUESTION IS AUTOCODED AND SKIPPED. OTHERWISE, ONLY ITEMS CODED <1> IN 'sifC7' WILL BE AVAILABLE OPTIONS.

Which of the floor finishes you mentioned is the primary one?

- <1> Carpet
- <2> Wood
- <3> Ceramic Tile
- <4> Concrete
- <5> Vinyl Flooring
- <6> Linoleum
- <7> Other (SPECIFY)

@

>bola<

Is MOST of this building typically open for business 24 hours, seven days a week?

```
<1> Yes [SKIP TO 'bo9'] <5> No
```

@

>bo1<

What are the typical weekday (Monday - Friday) business hours (for MOST of the building)?

Open Time: @a (A)M (P)M @a1 Closed Time: @b (A)M (P)M @b1 >bo2<

```
What are the typical Saturday business hours (for MOST of the building)?
```

INTERVIEWER: Enter (x) in "Open Time" if NOT OPEN Saturday.

Open Time: @a (A)M (P)M @al Closed Time: @b (A)M (P)M @bl

>bo3<

What are the typical Sunday business hours (for MOST of the building)?

INTERVIEWER: Enter (x) in "Open Time" if NOT OPEN Sunday.

Open Time: @a (A)M (P)M @al Closed Time: @b (A)M (P)M @bl

>bo9<

During business hours, in a typical week, what is the MAXIMUM number of employees, including contractors and other workers, in the space at any point in time?

```
<1-1000> Employees
<1001> Over 1,000 Employees
```

@

>bo10<

During business hours, in a typical week, what is the MAXIMUM number of customers or members of the public in the space at any point in time?

```
<1-1000> Customers
<1001> Over 1,000 Customers
```

@

[# Surrounding Locale
>su1<</pre>

Would you describe the area surrounding the building as urban, suburban, rural or something else?

```
<1> Urban
```

<2> Suburban

<3> Rural

<4> Something else (SPECIFY)

>sula<

Would you describe the area surrounding the building as industrial, commercial, residential, agricultural, or something else?

By "surrounding area" we mean the area within a half-mile.

- <1> Industrial
- <2> Commercial
- <3> Residential/Resort-like
- <4> Agricultural
- <5> Something else (SPECIFY)

@

[# HVAC OPERATING SCHEDULE >os1<

For this question, thinking of the space where MOST of the people spend MOST of their time, does the space have one thermostat setting for COOLING, or more than one?

- <1> One setting
- <2> Two or more
- <3> Turned off/Not used [SKIP TO 'os2']

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>os1b<

What are the thermostat settings for COOLING when it is OCCUPIED?

Primary Schedule: <60-100> Degrees @1

[# IF TWO SETTINGS:

Secondary Schedule: <60-100> Degrees @2

>os2<

When the space is UNOCCUPIED, does the thermostat have one cooling setting or more than one?

- <1> One setting
- <2> Two or more
- <3> Turned off/Not used [SKIP TO 'os3']

```
>os2b<
```

What are the thermostat cooling settings when it is UNOCCUPIED? Primary Schedule: <60-100> Degrees @1 [# IF TWO SETTINGS: Secondary Schedule: <60-100> Degrees @2 >0s3< When the space is OCCUPIED, does the space have one thermostat setting for HEATING or more than one? <1> One setting <2> Two or more <3> Turned off/Not used [SKIP TO 'os4'] >os3b< What are the thermostat settings for HEATING when it is OCCUPIED? Primary Schedule: <60-100> Degrees @1 [# IF TWO SETTINGS: Secondary Schedule: <60-100> Degrees @2 >os4< When the space is UNOCCUPIED, does the thermostat have one heating setting or more than one? <1> One setting <2> Two or more <3> Turned off/Not used [SKIP TO 'be2'] >os4b< What are the thermostat settings for HEATING when it is UNOCCUPIED? Primary Schedule: <60-100> Degrees @1 [# IF TWO SETTINGS: Secondary Schedule: <60-100> Degrees @2

```
>be2<
        Are there any windows in the space that are capable of being opened?
        <5> No [SKIP TO 'be4']
>be2b< [# ASKED IF 'be2' IS YES]
        Are these windows opened regularly during some seasons?
        <1> Yes
        <5> No
         @
>be4<
        Are there any doors in the space that are left open regularly
        that allow air to flow to or from outside or to or from another
        space that is ventilated by a different system than this space?
        <1> Yes
        <5> No [SKIP TO 'ic3']
         @
>be4a< [# ASKED IF 'be4' IS YES]
        How many such doors are left open regularly?
        <1-100> Doors
          <101> More than 100 doors
[# BUILDING CONTAMINANT SOURCE INFORMATION
[# INDOOR CONTAMINANTS
>ic3<
        Is there ever any visible condensation on the windows or walls?
        <1> Yes
        <5> No [SKIP TO 'ic4']
         @
```

[# BUILDING ENVELOPE

```
>ic3a< [# ASKED IF 'ic3' IS YES]</pre>
        Where (was the visible condensation)?
        (CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
        @1 Windows
        @2 Walls
        @3 Other
>ic3b< [# ASKED IF 'ic3' IS YES]</pre>
        When (do you see condensation)?
        (CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
        @1 Nights
        @2 Winter
        @3 Other
>ic4<
        Is there currently any visible water damage or mold?
        <1> Yes
        <5> No [SKIP TO 'ic5']
         @
>ic4a< [# ASKED IF 'ic4' IS YES]</pre>
        What is the approximate area, in square feet, where there is
        currently visible water damage or mold?
        <1-1000> Square feet
          <1001> Over 1,000 square feet
         @
>ic4b< [# ASKED IF 'ic4' IS YES]</pre>
        Please describe the location of the currently visible
        water damage or mold.
        @1
        @2
```

```
>ic5<
VERSION IF R REPORTS WATER DAMAGE ('ic4' IS 'YES')
        In the past, has there been any OTHER water damage or mold?
VERSION FOR ALL OTHERS:
        In the past, has there been any water damage or mold?
        <1> Yes
        <5> No [SKIP TO 'ic7']
         @
>ic5a<
        What was the approximate area in square feet of the area where
        there was visible water damage or mold in the past?
        <1-1000> Square feet
          <1001> Over 1,000 square feet
>ic5b<
        Please describe the location of the water damage or mold.
        @1
        @2
>ic7< [# ONLY ASK FOR NON-MEDICAL OFFICES ('ci3' IS <1>)]
        Are there any toasters, microwave ovens, or other cooking
        appliances used in the space?
        <1> Yes
        <5> No
[# SKIP TO 'fdA1']
>ic9< [# ONLY ASK FOR RESTAURANTS ('ci3' IS <3>)]
        Are there any microwave ovens in use in the space?
```

<1> Yes <5> No

```
>ic11<
        Are ovens used in this space?
        <1> Yes
        <5> No [SKIP TO 'ic12']
         @
>icl1a< [# ONLY ASK IF OVENS USED ('icl1' IS 'YES')]</pre>
        What type of fuel is used for this/these ovens?
        (CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
        @1 Gas
        @2 Electricity
        @3 Other (SPECIFY)
>ic12<
        Is grilling or roasting done?
        <1> Yes
        <5> No
>ic13<
        Is oil frying done?
        <1> Yes
        <5> No
[# SKIP TO 'fdA1']
>ic15< [# ONLY ASK FOR FOOD STORES ('ci3' IS <4>)]
        Are there any toasters, microwave ovens, or other cooking
        appliances used in the space?
        <1> Yes
        <5> No
         @
```

```
>ic17<
        Is film processing done there?
        <1> Yes
        <5> No
         @
[# SKIP TO 'fdA1']
>ic19< [# ONLY ASK FOR RETAIL STORES ('ci3' IS <5>)]
        Are there any toasters, microwave ovens, or other cooking
        appliances used in the space?
        <1> Yes
        <5> No
         @
>ic21<
        Is there a restaurant, cafe', or cafeteria in this space?
        <1> Yes
        <5> No [SKIP TO 'ic22']
         @
>ic21a< [# ONLY ASK IF 'ci21' IS 'YES']</pre>
        Are ovens used in this space?
        <1> Yes
        <5> No [SKIP TO 'ic21b']
         @
>ic21aa< [# ONLY ASK IF 'ci21a' IS 'YES']</pre>
        What type of fuel is used for this/these ovens?
        (CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
        @1 Gas
        @2 Electricity
        @3 Other (SPECIFY)
```

```
>ic2lb<

Is grilling or roasting done?

<1> Yes

<5> No

@

>ic2lc<

Is oil frying done?

<1> Yes

<5> No

@

>ic22<

What type of retail store is this?

<1> Multi-purpose (Target, Walmart, Kmart)

<2> Clothing store [SKIP TO 'fdAl']

<3> Shoe store [SKIP TO 'fdAl']

<4> Drug store [SKIP TO 'ic22c'][
```

```
<2> Clothing store [SKIP TO 'fdA1']
<3> Shoe store [SKIP TO 'fdA1']
<4> Drug store [SKIP TO 'ic22c'][# only ask ic22c
<5> Hardware [SKIP TO 'ic22b'] [# only ask ic22b
<6> Nursery/Gardening [SKIP TO 'fdA1']
<7> Furniture [SKIP TO 'ic22a'][# only ask ic22c
<8> Home furnishings (linens, kitchenware) [SKIP TO 'fdA1']
<9> Flooring [SKIP TO 'fdA1']
<10> Bookstore [SKIP TO 'fdA1']
<11> Department store [SKIP TO 'fdA1']
<12> Other (SPECIFY) [SKIP TO 'fdA1']
```

Are solvents such as turpentine, ammonia, or acetone used in this space?

<1> Yes <5> No

@

```
>ic22b< [# ONLY ASK FOR MULTI-PURPOSE AND HARDWARE
            STORES ('ic22' IS <1> OR <5>)]
        Is grinding, sanding, or buffing performed?
        <1> Yes
        <5> No
         @
>ic22c< [# ONLY ASK FOR MULTI-PURPOSE AND DRUG
           STORES ('ic22' IS <1> OR <4>)]
        Is film processing done there?
        <1> Yes
        <5> No
         @
>ic22d< [# ONLY ASK FOR MULTI-PURPOSE STORES ('ic22' IS <1>)]
        Are there tires stored there?
        <1> Yes
        <5> No
         @
[# SKIP TO 'fdA1']
>ic23< [# ONLY ASK FOR HEALTH-CARE OFFICES ('ci3' IS <2>)]
        Are there any toasters, microwave ovens, or other cooking
        appliances used in the space?
        <1> Yes
        <5> No
>ic23a< [# ONLY ASK FOR HEALTH-CARE OFFICES ('ci3' IS <2>)]
        Is there a restaurant, cafe', or cafeteria in this space?
        <1> Yes
        <5> No [SKIP TO 'ic23e']
         @
```

```
>ic23b< [# ONLY ASK IF 'ic23a' IS 'YES']</pre>
        Are ovens used in this space?
        <1> Yes
        <5> No [SKIP TO 'ic23c']
         @
>ic23ba< [# ONLY ASK IF 'ic23b' IS 'YES']</pre>
        What type of fuel is used for this/these ovens?
        (CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
        @1 Gas
        @2 Electricity
        @3 Other (SPECIFY)
>ic23c< [# ONLY ASK FOR HEALTH-CARE OFFICES ('ci3' IS <2>)]
        Is grilling or roasting done?
        <1> Yes
        <5> No
>ic23d< [# ONLY ASK FOR HEALTH-CARE OFFICES ('ci3' IS <2>)]
        Is oil frying done?
        <1> Yes
        <5> No
         @
>ic23e< [# ONLY ASK FOR HEALTH-CARE OFFICES ('ci3' IS <2>)]
        Are solvents such as turpentine, ammonia, or acetone used
        in this space?
        <1> Yes
        <5> No
         @
```

```
>ic23f< [# ONLY ASK FOR HEALTH-CARE OFFICES ('ci3' IS <2>)]
        Is grinding, sanding, or buffing performed?
        <1> Yes
        <5> No
         @
>ic23g< [# ONLY ASK FOR HEALTH-CARE OFFICES ('ci3' IS <2>)]
        Is film processing done there?
        <1> Yes
        <5> No
[# SKIP TO 'fdA1']
>ic24< [# ONLY ASK FOR LODGING BUSINESSES ('ci3' IS <6>)]
        Are there any toasters, microwave ovens, or other cooking
        appliances used in the space?
        <1> Yes
        <5> No
>ic24a< [# ONLY ASK FOR LODGING BUSINESSES ('ci3' IS <6>)]
        Is there a restaurant, cafe', or cafeteria in this space?
        <1> Yes
        <5> No
                 [SKIP TO 'ic25']
         @
>ic24b< [# ONLY ASK IF 'ic24a' IS 'YES']</pre>
        Are ovens used in this space?
        <1> Yes
        <5> No
         @
```

```
>ic24ba< [# ONLY ASK IF 'ic24b' IS 'YES']</pre>
        What type of fuel is used for this/these ovens?
        (CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
        @1 Gas
        @2 Electricity
        @3 Other (SPECIFY)
>ic24c< [# ONLY ASK IF 'ic24a' IS 'YES']</pre>
        Is grilling or roasting done?
        <1> Yes
        <5> No
         @
>ic24d< [# ONLY ASK FOR LODGING BUSINESSES ('ci3' IS <6>)]
        Is oil frying done?
        <1> Yes
        <5> No
[# SKIP TO 'fdA1']
>ic25< [# ONLY ASK FOR PUBLIC ASSEMBLY BUSINESSES ('ci3' IS <7>)]
        Are there any toasters, microwave ovens, or other cooking
        appliances used in the space?
        <1> Yes
        <5> No
         @
>ic25b< [# ONLY ASK FOR PUBLIC ASSEMBLY BUSINESSES ('ci3' IS <7>)]
        Is there a restaurant, cafe', or cafeteria in this space?
        <1> Yes
        <5> No [SKIP TO 'fdA1']
         @
```

```
>ic25c< [# ONLY ASK IF 'ic25b' IS 'YES']</pre>
        Are ovens used in this space?
        <1> Yes
        <5> No [SKIP TO 'ic25d']
         @
>ic25ca< [# ONLY ASK IF 'ic25c' IS 'YES']</pre>
        What type of fuel is used for this/these ovens?
        (CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
        @1 Gas
        @2 Electricity
        @3 Other (SPECIFY)
>ic25d< [# ONLY ASK IF 'ic25b' IS 'YES']</pre>
        Is grilling or roasting done?
        <1> Yes
        <5> No
         @
>ic25e< [# ONLY ASK IF 'ic25b' IS 'YES']</pre>
        Is oil frying done?
        <1> Yes
        <5> No
         @
[# SKIP TO 'fdA1']
>ic26< [# ONLY ASK FOR AUTO REPAIR-NO GASOLINE SALES ('ci3h' IS <1>)]
        Are there any toasters, microwave ovens, or other cooking
        appliances used in the space?
        <1> Yes
        <5> No
         @
```

```
>ic26b< [# ONLY ASK FOR AUTO REPAIR-NO GASOLINE SALES ('ci3h' IS <1>)]
        Are solvents such as turpentine, ammonia, or acetone used
        in this space?
        <1> Yes
        <5> No
         @
>ic26c< [# ONLY ASK FOR AUTO REPAIR-NO GASOLINE SALES ('ci3h' IS <1>)]
        Is grinding, sanding, or buffing performed?
        <1> Yes
        <5> No
         @
>ic26d< [# ONLY ASK FOR AUTO REPAIR-NO GASOLINE SALES ('ci3h' IS <1>)]
        Are there tires stored in this space?
        <1> Yes
        <5> No
[# SKIP TO 'fdA1']
>ic27< [# ONLY ASK FOR GAS STATIONS ('ci3h' IS <2>)]
        Are there any toasters, microwave ovens, or other cooking
        appliances used in the space?
        <1> Yes
        <5> No
         @
>ic27b< [# ONLY ASK FOR GAS STATIONS ('ci3h' IS <2>)]
        Is there a restaurant, cafe', or cafeteria in this space?
        <1> Yes
        <5> No [SKIP TO 'ic27h']
         @
```

```
>ic27c< [# ONLY ASK IF 'ic27b' IS 'YES']</pre>
        Are ovens used in this space?
        <1> Yes
        <5> No [SKIP TO 'ic27d']
         @
>ic27ca< [# ONLY ASK IF 'ic27c' IS 'YES']</pre>
        What type of fuel is used for this/these ovens?
        (CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
        @1 Gas
        @2 Electricity
        @3 Other (SPECIFY)
>ic27d< [# ONLY ASK IF 'ic27b' IS 'YES']</pre>
        Is grilling or roasting done?
        <1> Yes
        <5> No
>ic27e< [# ONLY ASK IF 'ic27b' IS 'YES']</pre>
        Is oil frying done?
        <1> Yes
        <5> No
         @
>ic27h< [# ONLY ASK FOR GAS STATIONS ('ci3h' IS <2>)]
        Are there tires stored in this space?
        <1> Yes
        <5> No
         @
>ic27j< [# ONLY ASK FOR GAS STATIONS ('ci3h' IS <2>)]
        Are solvents such as turpentine, ammonia, or acetone used
        in this space?
        <1> Yes
        <5> No
         @
```

```
>ic27i< [# ONLY ASK FOR GAS STATIONS ('ci3h' IS <2>)]
        Is there a convenience store that is part of this gas station?
        <1> Yes
        <5> No [SKIP TO 'ic27k']
>ic27k< [# ONLY ASK FOR GAS STATIONS ('ci3h' IS <2>)]
        Does this gas station perform automotive work?
        <1> Yes
        <5> No [SKIP TO 'fdA1']
>ic271< [# ONLY ASK IF ('ic27k' IS 'YES']</pre>
        What automotive work is performed at this gas station?
        (READ EACH AND CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
        @1 Brakes
        @2 Tires
        @3 Body work or paint
        @4 Oil changes
        @5 General auto repair
        @6 Cleaning or detailing
        @7 Other (SPECIFY)
[# SKIP TO 'fdA1']
[# FOR SERVICE (NON-AUTOMOTIVE) BUSINESSES ONLY
>ic28< [# ONLY ASK FOR NON-AUTOMOTIVE SERVICES ('ci3h' IS <3> OR <4>)]
        Are there any toasters, microwave ovens, or other cooking
        appliances used in the space?
        <1> Yes
        <5> No
         @
```

```
>ic28b< [# ONLY ASK FOR NON-AUTOMOTIVE SERVICES ('ci3h' IS <3> OR <4>)]
       What service is provided at this business?
        <1> Dry cleaning
        <2> Nail salon
        <3> Hair salon/barber shop
        <4> Film processing
        <5> Shoe repair
        <6> Laundromat
        <7> Other (SPECIFY)
[# SKIP TO 'fdA1']
>ic30< [# ONLY ASK FOR ASSEMBLY/LIGHT MANUFACTURING ('ci3i' IS <1>)]
       Are there any toasters, microwave ovens, or other cooking
        appliances used in the space?
        <1> Yes
        <5> No
         @
>ic30b< [# ONLY ASK FOR ASSEMBLY/LIGHT MANUFACTURING ('ci3i' IS <1>)]
        Are solvents such as turpentine, ammonia, or acetone used
        in this space?
        <1> Yes
        <5> No
         @
>ic30c< [# ONLY ASK FOR ASSEMBLY/LIGHT MANUFACTURING ('ci3i' IS <1>)]
        Is grinding, sanding, or buffing performed?
        <1> Yes
        <5> No
         @
>ic30d< [# ONLY ASK FOR ASSEMBLY/LIGHT MANUFACTURING ('ci3i' IS <1>)]
       Are X-rays or film processing done there?
        <1> Yes
        <5> No
         @
```

```
>ic30e< [# ONLY ASK FOR ASSEMBLY/LIGHT MANUFACTURING ('ci3i' IS <1>)]
       Are there tire stored in this space?
        <1> Yes
        <5> No
[# SKIP TO 'fdA1']
>ic31< [# ASKED FOR POLICE/FIRE/POST OFFICE ('ci3i' IS <2>, <3>, OR <4>)
          OR OTHER BUSINESSES NOT OTHERWISE CLASSIFIED ('ci3' IS <10>)]
       Are there any toasters, microwave ovens, or other cooking
        appliances used in the space?
        <1> Yes
        <5> No
>ic31b< [# ASKED FOR POLICE/FIRE/POST OFFICE ('ci3i' IS <2>, <3>, OR <4>)
           OR OTHER BUSINESSES NOT OTHERWISE CLASSIFIED ('ci3' IS <10>)]
       Are ovens used in this space?
        <1> Yes
        <5> No [SKIP TO 'ic31c]
         @
>ic31ba< [# ASKED FOR POLICE/FIRE/POST OFFICE ('ci3i' IS <2>, <3>, OR <4>)
            OR OTHER BUSINESSES NOT OTHERWISE CLASSIFIED ('ci3' IS <10>)]
       What type of fuel is used for this/these ovens?
        (CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
        @1 Gas
        @2 Electricity
        @3 Other (SPECIFY)
>ic31c< [# ASKED FOR POLICE/FIRE/POST OFFICE ('ci3i' IS <2>, <3>, OR <4>)
           OR OTHER BUSINESSES NOT OTHERWISE CLASSIFIED ('ci3' IS <10>)]
        Is grilling or roasting done?
        <1> Yes
        <5> No
```

```
>ic31d< [# ASKED FOR POLICE/FIRE/POST OFFICE ('ci3i' IS <2>, <3>, OR <4>)
           OR OTHER BUSINESSES NOT OTHERWISE CLASSIFIED ('ci3' IS <10>)]
        Is oil frying done?
        <1> Yes
        <5> No
         @
[# FIRE DAMAGE
[# FIRST FLOOR 'A'
>fdA1<
       Has there ever been any fire damage in the first floor space?
        <1> Yes
        <5> No [SKIP TO 'brA1']
>fdA1a< [# ASKED IF 'fdA1' IS 'YES']
        In what month and year did the fire damage occur on the FIRST floor?
       Month (1-12) @mo
                            Year (1979-2008) @yr
[# Building Renovations
>brA1<
       Has there been any interior painting done in the first floor
        space in the last year?
        <1> Yes
        <5> No
>brA2<
       Has new carpet been installed in the first floor space
        in the last year?
        <1> Yes
        <5> No [SKIP TO 'brA3']
         @
```

```
>brA2b< [# ASKED IF 'brA2' IS 'YES']
       What type of carpet was installed? (READ CODES)
        (CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
       @1 Natural fiber carpet? (e.g., wool, sisal)
       @2 Nylon?
       @3 Olefin? (polypropylene)
>brA2bb< [# ASKED IF 'brA2' IS 'YES']
       Does it have...
        <1> ...styrene-butadiene backed carpet,
        <2> CRI Green Label,
       <3> CRI Green Label Plus,
        <4> or some other kind?
                                (SPECIFY)
         @
>brA2c< [# ASKED IF 'brA2' IS 'YES']
       What type of material is in the carpet pad, if there is a pad?
       <1> Rubberized or resinated fiber
       <2> Rubber and reinforced rubber
        <3> Polyurethane foam
       <4> There is NO carpet pad
       <5> Something else (SPECIFY)
         @
>brA3<
       Has any new furniture been installed in the space in the last year?
       <1> Yes
        <5> No [SKIP TO 'csA1']
         @
>brA3b< [# ASKED IF 'brA3b' IS 'YES']
       What type of materials are in the furniture that was installed?
        (READ EACH AND CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
       @1 Solid wood (raw, wood finish or painted)
       @2 Composite wood product with wood or synthetic veneer
              (hidden surfaces unfinished composite wood)
        @3 Fully encapsulated composite wood construction
        @4 Metal and/or Plastic
       @5 Other (SPECIFY)
```

```
[# CLEANING SCHEDULES
>csA1<
        Is the space cleaned on a regular schedule?
        <1> Yes
        <5> No [SKIP TO 'csA2']
         @
>csA1a< [# ASKED IF 'csA1' IS 'YES']</pre>
        Is the cleaning done during occupied or unoccupied hours?
        <1> Occupied
        <2> Unoccupied
        <3> Both
        <4> Other
>csA1b< [# ASKED IF 'csA1' IS 'YES']
        Is the cleaning done during the day or at night?
        <1> Days
        <2> Nights
        <3> Both
        <4> Other
         @
>csA1c< [# ASKED IF 'csA1' IS 'YES']
        Is the cleaning done by an outside contractor?
        <1> Yes
        <5> No
>csAld< [# ASKED IF 'csAl' IS 'YES']
        Are floors cleaned with a wet mop?
        <1> Yes
        <5> No
         @1
```

```
[# IF YES]
        How often are the floors cleaned with a wet mop?
        <1> Daily
        <2> Once a week
        <3> Twice a week
        <4> Every two weeks
        <5> Monthly
        <6> Other (SPECIFY)
         @2
>csA1e<
        Are the floors cleaned with a dry mop?
        <1> Yes
        <5> No
         @1
[# IF YES]
        How often are the floors cleaned with a dry mop?
        <1> Daily
        <2> Once a week
        <3> Twice a week
        <4> Every two weeks
        <5> Monthly
        <6> Other (SPECIFY)
         @2
>csA1f<
        Is the cleaning done with a vacuum?
        <1> Yes
        <5> No
         @1
[# IF YES]
        How often is the cleaning done with a vacuum?
        <1> Daily
        <2> Once a week
        <3> Twice a week
        <4> Every two weeks
        <5> Monthly
        <6> Other (SPECIFY)
         @2
```

>csA1g<

Are any of the following cleaning materials used in cleaning the space...

```
(1) Daily
                                                   (4) Every 2 weeks
(1) Yes
                                   (2) Once a week (5) Monthly
(5) No
                                   (3) Twice a week (6) Other
                                  _____
@1 How about window cleaner?
                                      [# IF YES] How often @1a
@2 How about furniture cleaner?
                                     [# IF YES] How often
                                                            @2a
@3 (How about) Floor or furniture wax? [# IF YES] How often? @3a
@4 (How about) bathroom cleaner? [# IF YES] How often? @4a
                                 [# IF YES] How often?
[# IF YES] How often?
@5 (How about) Bleach?
                                     [# IF YES] How often?
@6 (How about) Soap or detergent?
                                                            @6a
                                    [# IF YES] How often? @7a
@7 (How about) Carpet cleaners?
```

>csA1h<

Are any other cleaning materials used?

<1> Yes

<5> No

@1

[# IF YES]

What other cleaning materials are used?

@2

>csA1i< [# ASKED IF 'csA1g@3' IS 'YES']

Are propane floor buffers ever used?

<1> Yes

<5> No

@

>csA1q<

Is there any effort to use only "green" cleaning products?

<1> Yes

<5> No

>csA1r<

Where are cleaning materials kept on the first floor?

(READ CODES)	(1) Yes (5) No
in the janitor's closet?	@1
in another closet?	@2
in a storage room?	@3
anywhere else? (SPECIFY)	@4

>csA2<

Is pesticide regularly applied to either the interior or to the exterior to the space?

```
<1> Yes
<5> No [SKIP TO 'ivfA23']
```

@

>csA2a<

Who applies the pesticide?

(READ EACH AND CODE 1 IF APPLICABLE - OTHERWISE CODE 5)

- @1 Outside Contractor
- @2 Building staff
- @3 Employees
- @4 Other

>csA2b<

How often is exterior pesticide applied?

```
Is it...
```

- <1> weekly,
- <2> monthly,
- <3> quarterly,
- <4> semi-annually, or
- <5> some other time? (SPECIFY)
- <6> Exterior pesticide NOT USED

>csA2d<

```
How often is INTERIOR pesticide applied?

Is it...

<1> weekly,
    <2> monthly,
    <3> quarterly,
    <4> semi-annually, or
    <5> some other time? (SPECIFY)

<6> Interior pesticide NOT USED [SKIP TO 'ivfA23']

@

<d,r> [SKIP TO 'ivfA23']
```

>csA2g<

Are the pesticides stored on-site or off-site?

<1> On-site
<5> Off-site [SKIP TO 'ivfA23']

>csA2h< [# ASKED IF 'csA2g' is ON-SITE]</pre>

Where are pesticides kept on the first floor?

(READ CODES)	(1) Yes (5) No
in the janitor's closet?	@1
in another closet?	@2
in a storage room?	@3
anywhere else? (SPECIFY)	@4

[# INDOOR VENTILATION FIXTURES >ivfA23<</pre>

Is any of the following space conditioning equipment used inside the first floor:

(READ EACH - CODE 1 IF USED - OTHERWISE CODE 5)

- @a Air cleaners?
 @b Space heaters?
- @c Humidifiers?
- @d Dehumidifiers?
- @e Desk fans?

```
>ivfA23a< [# ASKED IF 'ivfA23@a' IS 'YES']</pre>
        How many air cleaners are used?
        <1-200> Air cleaners: @
>ivfA23b< [# ASKED IF 'ivfA23@a' IS 'YES']</pre>
        Various types of air cleaners could be used. Tell me which ones
        are used on this floor:
        (READ EACH - CODE 1 IF USED - CODE 5 IF NOT USED)
        @1 Mechanical?
        @2 Contain pleated filters?
        @3 Ionizers?
        @4 Electrostatic precipitators?
        @5 Ozone generators?
        @6 Some other kind? (SPECIFY)
>ivfA25a< [# ASKED IF 'ivfA23@c' IS 'YES']</pre>
        How many humidifiers are used?
        <1-200> Humidifiers: @
>ivfA26a< [# ASKED IF 'ivfA23@d' IS 'YES']</pre>
        How many dehumidifiers are used?
        <1-200> Dehumidifiers: @
>ivfA27a< [# ASKED IF 'ivfA23@e' IS 'YES']</pre>
        How many desk fans are used?
        <1-200> Desk fans: @
[# ITEMS 'fdA1' - 'ivfA27a' ARE REPEATED FOR EACH FLOOR USED BY THE
  BUSINESS ('ci6').
[# SECOND FLOOR ITEM NAMES "B"
fdB1 fdB1a
brB1 brB2 brB2b brB2bb
brB2c brB3 brB3b
csB1 csB1a csB1b csB1c
csBld csBle csBlf csBlg
```

```
csB1h csB1i csB1q csB1r
csB2 csB2a csB2b csB2d
csB2g csB2h ivfB23
```

ivfB23a ivfB23b ivfB25a ivfB26a
ivfB27a

[# THIRD FLOOR ITEM NAMES "C" fdC1 fdC1a

brC1 brC2 brC2b brC2bb brC2c brC3 brC3b

csC1 csC1a csC1b csC1c csC1d csC1e csC1f csC1g csC1h csC1i csC1q csC1r csC2 csC2a csC2b csC2d csC2g csC2h ivfC23

ivfC23a ivfC23b ivfC25a ivfC26a
ivfC27a

[# OCCUPANT COMPLAINTS

>oc1<

Have there been any of the following occupant complaints related to the indoor environment? (READ CODES)

- (1) Once or twice,
- (2) Not very often,
- (3) Somewhat often,

@£1

- (4) Very often, or
- (5) Constantly?

(5) No

(1) Yes

@a Too hot? [# IF YES] How often? @al @b Too cold? [# IF YES] How often? @bl @c Too drafty? [# IF YES] How often? @cl

@f Something else? (SPECIFY) [# IF YES] How often?

>ocly< [# ASKED IF R REPORTED ANY COMPLAINTS]

When did the last complaint occur?

<1> A few days ago

<2> A few weeks ago

<3> A few months ago

<4> Years ago

```
>oc1z<
        Various types of corrective action could be taken. Please tell me
       which actions were taken in response to the complaints:
        (READ EACH - CODE 1 IF TAKEN - CODE 5 IF NOT TAKEN)
        @1 no corrective action taken?
        @2 the building manager investigated?
        @3 an outside contractor investigated?
        @4 a supervisor investigated?
        @5 or something else? (SPECIFY)
>ob1<
       Do you share your building with any other businesses?
        <1> Yes
        <5> No [SKIP TO 'ci4rsp']
         @
>ob3<
[# TEXT FOR FIRST OTHER BUSINESS]
        I'm going to ask you about each business in your building.
        Thinking about the first one, what kind of business is it?
[# TEXT FOR ALL OTHERS]
       What kind of business is it?
        <1> Offices: Non-medical
        <2> Health Care
        <3> Restaurant/Food service
        <4> Food store
        <5> Retail store
        <6> Lodging (Hotels, Motels, Resorts)
        <7> Public assembly (Religious, Fitness, Theaters, Conference)
        <8> Services
        <9> Miscellaneous (Assembly/Manufacturing, Police/Fire, etc.)
       <10> Other/Cannot decide main business/Won't say (SPECIFY)
>ob3a< [# ASKED IF 'ob3' IS <1>]
       NON-MEDICAL OFFICES
        INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE
        <1> Data Processing/Computer Center
        <2> Lab/Research & Development facility
        <3> Other
```

```
>ob3b< [# ASKED IF 'ob3' IS <2>]
```

HEALTH CARE

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

- <1> Hospital
- <2> Nursing Home
- <3> Dental Office
- <4> Orthodontist
- <5> Medical Office
- <6> Clinic/Outpatient
- <7> Other (SPECIFY)

@

>ob3c< [# ASKED IF 'ob3' IS <3>]

RESTAURANT/FOOD SERVICE

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

- <1> Fast Food/Self-serve
- <2> Specialty/Novelty
- <3> Table Service
- <4> Bar/Tavern/Nightclub
- <5> Other (SPECIFY)

@

>ob3d< [# ASKED IF 'ob3' IS <4>]

FOOD STORE

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

- <1> Supermarket
- <2> Small Grocery
- <3> Specialty/Ethnic
- <4> Convenience, no gasoline
- <5> Liquor
- <6> Other (SPECIFY)

```
>ob3e< [# ASKED IF 'ob3' IS <5>]
```

RETAIL

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

- <1> Department/Variety
- <2> Warehouse/Club
- <3> Shop in enclosed mall
- <4> Shop in strip mall
- <5> Auto sales
- <6> Other (SPECIFY)

@

>ob3f< [# ASKED IF 'ob3' IS <6>]

LODGING

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

- <1> Hotel
- <2> Motel
- <3> Resort
- <4> Other (SPECIFY)

@

>ob3g< [# ASKED IF 'ob3' IS <7>]

PUBLIC ASSEMBLY

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

- <1> Religious, worship only
- <2> Religious, mixed-use
- <3> Health/Fitness
- <4> Movie Theater
- <5> Theater/Performing Arts
- <6> Library/Museum
- <7> Conference/Convention
- <8> Other (SPECIFY)

>ob3h< [# ASKED IF 'ob3' IS <8>]

SERVICE

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

- <1> Auto Repair, no gasoline
- <2> Gas Station
- <3> Services, non-automotive
- <4> Other (SPECIFY)

@

>ob3i< [# ASKED IF 'ob3' IS <9>]

OTHER/MISCELLANEOUS

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

- <1> Assembly/Light manufacturing
- <2> Police/Fire
- <3> Post Office
- <4> Other (SPECIFY)

@

>ob4<

Are there ANY OTHER businesses in this building?

<1> Yes

<5> No

@

[# COLLECT INFORMATION TO SEND SAQ

>ci4rsp<

We'd like to find out some more specific information about the operation and maintenance of the ventilation (HVAC) system used in your building.

We don't want do this now, but we would like to send a questionnaire in the mail.

Are you the best person to send it to?

<1> Yes

<5> No [SKIP TO 'ci4a1']

>rnam< [# IF R IS BEST CONTACT FOR SAQ, CONFIRM INFORMATION]

We have your name as: [fill rsnm]

Is that correct?

INTERVIEWER: Make changes below if needed, otherwise press

"Enter" to continue.

ENTER NAME: @

>raddr< [# IF R IS BEST CONTACT FOR SAQ, CONFIRM INFORMATION]

What address should we send your questionnaire to?

Street address @a

City, State @b ZIP: @c

>bphone< [# IF R IS BEST CONTACT FOR SAQ, CONFIRM INFORMATION]

CURRENT PHONE: (XXX) XXX-XXXX

Just in case we have trouble contacting you, is there a different phone number where you would prefer to be called?

<1> Yes

<5> No

@a

[# IF YES]

ENTER PHONE NUMBER: @b

> What is the name of the person who can best answer questions about the ventilation system and the operation and maintenance of the ventilation system?

Name: @nm

Is this an outside contractor or in-house person?

<1> Outside contractor

<5> In-house person @b

What is (his/her) mailing address?

Company name: @cmp [# IF OUTSIDE CONTRACTOR

Street address: @adr

City, State: @cs ZIP: @zip

What is (his/her) phone number? (This is in case we have trouble contacting them through the mail.)

WORK phone: @wp CELL phone: @cp

Alternate phone: @ap

>ci4b1< [# COLLECT INFORMATION FOR SECOND SAQ CONTACT, IF POSSIBLE]</pre>

Who else can answer questions about the ventilation system?

Name: @nm [# IF 'x' AT NAME, SKIP TO 'okny']

Is this an outside contractor or in-house person?

<1> Outside contractor

<5> In-house person @b

>ci4b2< [# COLLECT INFORMATION FOR SECOND SAQ CONTACT, IF POSSIBLE]

What is (his/her) mailing address?

Company name: @cmp [# IF OUTSIDE CONTRACTOR

Street address: @adr

City, State: @cs ZIP: @zip

What is (his/her) phone number?

WORK phone: @wp CELL phone: @cp

Alternate phone: @ap

>okny< [# GET CONSENT FOR "PHASE 2" AND COLLECT INFO IF NECCESSARY]

Our field research team would like to contact you to set up a time for a free evaluation of the performance of your building's ventilation system. This information will be used by the state to understand the best ways to improve air quality and energy efficiency through future revisions to the state's building energy code.

May they contact you?

<1> Yes

<5> No [SKIP TO END]

@

>p2inf< [# IF R HAS ALREADY PROVIDED THEIR CONTACT INFORMATION, JUST CONFIRM INFORMATION HERE.

[# IF R IS BEST CONTACT FOR SAQ (ALREADY HAVE INFO)]

INTERVIEWER: Confirm contact information with respondent:

[# IF R IS NOT BEST CONTACT FOR SAQ (DO NOT HAVE INFO)]
 Please tell me your name and mailing address, so we can send you
 a letter to schedule your evaluation.

Name: @a

Mailing Address: @b

City, State: @c ZIP: @d

>p2pnm<

CURRENT PHONE: (XXX) XXX-XXXX

Just in case we have trouble contacting you, is there a different phone number where you would prefer to be called?

<1> Yes

<5> No

@a

[# IF YES]

ENTER PHONE NUMBER: @b

Appendix D

HVAC Questionnaire



Heating, Ventilation and Air Conditioning (HVAC) Survey

Conducted for the
California Energy Commission
by the
Survey Research Center, University of California at Berkeley

GENERAL DIRECTIONS:

- For most questions, there are numbered answer categories. For those
 questions, please check the answer category that best represents your answer or
 experience. Most questions are looking for a single answer. In those instances
 where there are instructions to "Check all that apply," please check each answer
 category that applies to your (building's) situation.
- If none of the answers are just right for you, please check the one that fits you the best.
- Other questions have blank spaces to allow you room to answer the question with a written response. If you need more room to answer these kinds of questions, please use the back of the page (be sure to indicate the question number it refers to).
- In some places there will be directions about which question to answer next. If there are no directions, then go to the very next question.

Please mail this survey back to us in the enclosed envelope. No stamps are needed.

Thank you for your assistance with this important project.

Please answer the questions in this survey with the following building address in mind:

BUILDING ADDRESS:	
-------------------	--

MAINTENANCE

1.	Who does routine maintenar	nce of the HVAC systems?		
	¹ ☐ Contractor ² ☐ Building manager ³ ☐ Janitorial staff ⁴ ☐ Other, specify:			
2.	What is the level of training of the person who does routine maintenance of the HVAC systems?			
	¹ ☐ None ² ☐ Certificate ³ ☐ Licensed ⁴ ☐ On the job ⁵ ☐ Other			
SPA	CE INTERIOR FINISHES			
	se answer the following ques ce. If there is more than one s	• •	•	
3.	What is the approximate distance from the floor to the ceiling in the space? If the space has a suspended ceiling, the distance to the suspended ceiling should be given. If the space has more than one ceiling height, give the distance that is predominant.			
	A. FLOOR #1	B. FLOOR #2	C. FLOOR #3	
	Feet Inches	Feet Inches	Feet Inches	
4.	Does the space have a susp	ended ceiling?		
	A. FLOOR #1	B. FLOOR #2	C. FLOOR #3	
	¹ Yes ² No [Please skip to next floor, or Q6 if no more floors]	¹ ☐ Yes ² ☐ No [Please skip to next floor, or Q6 if no more floors]	¹ ☐ Yes ² ☐ No [Please skip to Q6]	

5.	What is the approximate depth of the plenum, that is, the distance from the suspended ceiling to the floor above?							
	A.	FLOOR #1	B.	FLOOR #2		C.	FLOOR #	#3
		Feet Inches		Feet	_Inches		Feet	Inches
BUI	LDING E	QUIPMENT						
6.	Besides devices	s the package rooftop ?	units,	are there ar	ny supple	menta	l air condi	tioning
	¹□ Y€	es						
7.	Besides	s the package rooftop	units,	are there ar	ny supple	menta	I heating o	devices?
	¹□ Y€ ²□ No							
8.	Has the space ventilation system been reconfigured based on space use changes, including modifications of the air handler, ductwork or diffusers?							
	¹□ Yes ²□ No							
HVA	AC OPER	RATING SCHEDULE						
9.	What is	the thermostat settin	g for c	ooling when	the spac	e is o	ccupied?	
		Degrees:						
10.	What is	the thermostat settin	g for c	ooling when	the spac	e is ur	noccupied	?
		Degrees:						
11.	What is	the thermostat settin	g for h	eating wher	n the spac	ce is o	ccupied?	

Degrees:

Degrees: _____

12. What is the thermostat setting for heating when the space is unoccupied?

13.	A.	Does the HVAC system start before occupants enter the space?
		¹□ Yes ²□ No [Please skip to Q14A]
	В.	How long does the HVAC system come on before occupants enter the space?
		Hours Minutes
	C.	Why does the HVAC system start before occupants enter the space?
		¹ □ To heat or cool the space (morning warm-up or cool-down) ² □ To bring in outside air (morning purge) ³ □ Both
14.	A.	Does the HVAC system stay on after all occupants have left the space?
		¹☐ Yes ²☐ No [Please skip to Q15]
	В.	How long does the HVAC system stay on after occupants have left?
		Hours Minutes
15.	Whe	en the building is occupied, how is the fan controlled? (Check all that apply)
	b c c c c c c c c c c c c c c c c c c c	Always on Always off Cycles with heating or cooling Manually operated Scheduled timer Occupancy sensor Other, specify:

16.	Whe	en the building is <u>not occupied</u> , how is the fan controlled? (Check all that ly)
	b c c c c c c c c c c c c c c c c c c c	Always on Always off Cycles with heating or cooling Manually operated Scheduled timer Occupancy sensor Other, specify:
IND	OOR	VENTILATION FIXTURES
17.	How	many air supply vents are in the entire building?
	Aiı	supply vents:
18.	Are	there air supply vents in the ceiling?
] Yes] No
19.	A.	Are there air supply vents on the walls?
		¹☐ Yes ²☐ No [Please skip to Q20A]
	В.	Where are the supply vents located on the walls? (Check all that apply)
		¹ □ Upper half ² □ Lower half ³ □ In the middle ⁴ □ Multiple heights
20.	A.	Are there air supply vents on the floor?
		¹☐ Yes ²☐ No [Please skip to Q21]

Question 20 (continued)

	B.	What types of air supply vents are in the floor? Are there fan coil units or unit ventilators?
		¹□ Yes
		² □ No
		³☐ Don't know
21.	Wha	at kind of air supply vent is the primary type? (Check only one)
	¹	Ceiling diffusers
		Upper half of wall
		Lower half of wall
	4	Middle of wall
	5	I Floor registers
	6	I Fan coil units or unit ventilators
	⁷	Other, specify:
22.	How	w many return vents are in the entire building space?
		One return vent [Please skip to Q24]
		Return vents:
23.	Wha	at kind of return vent is the primary vent type? (Check only one)
	1□	Ceiling grille
		High sidewall grille
	_	Low sidewall grille
		I Floor grille
		Other, specify:
	·	, ı ,

HVAC SYSTEM DESCRIPTION – OUTDOOR AIR INTAKE CONTROL

24.			door air control strate(lpants in the space?	gy for the air handling unit(s) serving the
	²	Fixed min Economiz Enthalpy	economizer cycle	ke
25.		at is the met low rate?	:hod used by the air h	andling unit in maintaining a minimum outdoor
	²	Supply/re Intake airl Demand (nper position turn fan tracking flow monitoring Controlled Ventilation g else, specify:	
26.		at is the min	imum outdoor air setti	ng (in percent)?
AIR	HANI	DLING UNIT	SPECIFICATIONS	
27.		at is the ma atest airflow		of the 3 ventilation units that have the
	A.	Unit 1:	MAKE:	MODEL:
	В.	Unit 2:	MAKE:	MODEL:
	C.	Unit 3:	MAKE:	MODEL:
EXF	IAUS	T FAN SPE	ECIFICATIONS	
28.	A.	How many	exhaust fans, if any,	operate in the space?
		¹☐ One	e [Please skip to Q29 exhaust fan exhaust fans)]

Question 28 (continued)

B. We would like to ask you a couple of questions about up to five of those exhaust fans. For each fan, please indicate the airflow rate, in cubic feet per minute, of the exhaust fan; the area, in square feet served by the fan, the control method for each exhaust fan (manual, time of day, temperature, pressure, or something else), and whether or not makeup air is supplied? (NOTE: Use a separate column for each exhaust fan. Answers should be given about the highest flow rate exhaust fans.)

		Exhaust fan 1	Exhaust fan 2	Exhaust fan 3	Exhaust fan 4	Exhaust fan 5
Airflow rate:	Cubic feet/min					
Area:	Square feet					
Control:	Manual	Yes No				
	Time of day	Yes No				
	Temperature	Yes No				
	Pressure	Yes No				
	Other, specify					
Makeup air:	Supplied?	Yes No				

FILTRATION AND AIR CLEANING SYSTEMS

29.	How many package rooftop HVAC units are there for this building?
	Number of HVAC units:

For, at most, three of the largest package rooftop units, we would like to know about the filtration or air-cleaning device that is installed in each.

ROOFTOP UNIT # 1

30.	A.	First, thinking about rooftop unit #1, what type of filtration or air cleaning device is installed in the air handling unit?
		 A particle filter Electronic air cleaner [Please skip to Q30J on page 9] Gaseous filter [Please skip to Q30M on page 10] Multi-function air cleaning unit, such as in-duct unit
	В.	What is the make and model number of the particle filter?
		¹□ If unknown, skip to Q30C
		MAKE: MODEL:
	C.	What is the rating of the filtration or air cleaning device?
		¹ ☐ ASHRAE Standard 52 rating (MERV): ² ☐ DOP efficiency rating:%
	D.	What is the total area of the filter bank?
		Square feet:
	E.	What is the filter media?
		¹ ☐ Polyester ² ☐ Fiberglass ³ ☐ Carbon ⁴ ☐ Other; specify:
	F.	Is the filter a panel or roll type?
		¹☐ Panel ²☐ Roll [Please skip to Q30]

Question 30 (continued)

30.	G.	Is the panel filter dry or viscous?	
		¹ □ Dry ² □ Viscous impingement [Please page 10 OR Q33 on page 15 i	
	Н.	Is the dry panel filter a flat panel, ple (Check all that apply)	ated, bag, or HEPA?
		page 15 if no others]	OFTOP UNIT #2 on page 10 or Q33 on TOP UNIT #2 on page 10 or Q33 on
		page 15 if no others]	
		³☐ Bag [Please skip to ROOFTO 15 if no others]	P UNIT #2 on page 10 or Q33 on page
			OP UNIT #2 on page 10 or Q33 on
	l.	Is the roll filter dry or viscous impinge	ement?
		¹ ☐ Dry [Please skip to ROOFTOI 15 if no others]	P UNIT #2 on page 10 or Q33 on page
		_	skip to ROOFTOP UNIT #2 on page 10 rs]
	J.	What type of "electronic" filtration dev	vice is used?
		¹□ Ionizer	
		² ☐ Electrostatic precipitator	
		³☐ Ultraviolet	
		⁴ ☐ Ozone generator	
		⁵ ☐ Other, specify:	
	K.	What is the make and model number	of the electronic filtration device?
		MAKE:	MODEL:

Question 30 (continued)

	L.	What is the total area of the filter bank?
		Square feet: [Please skip to ROOFTOP UNIT #2 below or Q33 on page 15 if no others]
	M.	What is the total face area of the filter bank?
		Square feet:
	N.	What is the depth of the media bed?
		Square feet:
	Ο.	What is the media utilized in the air cleaning?
		[Please skip to ROOFTOP UNIT #2 below or Q33 on page 15 if no others]
ROC	OFTC	OP UNIT # 2
31. A. Next, thinking about rooftop unit #2, what type of filtration or air clean device is installed in the air handling unit?		, 3
		 ¹ □ A particle filter ² □ Electronic air cleaner [Please skip to Q31J on page 12] ³ □ Gaseous filter [Please skip to Q31M on page 12] ⁴ □ Multi-function air cleaning unit, such as in-duct unit
	B.	What is the make and model number of the filtration or air cleaning device?
		¹☐ If unknown, skip to Q31C
		MAKE: MODEL:
	C.	What is the rating of the filtration or air cleaning device?
		¹ ☐ ASHRAE Standard 52 rating (MERV):

Question 31 (continued)

D.	What is the total area of the filter bank?
	Square feet:
E.	What is the filter media?
	¹ ☐ Polyester ² ☐ Fiberglass ³ ☐ Carbon ⁴ ☐ Other; specify:
F.	Is the filter a panel or roll type?
	¹☐ Panel ²☐ Roll [Please skip to Q31I]
G.	Is the panel filter dry or viscous?
	 ¹□ Dry ²□ Viscous impingement [Please skip to ROOFTOP UNIT #3 on page 13 or Q33 on page 15 if no others]
Н.	Is the dry panel filter a flat panel, pleated, bag, or HEPA? (Check all that apply)
	 Flat panel [Please skip to ROOFTOP UNIT #3 on page 13 or Q33 on page 15 if no others] Pleated [Please skip to ROOFTOP UNIT #3 on page 13 or Q33 on page 15 if no others]
	³ ☐ Bag [Please skip to ROOFTOP UNIT #3 on page 13 or Q33 on page 15 if no others]
	^⁴ ☐ HEPA [Please skip to ROOFTOP UNIT #3 on page 13 or Q33 on page 15 if no others]
l.	Is the roll filter dry or viscous impingement?
	 ¹☐ Dry [Please skip to ROOFTOP UNIT #3 on page 13 or Q33 on page 14 if no others] ²☐ Viscous impingement [Please skip to ROOFTOP UNIT#3 on page 13 or Q33 on page 14 if no others]

Question 31 (continued)

J.	What type of "electronic" filtration device is used?
	¹ ☐ Ionizer ² ☐ Electrostatic precipitator
	³☐ Ultraviolet ⁴☐ Ozone generator
	⁵ ☐ Other, specify:
K.	What is the make and model number of the electronic filtration device?
	MAKE: MODEL:
L.	What is the total area of the filter bank?
	Square feet:
	[Please skip to ROOFTOP UNIT #3 on page 13 or Q33 on page 15 if no others
М.	What is the total face area of the filter bank?
	Square feet:
N.	What is the depth of the media bed?
	Square feet:
Ο.	What is the media utilized in the air cleaning?
	[Please skip to ROOFTOP UNIT #3 on page 13 or Q33 on page 15 if no others]

ROOFTOP UNIT #3

32.	A.	Next, thinking about rooftop unit #3, what type of filtration or air cleaning device is installed in the air handling unit?	
		¹ □ A particle filter ² □ Electronic air cleaner [Please skip to Q32J on page 14] ³ □ Gaseous filter [Please skip to Q32M on page 14] ⁴ □ Multi-function air cleaning unit, such as in-duct unit	
B. What is the make and model number of the filtration or air cle		What is the make and model number of the filtration or air cleaning device?	
		¹□ If unknown, skip to Q32C	
		MAKE: MODEL:	
	C.	What is the rating of the filtration or air cleaning device?	
		¹ ☐ ASHRAE Standard 52 rating (MERV):	
	D.	What is the total area of the filter bank?	
		Square feet:	
	E.	What is the filter media?	
		¹ ☐ Polyester ² ☐ Fiberglass ³ ☐ Carbon ⁴ ☐ Other; specify:	
	F.	Is the filter a panel or roll type?	
		¹ ☐ Panel ² ☐ Roll [Please skip to Q32l on page 14]	
	G.	Is the panel filter dry or viscous?	
		¹ ☐ Dry ² ☐ Viscous impingement [Please skip to Q33 on page 15]	

Question 32 (continued)

н.	apply)
	¹ ☐ Flat panel [Please skip to Q33 on page 15] ² ☐ Pleated [Please skip to Q33 on page 15] ³ ☐ Bag [Please skip to Q33 on page 15] ⁴ ☐ HEPA [Please skip to Q33 on page 15]
I.	Is the roll filter dry or viscous impingement?
	¹ ☐ Dry [Please skip to Q33 on page 15] ² ☐ Viscous impingement [Please skip to Q33 on page 15]
J.	What type of "electronic" filtration device is used?
	 lonizer Electrostatic precipitator Ultraviolet Ozone generator Other, specify:
K.	What is the make and model number of the electronic filtration device?
	MAKE: MODEL:
L.	What is the total area of the filter bank?
	Square feet: [Please skip to Q33 on page 15]
М.	What is the total face area of the filter bank?
	Square feet:
N.	What is the depth of the media bed?
	Square feet:
Ο.	What is the media utilized in the air cleaning?

AIR WASHERS

33.	Is th	ere an air washer system in the package rooftop unit?	
	_	Yes No	
HU	MIDII	FICATION SYSTEMS	
34.	4. (Is the package rooftop unit/ Are any of the package rooftop units) equipped with humidification system?		
		Yes No	
AIR	HAN	DLER INSPECTIONS	
35.	A.	(Is the package rooftop unit/Are the package rooftop units) inspected on a regular schedule, have they been inspected but not on a regular basis, or have they not been inspected?	
		 Yes, inspected on a regular schedule Inspected, but not on regular basis [Please skip to Instruction box below] Not inspected [Please skip to Instruction box below] 	
	B.	What is the frequency of inspections (answer in months)?	
		Months between inspections:	
Inst	ructi	on box: Answer Q36 only if use particulate filters. Otherwise, please skip to next instruction box on page 16.	
36.	A.	(Is the particulate filter/ Are the particulate filters) replaced on a regular schedule, have they been replaced but not on a regular basis, or have they not been replaced?	
		¹ ☐ Yes, replaced on a regular schedule ² ☐ Replaced, but not on regular basis [Please skip to Q37A] ³ ☐ Not replaced [Please skip to Q37A]	

Question 36 (continued)

	B.	What is t	he frequency of replacement (answer in months)?
		Months	s between replacement:
Inst	ructi	on box:	Answer Q37 only if have electronic filters. Otherwise, please skip to Q46 on page 18.
37.	A.	schedule	ectronic filter/ Are the electronic filters) inspected on a regular e, have they been inspected but not on a regular basis, or have they inspected?
		² Ins	s, inspected on a regular schedule spected, but not on regular basis [Please skip to Q38] t inspected [Please skip to Q38]
	В.	What is t	he frequency of inspections (answer in months)?
		Months	s between inspections:
38.	A.	`	ectronic filter/Are the electronic filters) cleaned on a regular e, have they been cleaned but not on a regular basis, or have they not aned?
			s, cleaned on a regular schedule eaned, but not on regular basis [Please skip to Q39] t cleaned [Please skip to Q39]
	В.	What is t	he frequency of cleanings (answer in months)?
		Months	s between cleanings:
39.	A.		neating and cooling coils inspected on a regular schedule, have they pected but not on a regular basis, or have they not been inspected?
		² Ins	s, inspected on a regular schedule spected, but not on regular basis [Please skip to Q40] t inspected [Please skip to Q40]
	В.	What is t	he frequency of inspections (answer in months)?
		Months	s between inspections

40.	O. A. Are the heating and cooling coils cleaned on a regular schedule, have been cleaned but not on a regular basis, or have they not been cleaned	
		¹ ☐ Yes, cleaned on a regular schedule ² ☐ Cleaned, but not on regular basis [Please skip to Q41] ³ ☐ Not cleaned [Please skip to Q41]
	В.	What is the frequency of cleanings (answer in months)?
		Months between cleanings
41.	A.	Are the drain pans inspected on a regular schedule, have they been inspected but not on a regular basis, or have they not been inspected?
		¹ ☐ Yes, inspected on a regular schedule ² ☐ Inspected, but not on regular basis [Please skip to Q42] ³ ☐ Not inspected [Please skip to Q42]
	В.	What is the frequency of inspections?
		Months between inspections [Please skip to Q43]
42.	A.	Are the drain pans <u>cleaned</u> on a regular schedule, have they been cleaned but not on a regular basis, or have they not been cleaned?
		¹ ☐ Yes, cleaned on a regular schedule ² ☐ Cleaned, but not on regular basis [Please skip to Q44] ³ ☐ Not cleaned [Please skip to Q43]
	В.	What is the frequency of cleanings?
		Months between cleanings
43.	Hov	v often is the drain line tested?
	Mor	nths between inspection

44.	A.	Is the ductwork inspected on a regular schedule, has it been inspected but not on a regular basis, or has it not been inspected?
		¹ ☐ Yes, inspected on a regular schedule ² ☐ Inspected, but not on regular basis [Please skip to Q45] ³ ☐ Not inspected [Please skip to Q45]
	B.	What is the frequency of inspections (answer in months)?
		Months between inspections
45.	A.	Has the ductwork been <u>cleaned</u> on a regular schedule, has it been cleaned but not on a regular basis, or has it not been cleaned?
		¹ ☐ Yes, cleaned on a regular schedule ² ☐ Cleaned, but not on regular basis [Please skip to Q46] ³ ☐ Not cleaned [Please skip to Q46]
	B.	What is the frequency of cleanings (answer in months)?
		Months between cleanings
TES	STIN(G AND BALANCING
46.	A.	(Is the package rooftop unit/ Are the package rooftop units) tested and balanced on a regular schedule, have they been tested and balanced but not on a regular basis, or have they not been tested and balanced?
		¹☐ Yes, tested and balanced on a regular schedule
		² ☐ Tested and balanced, but not on regular basis [Please skip to final instruction box, bottom of page]
		³☐ Not tested and balanced [Please skip to final instruction box, bottom of page]
	B.	What is the frequency of testing and balancing (answer in months)?
		Months between testings and balancings
Fina	al Ins	struction Box: Please return the questionnaire in the envelope provided. No postage is needed.
		Thank you for your assistance!

Appendix E.

Codebook and Frequencies for the Indoor Environmental Quality and HVAC Survey of Small and Medium Commercial Buildings (SMCB)

University of California Berkeley

CODEBOOK

for the

INDOOR ENVIRONMENTAL QUALITY AND HVAC SURVEY OF SMALL AND MEDIUM COMMERCIAL BUILDINGS (SMCB)

(476 completed cases)

Sponsor: California Air Resources Board (CARB)

Data Collection Period: June 6, 2008 - May 1, 2009

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CASE IDENTIFICATION	2
CASEID: Case identification number	
region: Region	
size: Business size (no. of employees)	2
samp: Sample type (size + region)	
TYPE OF BUSINESS	
ci3: Main type of business	4
ci3a: Business type: non-medical offices	
ci3b: Business type: health care	
ci3c: Business type: food service	
ci3d: Business type: food store	
ci3e: Business type: retail	
ci3f: Business type: lodging	
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ci3i: Business type: other/misc	
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ci6: Number of floors used by business	9
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sifA7_e: 1st floor: type of finish-vinyl flooring	15
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sifB7_b: 2nd floor: type of finish-wood	
sifB7_c: 2nd floor: type of finish-ceramic tile	
sifB7_d: 2nd floor: type of finish-concrete	
sifB7_e: 2nd floor: type of finish-vinyl flooring	19
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ivfA23_e: 1st floor: desk fans used	
ivfA23a: 1st floor: number of air cleaners	
ivfA23b_1: 1st floor: type of air cleaner-mechanical	
ivfA23b_2: 1st floor: type of air cleaner-pleated filters	
ivfA23b_3: 1st floor: type of air cleaner-ionizers	
ivfA23b_4: 1st floor: type of air cleaner-electrostatic precipitators	
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brB2c : 2nd floor: type of carpet padding	154
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brB3b_1: 2nd floor: furniture type-solid wood	155
brB3b_2: 2nd floor: furniture type-composite w/ veneer	
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csB2a_3: 2nd floor: employees apply pesticide	
csB2a_4: 2nd floor: other person applies pesticide	
csB2b: 2nd floor: how often exterior pesticide applied	
csB2d: 2nd floor: how often exterior pesticide applied	
csB2g: 2nd floor: pesticides stored on- or off-site	
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time: Interviee time (hhmm)	234
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inum: Interviewer number	235
dow: Interview day of week	236
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INTRODUCTION

The Indoor Environmental Quality and HVAC Survey of Small and Medium Commercial Buildings (SMCB) study collected data from telephone interviews with mangers of small and medium size commercial buildings in California to develop statewide information on ventilation characteristics of SMCBs, including the design and performance specifications for heating, ventilating, and airconditioning (HVAC) systems, for HVAC control systems, for natural ventilation provisions, and for air filtration systems.

Buildings were excluded from the study if they were 4 or more floors tall, did not have a rooftop HVAC system, were over 50,000 square feet, were under 500 square feet, or were built before 1978.

This project set out to accomplish the following:

Develop statewide survey information on the operation and maintenance characteristics of SMCB, including commissioning, inspection, testing, maintenance staff training, cleaning practices, and repair of HVAC, filtration, and control systems,

Develop statewide survey information on basic construction details of SMCBs (eg. woodframe, masonry, steel) and of parameters affecting the air tightness of the building shell.

Obtain statewide survey data on indoor air quality (IAQ) characteristics of SMCB, including potential sources of indoor pollutants, sources of nearby point emission sources (eg. nearby dry cleaners), histories of moisture problems, and to the extent feasible, occupant complaints, and Cal/OSHA inspections,.

Characterize remedial actions that have been taken in SMCB in response to IAQ complaints or moisture problems, or to prevent IAQ problems. Assess the correlation of SMCB building and/or equipment characteristics with the potential for poor ventilation and IAQ.

Obtain the data needed to identify the frequency distribution of various buildings, building use types, indoor occupancy and source types, and ventilation types in SMCBs, in order to help advise future research.

The CARB-SMCB study was funded and supported by the California Air Resources Board (CARB). The Survey Research Center at the University of California, Berkeley conducted the survey portion of the project.

CASE IDENTIFICATION

CASEID: Case identification number

```
476 cases (Range of valid codes: 11012-55022)
```

Record/columns: 1/1-5

region: Region

Location of business in the state of California.

```
S_Coast = Southern Coastal
N_Coast = Northern Coastal
S_Inland = Southern Inland
C_Inland = Central Inland
N_Inland = Northern Inland
```

```
        %
        N
        VALUE
        LABEL

        17.4
        83
        1
        S_Coast

        16.8
        80
        2
        N_Coast

        21.4
        102
        3
        S_Inland

        23.1
        110
        4
        C_Inland

        21.2
        101
        5
        N_Inland
```

100.0 476 cases

Record/column: 1/54

size: Business size (no. of employees)

Business size determined by number of employees.

```
% N VALUE LABEL
41.6 198 1 Small (3-50)
48.1 229 2 Med (51-200)
10.3 49 3 Large (201+)
-----
100.0 476 cases
```

samp: Sample type (size + region)

The sample type was created by combining the business size ('size') with it's location in the state ('region').

```
N VALUE LABEL
4.4
      21
          11 S_Coast_sm
9.9
     47
            12 S_Coast_md
3.2
    15
            13 S_Coast_lg
6.7
    32
            21 N_Coast_sm
8.0
    38
           22 N_Coast_md
           23 N_Coast_lg
2.1
    10
          31 S_Inland_sm
6.9
      33
    56 32 S_Inland_md
13 33 S_Inland_lg
11.8
2.7
10.5 50
          41 C_Inland_sm
11.1 53
           42 C_Inland_md
1.5
      7
           43 C_Inland_lg
          51 N_Inland_sm
13.0 62
          52 N_Inland_md
7.4
    35
     4
0.8
            53 N_Inland_lg
```

100.0 476 cases

Record/columns: 1/50-51

TYPE OF BUSINESS

ci3: Main type of business

What is the MAIN business carried out in this building?

Record/columns: 1/82-83

ci3a: Business type: non-medical offices

```
IF NON-MEDICAL OFFICES ('ci3' eq 1):

------

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

* N VALUE LABEL
1.7 2 1 Data Processing/Computer Center
98.3 114 3 Other
360 . Blank - DNA
-----
100.0 476 cases
```

ci3b: Business type: health care

ci3c: Business type: food service

ci3d: Business type: food store

ci3e: Business type: retail

ci3f: Business type: lodging

Record/column: 1/89

ci3g: Business type: public assembly

```
IF PUBLIC ASSEMBLY ('ci3' eq 7):
------

INTERVIEWER: CODE SPECIFIC TYPE OF BUSINESS HERE

% N VALUE LABEL
5.3 1 1 Religious, worship only
31.6 6 2 Religious, mixed-use
15.8 3 3 Health/Fitness
5.3 1 4 Movie Theater
5.3 1 5 Theater/Performing Arts
36.8 7 8 Other (SPECIFY)
457 . Blank - DNA
----- ---
100.0 476 cases
```

Record/columns: 1/90-91

ci3h: Business type: service

Record/column: 1/92

ci3i: Business type: other/misc

ci5: Space leased or owned

Is the space leased or owned by the business owner?

```
% N VALUE LABEL
53.2 249 1 Leased
46.8 219 5 Owned
7 8 DK
1 9 Ref/MD
-----
100.0 476 cases
```

Record/column: 1/94

ci6: Number of floors used by business

You said your building has [1-3] stories.

How many stories does your business actually use?

```
% N VALUE LABEL
75.8 361 1
21.2 101 2
2.9 14 3
---- ---
100.0 476 cases
```

BUILDING DESCRIPTION

bd1: Year building completed

In what year was this building's construction COMPLETED?

```
N VALUE LABEL
 3.3
      12 1979
      17 1980
 4.7
 2.8
      10 1981
 3.6
      13 1982
 3.3
      12 1983
 3.0
     11
         1984
         1985
 5.5
      20
 3.9
      14 1986
 1.9
      7 1987
 3.9
     14 1988
 5.8
      21 1989
 2.8
     10 1990
 3.0
      11
         1991
      9 1992
 2.5
         1993
 2.8
      10
 2.8
     10 1994
 2.5
      9 1995
 2.5
      9 1996
 2.5
      9 1997
 4.4
     16 1998
 2.2
      8
         1999
          2000
 4.7
     17
 3.3
     12 2001
 4.1
     15 2002
 5.5
      20 2003
 4.7
      17 2004
 1.1
      4 2005
 3.0
      11
          2006
 1.9
      7
          2007
      8 2008
 2.2
     113
          9998 DK
100.0 476 cases
```

Record/columns: 1/96-99

bd2: Building ever renovated

Has there been a major renovation or addition since the completion of the original building?

Record/column: 1/100

bd2a: Year of renovation

```
QUESTION ASKED IF BUILDING EVER RENOVATED ('bd2' eq 1):
```

In what year was the last major renovation or addition?

```
N VALUE LABEL
 1.1
      1 1986
 1.1
      1 1987
 1.1
      1 1988
      1 1990
 1.1
 1.1
     1 1992
 1.1
      1 1993
      1 1994
 1.1
      1 1995
 1.1
      3 1997
 3.2
 4.3
      4 1998
      4 1999
 4.3
 6.5
      6 2000
      4 2001
 4.3
      9 2002
 9.7
      5 2003
 5.4
 3.2
      3 2004
 3.2
      3 2005
17.2 16 2006
14.0 13 2007
16.1 15 2008
        9998 DK
      7
     376
          . Blank - DNA
100.0 476 cases
```

Record/columns: 1/101-104

bd2b_1: Renovation: new ventilation system

```
QUESTION ASKED IF BUILDING EVER RENOVATED ('bd2' eq 1 AND 'bd2a' lt 9998):
```

Please describe the renovation, especially any changes to the ventilation system that might affect ventilation rates, such as new windows or doors, a new HVAC system, weatherizing or a large change in volume of the space. Choose from the following list:

```
(READ EACH AND CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
```

New ventilation system

```
% N VALUE LABEL
39.6 36 1 Yes
60.4 55 5 No
2 8 DK
383 . Blank - DNA
---- ---
100.0 476 cases
```

Record/column: 1/105

Record/column: 1/106

bd2b_2: Renovation: new windows/doors

bd2b_3: Renovation: weatherization

bd2b_4: Renovation: other

SPACE INTERIOR FINISHES

sifA7_a: 1st floor: type of finish-carpet

```
What types of floor finishes are in the space on the first floor?

(CODE 1 IF APPLICABLE - OTHERWISE CODE 5)

Carpet

* N VALUE LABEL

79.2 376 1 Yes
20.8 99 5 No
1 8 DK

------
100.0 476 cases
```

sifA7_b: 1st floor: type of finish-wood

```
Wood

(See 'sifA7_a' for full text of this form.)

* N VALUE LABEL
7.4 35 1 Yes
92.6 441 5 No
---- ---
100.0 476 cases

Record/column: 1/110
```

sifA7_c: 1st floor: type of finish-ceramic tile

```
Ceramic Tile

(See 'sifA7_a' for full text of this form.)

* N VALUE LABEL
51.3 244 1 Yes
48.7 232 5 No
---- ---
100.0 476 cases

Record/column: 1/111
```

sifA7_d: 1st floor: type of finish-concrete

sifA7_e: 1st floor: type of finish-vinyl flooring

sifA7_f: 1st floor: type of finish-linoleum

sifA7_g: 1st floor: type of finish-other

```
Other (SPECIFY)

(See 'sifA7_a' for full text of this form.)

* N VALUE LABEL
6.9 33 1 Yes (SPECIFY)
93.1 442 5 No
1 8 DK
-----
100.0 476 cases

Record/column: 1/115
```

sifA7a: 1st floor: primary floor finish

```
IF ONLY ONE TYPE OF FLOOR FINISH IN BUILDING, THIS ITEM IS AUTOCODED AND SKIPPED.
```

Which of the floor finishes you mentioned is the primary one?

Record/column: 1/116

Record/column: 1/117

sifB7_a: 2nd floor: type of finish-carpet

```
IF COMPANY USES ONLY ONE FLOOR ('ci6' eq 1),
INTERVIEW PATH SKIPS TO 'bola':
What types of floor finishes are in the space on the SECOND floor?
(CODE 1 IF APPLICABLE - OTHERWISE CODE 5)
Carpet
   % N VALUE LABEL
93.0 106 1 Yes
             5 No
     8
 7.0
       1
             8 DK
     361
            . Blank - DNA
____
100.0 476 cases
```

sifB7_b: 2nd floor: type of finish-wood

sifB7_c: 2nd floor: type of finish-ceramic tile

```
Ceramic Tile

(See 'sifB7_a' for full text of this form.)

* N VALUE LABEL
32.5 37 1 Yes
67.5 77 5 No
1 8 DK
361 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 1/119
```

sifB7_d: 2nd floor: type of finish-concrete

```
Concrete

(See 'sifB7_a' for full text of this form.)

% N VALUE LABEL
6.1 7 1 Yes
93.9 107 5 No
1 8 DK
361 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 1/120
```

sifB7_e: 2nd floor: type of finish-vinyl flooring

sifB7_f: 2nd floor: type of finish-linoleum

```
Linoleum
(See 'sifB7_a' for full text of this form.)

* N VALUE LABEL
17.5 20 1 Yes
82.5 94 5 No
1 8 DK
361 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 1/122
```

sifB7_g: 2nd floor: type of finish-other

```
Other (SPECIFY)

(See 'sifB7_a' for full text of this form.)

* N VALUE LABEL
3.5 4 1 Yes (SPECIFY)
96.5 110 5 No
1 8 DK
361 . Blank - DNA
-----
100.0 476 cases

Record/column: 1/123
```

sifB7a: 2nd floor: primary floor finish

```
IF ONLY ONE TYPE OF FLOOR FINISH IN BUILDING, THIS ITEM IS AUTOCODED AND SKIPPED.
```

Which of the floor finishes you mentioned is the primary one?

Record/column: 1/124

Record/column: 1/125

sifC7_a: 3rd floor: type of finish-carpet

sifC7_b: 3rd floor: type of finish-wood

```
Wood

(See 'sifC7_a' for full text of this form.)

% N VALUE LABEL

100.0 14 5 No
462 . Blank - DNA
-----
100.0 476 cases

Record/column: 1/126
```

sifC7_c: 3rd floor: type of finish-ceramic tile

```
Ceramic Tile

(See 'sifC7_a' for full text of this form.)

* N VALUE LABEL
28.6 4 1 Yes
71.4 10 5 No
462 . Blank - DNA
----
100.0 476 cases

Record/column: 1/127
```

sifC7_d: 3rd floor: type of finish-concrete

```
Concrete

(See 'sifC7_a' for full text of this form.)

* N VALUE LABEL

100.0 14 5 No
462 . Blank - DNA
-----
100.0 476 cases

Record/column: 1/128
```

sifC7_e: 3rd floor: type of finish-vinyl flooring

```
Vinyl Flooring

(See 'sifC7_a' for full text of this form.)

* N VALUE LABEL
21.4 3 1 Yes
78.6 11 5 No
462 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 1/129
```

sifC7_f: 3rd floor: type of finish-linoleum

```
Linoleum

(See 'sifC7_a' for full text of this form.)

% N VALUE LABEL

100.0 14 5 No
462 . Blank - DNA
-----
100.0 476 cases

Record/column: 1/130
```

sifC7_g: 3rd floor: type of finish-other

```
Other (SPECIFY)

(See 'sifC7_a' for full text of this form.)

* N VALUE LABEL

100.0 14 5 No
462 . Blank - DNA
---- ---

100.0 476 cases

Record/column: 1/131
```

sifC7a: 3rd floor: primary floor finish

```
IF ONLY ONE TYPE OF FLOOR FINISH IN BUILDING, THIS ITEM IS AUTOCODED AND SKIPPED.
```

Which of the floor finishes you mentioned is the primary one?

```
% N VALUE LABEL

100.0 14 1 Carpet
462 . Blank - DNA
---- ----

100.0 476 cases
```

BUSINESS HOURS

bo1a: Building is open 24 hrs

```
Is MOST of this building typically open for business 24 hours, seven days a week?
```

```
% N VALUE LABEL
15.1 72 1 Yes (SKIP TO 'bo9')
84.9 404 5 No
---- ---
100.0 476 cases
```

bo1_a: Opening time: Mon-Fri

```
QUESTION ASKED IF BUILDING IS NOT OPEN 24 HRS. ('bola' qe 5):
What are the typical weekday (Monday - Friday) business hours
(for MOST of the building)?
Open Time: (A)M (P)M
  % N VALUE LABEL
 1.5 6 400
 0.7 3 430
 3.0 12 500
 0.2
      1 530
 6.2 25 600
 2.0 8 630
14.4 58 700
 6.4 26 730
 36.4 147 800
 3.0 12 830
 0.2 1 850
10.6 43 900
 0.2 1
          930
 7.4 30 1000
 0.2 1 1030
     27 1100
 6.7
 0.2 1 1200
0.2 1 9997 Not open
0.2 1 9999 Ref/MD
     72 . Blank - DNA
100.0 476 cases
```

Record/columns: 1/134-137

Record/column: 1/138

bo1_a1: Opening time: Mon-Fri am/pm

bo1_b: Closing Time: Mon-Fri

Record/columns: 1/139-142

```
QUESTION ASKED IF BUILDING IS NOT OPEN 24 HRS. ('bola' qe 5):
Closed Time: (A)M (P)M
(See 'bol_a' for full text of this form.)
   % N VALUE LABEL
 1.0 4 100
 0.5 2
            200
       1
 0.2
            230
       1 300
 0.2
 0.5
       2 330
 3.0 12 400
 2.0 8 430
 41.3 167 500
 3.2 13 530
 13.9 56 600
           630
  0.7
       3

      4.5
      18
      700

      0.7
      3
      730

  4.2 17 800
  7.7 31
            900
  0.5
       2 930
  7.4 30 1000
  0.7 3 1030
  3.5 14 1100
 3.5 14 1200
 0.2 1 1230
 0.2 1 9997 Not open
0.2 1 9999 Ref/MD
      72
             . Blank - DNA
100.0 476 cases
```

bo1_b1: Closing Time: Mon-Fri am/pm

```
(A)M (P)M

(See 'bo1_a' for full text of this form.)

* N VALUE LABEL
5.0 20 1 AM
94.6 382 2 PM
0.2 1 7 Not open/NA
0.2 1 9 Ref/MD
72 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 1/143
```

bo2_a: Opening time: Saturday

Record/columns: 1/144-147

```
QUESTION ASKED IF BUILDING IS NOT OPEN 24 HRS. ('bola' ge 5):
What are the typical Saturday business hours
(for MOST of the building)?
Open Time: (A)M (P)M
  % N VALUE LABEL
 0.5 2 300
 0.7 3 400
      1 430
7 500
 0.2
 1.7
 3.0 12 600
 0.7 3 630
 3.2 13 700
      4 730
 1.0
     44 800
10.9
 0.2 1 820
 0.2
      1 830
 7.7 31
          900
 7.2 29 1000
 0.2 1 1030
 6.2 25 1100
0.2 1 1200
54.7 221 9997 Not open
 1.0 4 9998 DK
0.2 1 9999 Ref/MD
     72 . Blank - DNA
100.0 476 cases
```

bo2_a1: Opening time: Saturday am/pm

bo2_b: Closing time: Saturday

Record/columns: 1/149-152

```
QUESTION ASKED IF BUILDING IS NOT OPEN 24 HRS. ('bola' qe 5):
Closed Time: (A)M (P)M
(See 'bo2_a' for full text of this form.)
  % N VALUE LABEL
 2.2 9 100
      7 200
 1.7
      3
          300
 0.7
      5 400
 1.2
 0.2
      1 430
 5.7 23 500
      3 530
 0.7
 4.0 16 600
 0.2
      1
          630
     10 700
 2.5
          730
      1
 0.2
 2.7 11 800
 4.7 19 900
 0.2
      1
          930
 5.0 20 1000
 0.5 2 1030
 5.4 22 1100
0.2 1 1130
 5.4 22 1200
 0.2 1 1230
54.7 221 9997
 1.0 4 9998 DK
0.2 1 9999 Ref/MD
     72
           . Blank - DNA
100.0 476 cases
```

bo2_b1: Closing time: Saturday am/pm

```
(A)M (P)M

(See 'bo2_a' for full text of this form.)

* N VALUE LABEL
5.9 24 1 AM
38.1 154 2 PM
54.7 221 7 Not open/NA
1.0 4 8 DK
0.2 1 9 Ref/MD
72 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 1/153
```

bo3_a: Opening time: Sunday

Record/columns: 1/154-157

```
QUESTION ASKED IF BUILDING IS NOT OPEN 24 HRS. ('bola' ge 5):
What are the typical Sunday business hours
(for MOST of the building)?
Open Time: (A)M (P)M
   % N VALUE LABEL
 0.2 1 100
0.5 2 300
      2 400
 0.5
 1.2
      5 500
 0.2
      1 530
 2.7 11 600
 0.5
      2 630
 2.7 11
           700
 0.2
           730
       1
 3.7 15 800
 0.2
      1 830
 4.5 18 900
 6.9 28 1000
 0.2 1 1030
 6.4 26 1100
 0.5 2 1200
67.1 271 9997 Not open
 1.2 5 9998 DK
0.2 1 9999 Ref/MD
     72 . Blank - DNA
100.0 476 cases
```

bo3_a1: Opening time: Sunday am/pm

bo3_b: Closing time: Sunday

```
QUESTION ASKED IF BUILDING IS NOT OPEN 24 HRS. ('bola' qe 5):
Closed Time: (A)M (P)M
(See 'bo3_a' for full text of this form.)
  % N VALUE LABEL
 0.7 3 100
 0.5 2 200
      2
           300
 0.5
      3 400
 0.7
 0.2
      1 430
 2.5 10 500
 0.2 1 530
 3.2 13 600
 3.7 15 700
 1.2
      5 800
      1 830
 0.2
 5.2 21
          900
 5.9 24 1000
 0.5 2 1030
 4.5 18 1100
1.2 5 1200
0.2 1 1230
67.1 271 9997 Not open
 1.2 5 9998 DK
0.2 1 9999 Ref/MD
     72 . Blank - DNA
100.0 476 cases
```

Record/columns: 1/159-162

bo3_b1: Closing time: Sunday am/pm

```
(A)M (P)M

(See 'bo3_a' for full text of this form.)

% N VALUE LABEL
2.7 11 1 AM
28.7 116 2 PM
67.1 271 7 Not open/NA
1.2 5 8 DK
0.2 1 9 Ref/MD
72 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 1/163
```

PERSONS PRESENT

bo9: Maximum employees present

During business hours, in a typical week, what is the MAXIMUM number of employees, including contractors and other workers, in the space at any point in time?

%	N	VALUE	LABEI
0.9	4	1 2	
2.4	11 14	3	
4.2	19	4	
5.1	23	5	
3.3	15	6	
3.5 3.5	16 16	7 8	
1.1	5	9	
4.2	19	10	
1.1	5	11	
2.0	9 9	12 13	
0.9	4	14	
4.0	18	15	
0.2	1 1	16 17	
0.2	1	19	
4.4	20	20	
1.1	5	22	
0.4	2 5	23 24	
6.0	27	25	
0.4	2	26	
0.2	1 1	27 29	
5.7	26	30	
0.2	1	33	
3.5	16	35	
3.5 0.2	16 1	40 42	
1.3	6	45	
5.3	24	50	
0.2	1	54	
0.7	3 2	55 57	
3.5	16	60	
1.1	5	65	
0.7 2.2	3 10	70 75	
1.3	6	80	
0.2	1	84	
0.4	2	85	
0.7	3	90	

0.2	1	94	
4.6	21	100	
0.4	2	110	
1.8	8	120	
0.4	2	125	
0.2	1	130	
1.5	7	150	
0.4	2	175	
0.2	1	185	
0.7	3	200	
0.2	1	225	
0.2	1	240	
0.4	2	250	
0.2	1	270	
0.2	1	300	
0.4	2	400	
0.2	1	600	
0.2	1	700	
	23	9998	DK

100.0 476 cases

Record/columns: 1/164-167

bo10: Maximum customers present

During business hours, in a typical week, what is the MAXIMUM number of customers or members of the public in the space at any point in time?

%	N	VALUE	LABEL
7.5	32	0	None
3.8 4.2 4.7	16 18	1 2	
4.2 4.7	20	3	
3.8	16	4	
6.4	27	5	
1.4	6	6	
0.9	4	7	
1.4 0.2	6 1	8 9	
	36	10	
1.7	7	12	
0.2	1	13	
5.2	22	15	
0.2	1	18	
6.4 0.2	27 1	20 23	
0.2	1	24	
2.8	12	25	
0.2	1	26	
0.2	1	28	
0.9	19 4	30 35	
0.2	1	37	
1.9	8	40	
4.7	20	50	
1.4 0.5	6 2	60 70	
0.5 1.7	7	75	
1.7 0.2 0.5	1	80	
0.5	2	90	
2.4	10	100	
0.2	1 1	103 105	
0.7	3	120	
0.2	1	125	
0.2	1	128	
0.5	2	140	
2.6 0.2	11 1	150 158	
0.2	1	172	
0.2	1	180	
0.2	1	185	
0.2	1	188	
1.4 0.2	6 1	200 203	
0.2	1	203	

Record/columns: 1/168-171

SURROUNDING LOCALE

su1: Surrounding area: rural, etc.

Would you describe the area surrounding the building as urban, suburban, rural or something else?

Record/column: 1/172

su1a: Surrounding area: industrial, etc.

Would you describe the area surrounding the building as industrial, commercial, residential, agricultural, or something else?

By "surrounding area" we mean the area within a half-mile.

```
N VALUE LABEL
19.2 91
           1 Industrial
            2 Commercial
52.0 247
            3 Residential/Resort-like
17.9
     85
            4 Agricultural
 1.5
      7
            5 Something else (SPECIFY)
 9.5
     45
            9 Ref/MD
      1
100.0 476 cases
```

HVAC OPERATING SCHEDULE

os1: Number of AC settings when occupied

For this question, thinking of the space where MOST of the people spend MOST of their time, does the space have one thermostat setting for COOLING, or more than one?

os1b_1: First AC setting when occupied

```
QUESTION ASKED IF AC IS USED ('os1' le 2):
```

What are the thermostat settings for COOLING when it is OCCUPIED?

```
N VALUE LABEL
  %
 0.5 2 59 Below 60 degrees (SPECIFY)
 0.7 3
            62
 1.4
      6
            65
       3
            66
 0.7
 0.7 3 67
7.6 33 68
1.6 7 69
9.5 41 70
 2.8 12
            71
 21.2 92
            72
 5.3 23
            73
 17.3 75 74
9.0 39 75
7.2 31 76
1.4 6 77
 17.3 75
11.8 51 78
      4
 0.9
            79
 0.2 1 80
0.2 1 81
       30 998
      13 . Blank - DNA
----
100.0 476 cases
```

Record/columns: 1/175-177

os1b_2: Second AC setting when occupied

Record/columns: 1/178-180

```
CODED IF MORE THAN ONE AC SETTING IS USED ('os1' eq 2):
(See 'os1b_1' for full text of this form.)
  % N VALUE LABEL
 2.2 3 59 Below 60 degrees (SPECIFY)
 0.7 1
            60
 0.7
      1
            62
            65
 1.5
       2
1.5 2 65
0.7 1 66
0.7 1 67
11.1 15 68
1.5 2 69
8.9 12 70
 2.2
       3
            71
 17.8 24
            72
            73
 3.0
       4
          74
75
 11.9
     16
     9
 6.7
       7
 5.2
            76
 0.7
      1
            77
 8.9 12
            78
 2.2 3
            79
 7.4 10 80
2.2 3 82
       4 85
1 88
 3.0
 0.7
      1
      75 998
     266 . Blank - DNA
100.0 476 cases
```

January 25, 2010

os2: Number of AC settings when unoccupied

When the space is UNOCCUPIED, does the thermostat have one cooling setting or more than one?

os2b_1: First AC setting when unoccupied

```
QUESTION ASKED IF AC IS USED ('os2' le 2):
```

What are the thermostat cooling settings when it is UNOCCUPIED?

```
% N VALUE LABEL
 3.6 6 59 Below 60 degrees (SPECIFY)
 1.8
     3
          60
 1.2
     2
          64
 1.2
     2
          65
     3 66
7 68
2 69
9 70
 1.8
 4.2
 1.2
 5.4
 1.2
     2
          71
 8.3 14
          72
 1.2
     2
          73
          74
    11
 6.5
         75
    11
 6.5
 3.0
     5
          76
 8.3 14
          78
 0.6
     1
          79
18.5 31
          80
     7
2
 4.2
          82
1.2 2 84
14.9 25 85
 1.2 2
         88
     7
 4.2
          90
     13 998
    295 . Blank - DNA
100.0 476 cases
```

Record/columns: 1/182-184

os2b_2: Second AC setting when unoccupied

```
CODED IF MORE THAN ONE AC SETTING IS USED ('os2' eq 2):
(See 'os2b_1' for full text of this form.)
   %
      N VALUE LABEL
 9.5 2 60
 9.5
      2
            65
 9.5
       2
            70
      1 72
1 73
1 74
1 75
1 76
3 78
5 80
 4.8
 4.8
 4.8
 4.8
 4.8
 14.3
 23.8
 4.8 1
            84
 4.8 1
            85
      16 998
     439 . Blank - DNA
_____
100.0 476 cases
```

Record/columns: 1/185-187

os3: Number of heating settings when occupied

When the space is OCCUPIED, does the space have one thermostat setting for HEATING or more than one?

os3b_1: First heating setting when occupied

```
QUESTION ASKED IF HEATING IS USED ('os3' le 2):
```

What are the thermostat settings for HEATING when it is OCCUPIED?

```
% N VALUE LABEL
 0.8 3 59 Below 60 degrees (SPECIFY)
 1.0 4
            60
 0.3
      1
            62
      2
 0.5
            63
2.1 8 65
2.1 8 66
0.8 3 67
30.4 116 68
3.4 13
            69
11.8 45
            70
 2.9 11
            71
14.7 56 72
2.4 9 73
7.3 28 74
 5.5 21
            75
 3.4 13
            76
 1.0
      4
            77
5.2 20 78
1.3 5 79
1.6 6 80
0.3 1 81
0.5 2 82
 0.5
      2
            85
      58 998
            . Blank - DNA
      37
```

100.0 476 cases

Record/columns: 1/189-191

os3b_2: Second heating setting when occupied

```
CODED IF MORE THAN ONE HEATING SETTING IS USED ('os3' eq 2):
(See 'os3b_1' for full text of this form.)
   용
      N VALUE LABEL
 3.6 3 59 Below 60 degrees (SPECIFY)
 6.0
       5
            60
 3.6
       3
            64
 3.6
       3
            65
3.6 3 65

1.2 1 66

2.4 2 67

21.4 18 68

3.6 3 69

8.3 7 70
 3.6
       3
            71
 20.2 17
            72
 3.6
            73
       3
            74
 8.3
       7
 3.6
       3
            76
 6.0 5
            78
 1.2
       1
            80
           998
      71
     321
          . Blank - DNA
____
100.0 476 cases
```

Record/columns: 1/192-194

os4: Number of heating settings when unoccupied

When the space is UNOCCUPIED, does the thermostat have one heating setting or more than one?

os4b_1: First heating setting when unoccupied

```
QUESTION ASKED IF HEATING IS USED ('os4' le 2):
```

What are the thermostat settings for HEATING when it is UNOCCUPIED?

```
%
     N VALUE LABEL
14.8 20 59 Below 60 degrees (SPECIFY)
13.3 18
          60
 0.7
     1
          61
 1.5
     2
          62
0.7 1 63
2.2 3 64
10.4 14 65
     4
3.0
          66
15.6 21
          68
 0.7
          69
     1
 8.1 11
          70
     8
 5.9
          72
 3.7
     5
          74
     5
          75
 3.7
 3.0
     4
          76
     1
 0.7
          77
 3.0
     4
          78
 0.7
     1
          79
     5 80
1 82
3 85
 3.7
 0.7
 2.2
 0.7 1
          86
 0.7
     1
          89
     18 998
          . Blank - DNA
    323
100.0 476 cases
```

Record/columns: 1/196-198

os4b_2: Second heating setting when unoccupied

```
CODED IF MORE THAN ONE HEATING SETTING IS USED ('os4' eq 2):
(See 'os4b_1' for full text of this form.)
 % N VALUE LABEL
6.7 1 59 Below 60 degrees (SPECIFY)
 13.3 2
             60
 6.7 1
             61
       1
             64
  6.7
6.7 1 65
6.7 1 66
6.7 1 68
13.3 2 70
 13.3
       2
             73
 6.7 1
13.3 2
             78
             80
     13 998
448 . Blank - DNA
100.0 476 cases
```

Record/columns: 1/199-201

BUILDING ENVELOPE

be2: Space has windows that open

Are there any windows in the space that are capable of being opened?

```
% N VALUE LABEL
20.7 98 1 Yes
79.3 375 5 No (SKIP TO 'be4')
2 8 DK (SKIP TO 'be4')
1 9 Ref/MD (SKIP TO 'be4')
----- ---
100.0 476 cases
```

Record/column: 1/202

be2b: Windows are opened regularly

```
QUESTION ASKED IF SPACE HAS WINDOWS THAT OPEN ('be2' eq 1):
```

Are these windows opened regularly during some seasons?

```
% N VALUE LABEL
51.0 50 1 Yes
49.0 48 5 No
378 . Blank - DNA
---- ---
100.0 476 cases
```

be4: Doors are kept open

Are there any doors in the space that are left open regularly that allow air to flow to or from outside or to or from another space that is ventilated by a different system than this space?

Record/column: 1/204

be4a: Number of doors left open

```
QUESTION ASKED IF SPACE HAS DOORS THAT ARE LEFT OPEN ('be4' le 1):
```

How many such doors are left open regularly?

```
N VALUE LABEL
35.5
     38 1
29.9 32
11.2 12
          3
     9
 8.4
          4
 2.8
     3
          5
         6
7
     2
 1.9
     6
7
3 8
1
 0.9
 2.8
 0.9
     1 10
1 14
 0.9
 0.9
          15
 2.8
     3
          50
     1
 0.9
      3
         998 DK
     1 999 Ref/MD
    365
         . Blank - DNA
100.0 476 cases
```

Record/columns: 1/205-207

BUILDING CONTAMINANT SOURCE INFORMATION

ic3: Space has visible condensation

```
Is there ever any visible condensation on the windows or walls?
```

Record/column: 1/208

ic3a_1: Visible condensation on windows

ic3a_2: Visible condensation on walls

ic3a_3: Visible condensation: other

ic3b_1: Visible condensation at night

ic3b_2: Visible condensation in winter

ic3b_3: Visible condensation: other

```
QUESTION ASKED IF SPACE HAS VISIBLE CONDENSATION ('ic3' eq 1):

------
Other

(See 'ic3b_1' for full text of this form.)

* N VALUE LABEL
50.0 8 1 Yes
50.0 8 5 No
460 . Blank - DNA
------
100.0 476 cases

Record/column: 1/214
```

ic4: Space has water damage or mold

Is there currently any visible water damage or mold?

```
% N VALUE LABEL
6.8 32 1 Yes
93.2 441 5 No (SKIP TO 'ic5')
3 9 Ref/MD (SKIP TO 'ic5')
----- ---
100.0 476 cases
```

ic4a: Size of water damaged area

```
QUESTION ASKED IF ANY WATER DAMAGE/MOLD ('ic4' eq 1):
```

What is the approximate area, in square feet, where there is currently visible water damage or mold?

```
%
     N VALUE LABEL
3.7 1 1
18.5 5
            2
           3
      3
11.1
7.4 2 5
7.4 2 6
14.8 4 10
3.7 1 12
11.1 3 20
3.7 1 24
 3.7 1
3.7 1 25
3.7 1 50
3.7 1 100
          150
 3.7 1
 3.7 1 1001 Over 1,000 square feet
      5 9998 DK
    444 . Blank - DNA
```

100.0 476 cases

Record/columns: 1/216-219

ic4b_1: Location of water damaged area 1

QUESTION ASKED IF ANY WATER DAMAGE/MOLD ('ic4' eq 1):

```
Please describe the location of the currently visible
   water damage or mold.
      ે
           N VALUE
LABEL
     0.2 1 Along an aisle in the dining room- water damage to a
ceiling tile.
           1 Bedroom ceiling next to vent.//
     0.2
           1 Coming from the HVAC unit - corroded the pipe and
leaked onto the roof
         1 Damage form HVAC on ceiling tiles - it's a drop-down
     0.2
ceiling
     0.2
           1 Its in the hall where the patients walk in to the back
of the office
           1 On the baseboard and up the wall a little bit-water
     0.2
seeped throught
     0.2 1 On the bottom floor by the first office on the bottom
floor. It's on
     0.2 1 On the ceiling tiles//
     0.2
          1 On windowsill, across length of the room, (8ft.) by
about 3 in.
     0.2
           1 Storage Room , on second floor
     0.2
           1 Suspended ceiling tiles damaged by leaky roof.//
     0.2
          1 The area near the floor, right next to the door.//
     0.2
           1 There are small scattered areas of water damage around
the building as
     0.2 1 Underneath sink on laminate flooring -- water damage.//
          1 Water damage from sprinkler.//
     0.2
         2 ceiling
     0.4
     0.2 1 ceiling only//
     0.2 1 ceiling tile
     0.2
          1 ceiling tiles
     0.2
           1 ceiling//
     0.2
           1 esterior building
     0.2
           1 every store - all over
           1 front door, also near glass window//
     0.2
     0.2
           1 front office //
     0.2
           1 in the ceiling//
     0.2
           1 kitchen area//
     0.2
           1 on ceiling tiles//
     0.2
           1 roof
           1 small leak on ceiling //
     0.2
           1 the dish area
     0.2
     0.2
           1 under a window//
    93.3 444
   100.0 476 cases
```

Record/columns: 1/220-289

ic4b_2: Location of water damaged area 2

```
QUESTION ASKED IF ANY WATER DAMAGE/MOLD ('ic4' eq 1):
   _____
      % N VALUE
LABEL
     1.1 5 //
     0.2 1 Probably due to sprinklerhead from outside.//
          1 The air conditioning leaked.
     0.2
          1 lights suspeneded in it.//
     0.2
         1 rubber seals around the frame...//
1 some plumbing fittings came loose; est."under 100 sq
     0.2
     0.2
ft", probably 50.
     0.2 1 the floor- from one of the units- water was dripping
down.//
     0.2
          1 tiles. They recently had the problem repaired.
         1 under cooling units
     0.2
     0.2
          1 where the come in for x rays
    97.1 462
   _____
   100.0 476 cases
   Record/columns: 1/290-359
```

ic5: Water damage/mold in the past

ic5a: Size of past water damage area

```
QUESTION ASKED IF ANY PAST WATER DAMAGE/MOLD ('ic5' eq 1):
```

What was the approximate area in square feet of the area where there was visible water damage or mold in the past?

%	N	VALUE	LABEL
14.3	12	1	
9.5	8	2	
7.1	6	3	
6.0	5	4	
1.2	1	5	
1.2	1	6	
4.8	4	8	
6.0	5	10	
2.4	2	12	
3.6	3	15	
1.2	1	20	
2.4	2	25	
1.2	1	30	
1.2	1	35	
1.2	1	48	
3.6	3	50	
1.2	1	65	
9.5	8	100	
1.2	1	120	
1.2	1	150	
3.6	3	200	
1.2	1	280	
1.2	1	500	
6.0	5	1000	
8.3	7	1001	Over 1,000 square feet
	10	9998	DK
	382	•	Blank - DNA
100.0	476	cases	

Record/columns: 1/361-364

ic5b_1: Location of past water damaged area 1

QUESTION ASKED IF ANY PAST WATER DAMAGE/MOLD ('ic5' eq 1):

ic5b_2: Location of past water damaged area 2

Record/columns: 2/1-70

```
_____
           N VALUE
LABEL
     2.1 10 //
     0.2 1 No mold, just flooding.//
           1 at back wall//
     0.2
           1 by poor sealing of concrete.//
     0.2
     0.2    1    crack in the windows or the window frames.//
0.2    1    faucet.
0.2    1    foot water stains that appear every now and then. They
try to fix it
     0.2
           1 hops are brewed. Problem has been fixed///
           1 occasions, repaired right away)//
     0.2
          1 repaired.//
     0.2
          1 rubber floor gasket (under steel walls)..//
     0.2
     0.2 1 take the water out of the carpet
     0.2 1 through the window frames. Replaced/fixed in 2005.
     0.2 1 tile in each of the suites///
    95.2 453
   100.0 476 cases
```

January 25, 2010

COOKING APPLIANCES: Non-medical offices

ic7: Offices: cooking appliances used

Cooking Appliances: Restaurants

ic9: Restaurant: microwave ovens used

ic11: Restaurant: ovens used

ic11a_1: Restaurant: type of oven-gas

ic11a_2: Restaurant: type of oven-electric

ic11a_3: Restaurant: type of oven-other

Record/column: 2/76

ic12: Restaurant: grilling or roasting

```
QUESTION ASKED IF RESTAURANT ('ci3' eq 3):

Is grilling or roasting done?

% N VALUE LABEL
72.5 37 1 Yes
27.5 14 5 No
425 . Blank - DNA
---- ---
100.0 476 cases
```

ic13: Restaurant: oil frying

Cooking Appliances: Food stores

ic15: Food store: use cooking appliances

ic17: Food store: film processing

Cooking Appliances: Retail Stores Type

ic19: Retail: use cooking appliances

ic21: Retail: has restaurant/cafe

ic21a: Retail: ovens used

ic21aa_1: Retail: type of oven-gas

ic21aa_2: Retail: type of oven-electric

```
QUESTION ASKED IF OVENS USED ('ic21a' eq 1):
------

Electricity

(See 'ic21aa_1' for full text of this form.)

% N VALUE LABEL

100.0 5 1 Yes
1 8 DK
470 . Blank - DNA
------
100.0 476 cases

Record/column: 2/85
```

ic21aa_3: Retail: type of oven-other

ic21b: Retail: grilling or roasting

```
QUESTION ASKED IF BUSINESS HAS RESTAURANT ('ic21' eq 1):

Is grilling or roasting done?

% N VALUE LABEL
50.0 4 1 Yes
50.0 4 5 No
468 . Blank - DNA
-----
100.0 476 cases
```

ic21c: Retail: oil frying

Record/column: 2/87

TYPE OF RETAIL STORES

ic22: Retail: type of retail

Record/columns: 2/89-90

ic22a: Retail: solvents used

ic22b: Retail: grinding/sanding/buffing

```
QUESTION ASKED IF MULTI-PURPOSE RETAIL OR HARDWARE ('ic22' eq 1 OR 'ic22' eq 5):
```

Is grinding, sanding, or buffing performed?

```
% N VALUE LABEL
36.4 4 1 Yes
63.6 7 5 No
1 9 Ref/MD
464 . Blank - DNA
----- 100.0 476 cases
```

Record/column: 2/92

ic22c: Retail: film processing

```
QUESTION ASKED IF MULTI-PURPOSE RETAIL OR DRUG STORE ('ic22' eq 1 OR 'ic22' eq 4):
```

Is film processing done there?

ic22d: Retail: tires stored

Cooking Appliances: Health-care offices

ic23: Health care: use cooking appliances

QUESTION ASKED IF HEALTH CARE ('ci3' eq 2):

ic23a: Health care: has restaurant

ic23b: Health care: ovens used

ic23ba_1: Health care: type of oven-gas

ic23ba_2: Health care: type of oven-electric

ic23ba_3: Health care: type of oven-other

```
QUESTION ASKED IF OVENS USED ('ic23b' eq 1):

Other

(See 'ic23ba_1' for full text of this form.)

% N VALUE LABEL

100.0 2 5 No
474 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/100
```

ic23c: Health care: grilling or roasting

```
QUESTION ASKED IF BUSINESS HAS RESTAURANT ('ic23a' eq 1):

Is grilling or roasting done?

* N VALUE LABEL
66.7 2 1 Yes
33.3 1 5 No
473 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 2/101
```

ic23d: Health care: oil frying

ic23e: Health care: solvents used

```
% N VALUE LABEL
9.3 4 1 Yes
90.7 39 5 No
          4 8 DK
          2 9 Ref/MD
          427 . Blank - DNA
---- ---
100.0 476 cases
```

Record/column: 2/103

ic23f: Health care: grinding/sanding/buffing

```
QUESTION ASKED IF HEALTH CARE ('ci3' eq 2):
```

Is grinding, sanding, or buffing performed?

```
% N VALUE LABEL
25.5 12 1 Yes
74.5 35 5 No
2 9 Ref/MD
427 . Blank - DNA
---- ---
100.0 476 cases
```

Record/column: 2/105

ic23g: Health care: film processing

```
QUESTION ASKED IF HEALTH CARE ('ci3' eq 2):

Is film processing done there?

(INTERVIEW SKIPS TO 'fdA1' AFTER ANSWERING)

% N VALUE LABEL

19.1 9 1 Yes

80.9 38 5 No
2 9 Ref/MD
427 . Blank - DNA

-----
100.0 476 cases
```

Cooking Appliances: Lodging businesses

ic24: Lodging: use cooking appliances

ic24a: Lodging: has restaurant

ic24b: Lodging: ovens used

ic24ba_1: Lodging: type of oven-gas

ic24ba_2: Lodging: type of oven-electric

ic24ba_3: Lodging: type of oven-other

```
QUESTION ASKED IF OVENS USED ('ic24b' eq 1):

Other

(See 'ic24ba_1' for full text of this form.)

% N VALUE LABEL

100.0 5 5 No
471 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/111
```

ic24c: Lodging: grilling or roasting

ic24d: Lodging: oil frying

Cooking Appliances: Public assembly businesses

ic25: Public Assembly: use cooking appliances

ic25b: Public Assembly: has restaurant

ic25c: Public Assembly: ovens used

ic25ca_1: Public Assembly: type of oven-gas

ic25ca_2: Public Assembly: type of oven-electric

ic25ca_3: Public Assembly: type of oven-other

```
QUESTION ASKED IF OVENS USED ('ic25c' eq 1):

Other

(See 'ic25ca_1' for full text of this form.)

% N VALUE LABEL

100.0 8 5 No
468 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/119
```

ic25d: Public Assembly: grilling or roasting

```
QUESTION ASKED IF BUSINESS HAS RESTAURANT ('ic25b' eq 1):

Is grilling or roasting done?

* N VALUE LABEL
66.7 6 1 Yes
33.3 3 5 No
467 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 2/120
```

ic25e: Public Assembly: oil frying

Cooking Appliances: Auto repair - No gasoline sales

ic26: Auto Repair: use cooking appliances

```
% N VALUE LABEL
60.0 3 1 Yes
40.0 2 5 No
471 . Blank - DNA
---- ---
100.0 476 cases
```

Record/column: 2/122

ic26b: Auto Repair: solvents used

```
QUESTION ASKED IF AUTO REPAIR WITH NO GASOLINE SALES ('ci3h' eq 1):
```

Are solvents such as turpentine, ammonia, or acetone used in this space?

```
% N VALUE LABEL
20.0 1 1 Yes
80.0 4 5 No
471 . Blank - DNA
---- ---
100.0 476 cases
```

ic26c: Auto Repair: grinding/sanding/buffing

```
QUESTION ASKED IF AUTO REPAIR WITH NO GASOLINE SALES ('ci3h' eq 1):
```

Is grinding, sanding, or buffing performed?

```
% N VALUE LABEL
60.0 3 1 Yes
40.0 2 5 No
471 . Blank - DNA
---- ---
100.0 476 cases
```

Record/column: 2/124

ic26d: Auto Repair: tires stored

```
QUESTION ASKED IF AUTO REPAIR WITH NO GASOLINE SALES ('ci3h' eq 1):
```

Are there tires stored in this space?

```
% N VALUE LABEL
80.0 4 1 Yes
20.0 1 5 No
471 . Blank - DNA
---- ---
100.0 476 cases
```

Cooking Appliances: Gas stations

ic27: Gas station: use cooking appliances

ic27b: Gas station: has restaurant

```
QUESTION ASKED IF GAS STATION ('ci3h' eq 2):
------

Is there a restaurant, cafe', or cafeteria in this space?

% N VALUE LABEL

100.0 3 5 No
473 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/127
```

ic27c: Gas station: ovens used

ic27ca_1: Gas station: type of oven-gas

ic27ca_2: Gas station: type of oven-electric

ic27ca_3: Gas station: type of oven-other

```
QUESTION ASKED IF OVENS USED ('ic27c' eq 1):

------
Other (SPECIFY)

(See 'ic27ca_1' for full text of this form.)

* N VALUE LABEL
476 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/131
```

ic27d: Gas station: grilling or roasting

ic27e: Gas station: oil frying

ic27h: Gas station: tires stored

ic27j: Gas station: solvents used

```
QUESTION ASKED IF GAS STATION ('ci3h' eq 2):
```

Are solvents such as turpentine, ammonia, or acetone used in this space?

Record/column: 2/135

ic27i: Gas station: has convenience store

```
QUESTION ASKED IF GAS STATION ('ci3h' eq 2):
```

Is there a convenience store that is part of this gas station?

```
% N VALUE LABEL

100.0 3 1 Yes
473 . Blank - DNA
---- ---

100.0 476 cases
```

ic27k: Gas station: perform automotive work

```
QUESTION ASKED IF GAS STATION ('ci3h' eq 2):
------

Does this gas station perform automotive work?

* N VALUE LABEL

100.0 3 5 No
473 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/137
```

ic27I_1: Automotive work: brakes

ic27I_2: Automotive work: tires

```
QUESTION ASKED IF AUTOMOTIVE WORK DONE ('ic27k' eq 1):
-----
Tires

(See 'ic27l_1' for full text of this form.)

* N VALUE LABEL
476 . Blank - DNA
------
100.0 476 cases

Record/column: 2/139
```

ic27I_3: Automotive work: body work/paint

ic27I_4: Automotive work: oil changes

ic27I_5: Automotive work: general auto repair

ic27I_6: Automotive work: cleaning or detailing

ic27I_7: Automotive work: other

Cooking Appliances: Non-automotive service businesses

ic28: Services: use cooking appliances

ic28b: Services: type of service

Cooking Appliances: Assembly/Light manufacturing

ic30: Assembly/manufacturing: use cooking appliances

ic30b: Assembly/manufacturing: use solvents

ic30c: Assembly/manufacturing: grinding/sanding/buffing

ic30d: Assembly/manufacturing: x-ray/film processing

```
QUESTION ASKED IF ASSEMBLY/LIGHT MANUFACTURING ('ci3i' eq 1):

Are X-rays or film processing done there?

* N VALUE LABEL

100.0 5 5 No

471 . Blank - DNA

-----
100.0 476 cases

Record/column: 2/150
```

ic30e: Assembly/manufacturing: tires stored

Cooking Appliances: Police/fire/post office

ic31: Miscellaneous: use cooking appliances

ic31b: Miscellaneous: ovens used

ic31ba_1: Miscellaneous: type of oven-gas

ic31ba_2: Miscellaneous: type of oven-electric

ic31ba_3: Miscellaneous: type of oven-other

```
QUESTION ASKED IF OVENS USED ('ic31b' eq 1):
------
Other (SPECIFY)

(See 'ic31ba_1' for full text of this form.)

* N VALUE LABEL
5.1 2 1 Yes
94.9 37 5 No
2 8 DK
435 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/156
```

ic31c: Miscellaneous: grilling or roasting

ic31d: Miscellaneous: oil frying

Is oil frying done?

```
% N VALUE LABEL
11.9 18 1 Yes
88.1 133 5 No
1 9 Ref/MD
324 . Blank - DNA
---- ---
100.0 476 cases
```

Fire Damage: 1st floor

fdA1: 1st floor: any fire damage

Has there ever been any fire damage in the FIRST floor space?

Record/column: 2/159

fdA1a_mo: 1st floor: fire damage-month

```
QUESTION ASKED IF FIRE DAMAGE ON 2ND FLOOR ('fdA1' eq 1):
In what month and year did the fire damage occur on the FIRST
floor?
Month (1-12)
  % N VALUE LABEL
 20.0 1 1
20.0 1
           5
      1 5
1 10
20.0
20.0
           12
20.0 1
       5
           98 DK
    466
           . Blank - DNA
100.0 476 cases
```

Record/columns: 2/160-161

fdA1a_yr: 1st floor: fire damage-year

Building Renovations: 1st Floor

brA1: 1st floor: any interior painting

Has there been any interior painting done in the first floor space in the last year?

Record/column: 2/166

brA2: 1st floor: any new carpet installed

Has new carpet been installed in the first floor space in the last year?

brA2b_1: 1st floor: new carpet type-natural fiber

brA2b_2: 1st floor: new carpet type-nylon

brA2b_3: 1st floor: new carpet type-olefin

brA2bb: 1st floor: type of carpet backing

Record/column: 2/171

```
Does it have styrene-butadiene backed carpet, CRI Green Label, CRI Green Label Plus, or some other kind?

* N VALUE LABEL
7.1 1 1 Styrene-butadiene
21.4 3 2 CRI Green Label
71.4 10 4 Other (SPECIFY)
67 8 DK
395 . Blank - DNA
-----
100.0 476 cases
```

QUESTION ASKED IF CARPET INSTALLED ON 1ST FLOOR ('brA2' eq 1):

brA2c: 1st floor: type of carpet padding

brA3: 1st floor: any new furniture installed

Has any new furniture been installed in the space in the last year?

```
% N VALUE LABEL
21.6 99 1 Yes
78.4 359 5 No (SKIP TO 'csAl')
11 8 DK (SKIP TO 'csAl')
7 9 Ref/MD (SKIP TO 'csAl')
----- ---
100.0 476 cases
```

brA3b_1: 1st floor: furniture type-solid wood

brA3b_2: 1st floor: furniture type-composite w/ veneer

```
QUESTION ASKED IF NEW FURNITURE ON 1ST FLOOR ('brA3' eq 1):

Composite wood product with wood or synthetic veneer

(See 'brA3b_1' for full text of this form.)

* N VALUE LABEL
46.2 43 1 Yes
53.8 50 5 No
6 8 DK
377 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/175
```

brA3b_3: 1st floor: furniture type-ecapsulated composite

brA3b_4: 1st floor: furniture type-metal/plastic

brA3b_5: 1st floor: furniture type-other

```
QUESTION ASKED IF NEW FURNITURE ON 1ST FLOOR ('brA3' eq 1):

Other (SPECIFY)

(See 'brA3b_1' for full text of this form.)

* N VALUE LABEL

15.1 14 1 Yes (SPECIFY)

84.9 79 5 No
6 8 DK
377 . Blank - DNA
-----

100.0 476 cases

Record/column: 2/178
```

Cleaning Schedule: 1st Floor

csA1: 1st floor: cleaned on regular schedule

Is the space cleaned on a regular schedule?

Record/column: 2/179

csA1a: 1st floor: cleaned while occupied

```
QUESTION ASKED IF CLEANED ON REGULAR SCHEDULE ON 1ST FLOOR ('csA1' eq 1):
```

Is the cleaning done during occupied or unoccupied hours?

csA1b: 1st floor: cleaned day or night

csA1c: 1st floor: cleaned by outside contractor

```
QUESTION ASKED IF CLEANED ON REGULAR SCHEDULE ON 1ST FLOOR ('csA1'
eq 1):

------

Is the cleaning done by an outside contractor?

* N VALUE LABEL
59.6 273 1 Yes
40.4 185 5 No
1 8 DK
17 . Blank - DNA
----- ---
100.0 476 cases

Record/column: 2/182
```

csA1d_1: 1st floor: cleaned with wet mop

csA1d_2: 1st floor: how often cleaned with wet mop

csA1e_1: 1st floor: cleaned with dry mop

```
QUESTION ASKED IF CLEANED ON REGULAR SCHEDULE ON 1ST FLOOR ('csA1'
eq 1):

-----

Are the floors cleaned with a dry mop?

% N VALUE LABEL
43.8 178 1 Yes
56.2 228 5 No
53 8
17 . Blank - DNA
----- ---
100.0 476 cases

Record/column: 2/185
```

csA1e_2: 1st floor: how often cleaned with dry mop

csA1f_1: 1st floor: cleaned with vacuum

csA1f_2: 1st floor: how often cleaned with vacuum

csA1g_1: 1st floor: window cleaner used

csA1g_1a: 1st floor: how often window cleaner used

QUESTION ASKED IF WINDOW CLEANER USED ('csAlg_1' eq 1):

Record/column: 2/191

csA1g_2: 1st floor: furniture cleaner used

csA1g_2a: 1st floor: how often furniture cleaner used

csA1g_3: 1st floor: floor/furniture wax used

Record/column: 2/193

csA1g_3a: 1st floor: how often floor/furn. wax used

```
# N VALUE LABEL

5.4 9 1 Daily

7.8 13 2 Once a week

2.4 4 3 Twice a week

5.4 9 4 Every 2 weeks

22.8 38 5 Monthly

56.3 94 6 Other

3 8 DK

306 . Blank - DNA

----

100.0 476 cases
```

QUESTION ASKED IF FLOOR/FURNITURE WAX USED ('csA1g_3' eq 1):

Record/column: 2/195

Record/column: 2/196

csA1g_4: 1st floor: bathroom cleaner used

csA1g_4a: 1st floor: how often bathroom cleaner used

csA1g_5: 1st floor: bleach used

Record/column: 2/197

csA1g_5a: 1st floor: how often bleach used

csA1g_6: 1st floor: soap/detergent used

Record/column: 2/199

csA1g_6a: 1st floor: how often soap/detergent used

QUESTION ASKED IF SOAP/DETERGENT USED ('csAlg_6' eq 1):

csA1g_7: 1st floor: carpet cleaner used

Record/column: 2/201

csA1g_7a: 1st floor: how often carpet cleaner used

```
How often?

* N VALUE LABEL
3.7 9 1 Daily
3.7 9 2 Once a week
0.8 2 3 Twice a week
2.0 5 4 Every 2 weeks
14.8 36 5 Monthly
75.0 183 6 Other
3 8 DK
229 . Blank - DNA
```

QUESTION ASKED IF CARPET CLEANER USED ('csAlg_7' eq 1):

csA1h_1: 1st floor: other cleaning materials used

csA1h_2: 1st floor: describe other cleaning materials

```
476 cases
```

Record/columns: 2/204-273

Record/column: 2/203

csA1i: 1st floor: propane floor buffers used

csA1q: 1st floor: effort to use green products

Is there any effort to use only "green" cleaning products?

Record/column: 2/275

csA1r_1: 1st floor: cleaning materials kept in janitors closet

```
Where are cleaning materials kept on the first floor?
```

...in the janitor's closet?

```
% N VALUE LABEL
57.9 263 1 Yes
42.1 191 5 No
4 8 DK
1 9 Ref/MD
17 . Blank - DNA
---- ---
100.0 476 cases
```

csA1r_2: 1st floor: cleaning materials kept in other closet

```
...in another closet?

(See 'csAlr_1' for full text of this form.)

* N VALUE LABEL
7.5 34 1 Yes
92.5 419 5 No
5 8 DK
1 9 Ref/MD
17 . Blank - DNA
---- ---
100.0 476 cases
```

Record/column: 2/277

csA1r_3: 1st floor: cleaning materials kept in storage room

csA1r_4: 1st floor: cleaning materials kept anywhere else

Regular Interior/Exterior Pesticide: 1st Floor

csA2: 1st floor: pesticide regularly applied

Is pesticide regularly applied to either the interior or to the exterior to the space?

Record/column: 2/280

Record/column: 2/281

csA2a_1: 1st floor: outside contractor applies pesticide

csA2a_2: 1st floor: building staff applies pesticide

```
Building staff

(See 'csA2a_1' for full text of this form.)

* N VALUE LABEL
2.6 7 1 Yes
97.4 265 5 No
2 8 DK
202 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 2/282
```

csA2a_3: 1st floor: employee applies pesticide

```
Employees

(See 'csA2a_1' for full text of this form.)

% N VALUE LABEL
2.2 6 1 Yes
97.8 265 5 No
3 8 DK
202 . Blank - DNA
---- ---
100.0 476 cases
```

csA2a_4: 1st floor: other person applies pesticide

```
Other

(See 'csA2a_1' for full text of this form.)

* N VALUE LABEL

1.5 4 1 Yes

98.5 267 5 No

3 8 DK

202 . Blank - DNA

---- ---

100.0 476 cases

Record/column: 2/284
```

csA2b: 1st floor: how often exterior pesticide applied

```
How often is exterior pesticide applied?

* N VALUE LABEL
3.8 10 1 Weekly
64.2 167 2 Monthly
16.9 44 3 Quarterly
2.7 7 4 Semi-annually
11.2 29 5 Other (SPECIFY)
1.2 3 6 Not used
14 8 DK
202 . Blank - DNA
```

QUESTION ASKED IF PESTICIDE REGULARLY APPLIED ('csA2' eq 1):

csA2d: 1st floor: how often interior pesticide applied

csA2g: 1st floor: pesticides stored on- or off-site

csA2h_1: 1st floor: pesticides kept in janitors closet

csA2h_2: 1st floor: pesticides kept in another closet

csA2h_3: 1st floor: pesticides kept in storage room

```
...in a storage room?

(See 'csA2h_1' for full text of this form.)

* N VALUE LABEL

57.1 4 1 Yes

42.9 3 5 No

469 . Blank - DNA

---- ---

100.0 476 cases
```

Record/column: 2/290

Record/column: 2/291

csA2h_4: 1st floor: pesticides kept anywhere else

```
...anywhere else? (SPECIFY)

(See 'csA2h_1' for full text of this form.)

* N VALUE LABEL

42.9 3 1 Yes (SPECIFY)

57.1 4 5 No

469 . Blank - DNA

----- ---

100.0 476 cases
```

Indoor Ventilation Fixtures: 1st Floor

ivfA23 a: 1st floor: air cleaners used

ivfA23_b: 1st floor: space heaters used

ivfA23_c: 1st floor: humidifiers used

```
Humidifiers?

(See 'ivfA23_a' for full text of this form.)

* N VALUE LABEL
2.0 9 1 Yes
98.0 446 5 No
13 8 DK
8 9 Ref/MD
-----
100.0 476 cases

Record/column: 2/294
```

ivfA23_d: 1st floor: dehumidifiers used

ivfA23_e: 1st floor: desk fans used

ivfA23a: 1st floor: number of air cleaners

Record/columns: 2/297-299

```
How many air cleaners are used?
      N VALUE LABEL
29.5 13 1
29.5 13
           2
 2.3 1
           3
 9.1
      4
           4
           5
 9.1
      4
      4 5
3 6
2 10
2 12
 6.8
 4.5
 4.5
 2.3 1
          15
 2.3 1
          17
      3 998 DK
    429 . Blank - DNA
100.0 476 cases
```

QUESTION ASKED IF AIR CLEANERS USED ('ivfA23_a' eq 1):

ivfA23b_1: 1st floor: type of air cleaner-mechanical

ivfA23b_2: 1st floor: type of air cleaner-pleated filters

```
Contain pleated filters?

(See 'ivfA23b_1' for full text of this form.)

* N VALUE LABEL
35.0 14 1 Yes
65.0 26 5 No
7 8 DK
429 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 2/301
```

ivfA23b_3: 1st floor: type of air cleaner-ionizers

ivfA23b_4: 1st floor: type of air cleaner-electrostatic precipitators

```
Electrostatic precipitators?

(See 'ivfA23b_1' for full text of this form.)

* N VALUE LABEL

15.8 6 1 Yes

84.2 32 5 No

9 8 DK

429 . Blank - DNA

---- ---

100.0 476 cases

Record/column: 2/303
```

ivfA23b_5: 1st floor: type of air cleaner-ozone generators

ivfA23b_6: 1st floor: type of air cleaner-other

ivfA25a: 1st floor: number of humidifiers

```
QUESTION ASKED IF HUMIDIFIERS USED ('ivfA23_c' eq 1):
```

How many humidifiers are used?

%	N	VALUE	LABEL		
66.7	6	1			
11.1	1	2			
22.2	2	4			
	467		Blank	-	DNA
100.0	476	cases			

Record/columns: 2/306-308

ivfA26a: 1st floor: number of dehumidifier

How many dehumidifiers are used?

```
% N VALUE LABEL
50.0 3 1
16.7 1 2
16.7 1 6
16.7 1 8
4 998 DK
466 . Blank - DNA
---- ---
100.0 476 cases
```

Record/columns: 2/309-311

ivfA27a: 1st floor: number of desk fans

```
QUESTION ASKED IF DESK FANS ARE USED ('ivfA23_e' eq 1):
```

How many desk fans are used?

%	N	VALUE	LABEL		
21.6	37	VALUE 1	חשטבח		
18.1	31	2			
14.0	24	3			
9.4	16	4			
11.1	19	5			
5.3	9	6			
0.6	1	7			
0.6	1	8			
10.5	18	10			
1.8	3	12			
1.8	3	15			
2.3	4	20			
0.6	1	23			
0.6	1	30			
0.6	1	40			
0.6	1	45			
0.6	1	50			
	10	998	DK		
	295		Blank	_	DNA
		•			

100.0 476 cases

Record/columns: 2/312-314

Fire Damage: 2nd Floor

fdB1: 2nd floor: any fire damage

fdB1a_mo: 2nd floor: fire damage-month

fdB1a_yr: 2nd floor: fire damage-year

```
Year (1979-2008)

(See 'fdBla_mo' for full text of this form.)

* N VALUE LABEL
476 . Blank - DNA
-----
100.0 476 cases

Record/columns: 2/318-321
```

Building Renovations: 2nd Floor

brB1: 2nd floor: any interior painting

Has there been any interior painting done in the SECOND floor space in the last year?

Record/column: 2/322

brB2: 2nd floor: any new carpet installed

Has new carpet been installed in the SECOND floor space in the last year?

brB2b_1: 2nd floor: new carpet type-natural fiber

brB2b_2: 2nd floor: new carpet type-nylon

brB2b_3: 2nd floor: new carpet type-olefin

brB2bb: 2nd floor: type of carpet backing

Record/column: 2/326

Record/column: 2/327

```
Does it have styrene-butadiene backed carpet, CRI Green Label, CRI Green Label Plus, or some other kind?

* N VALUE LABEL
20.0 1 1 Styrene-butadiene
20.0 1 2 CRI Green Label
20.0 1 3 CRI Green Label
20.0 1 3 CRI Green Label Plus
40.0 2 4 Other (SPECIFY)

11 8 DK
460 . Blank - DNA
```

QUESTION ASKED IF CARPET INSTALLED ON 2ND FLOOR ('brB2' eq 1):

brB2c: 2nd floor: type of carpet padding

```
QUESTION ASKED IF CARPET INSTALLED ON 2ND FLOOR ('brB2' eq 1):

What type of material is in the carpet pad, if there is a pad?

* N VALUE LABEL

10.0 1 3 Polyurethane foam

70.0 7 4 No carpet pad

20.0 2 5 Something else (SPECIFY)

6 8 DK

460 . Blank - DNA

---- ---

100.0 476 cases
```

brB3: 2nd floor: any new furniture installed

Has any new furniture been installed in the space in the last year?

Record/column: 2/329

brB3b_1: 2nd floor: furniture type-solid wood

brB3b_2: 2nd floor: furniture type-composite w/ veneer

```
QUESTION ASKED IF NEW FURNITURE ON 2ND FLOOR ('brB3' eq 1):

Composite wood product with wood or synthetic veneer

(See 'brB3b_1' for full text of this form.)

* N VALUE LABEL
61.1 11 1 Yes
38.9 7 5 No
2 8 DK
456 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/331
```

brB3b_3: 2nd floor: furniture type-ecapsulated composite

brB3b_4: 2nd floor: furniture type-metal/plastic

```
QUESTION ASKED IF NEW FURNITURE ON 2ND FLOOR ('brB3' eq 1):

Metal and/or Plastic

(See 'brB3b_1' for full text of this form.)

* N VALUE LABEL
38.9 7 1 Yes
61.1 11 5 No
2 8 DK
456 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/333
```

brB3b_5: 2nd floor: furniture type-other

Cleaning Schedule: 2nd Floor

csB1: 2nd floor: cleaned on regular schedule

Is the space cleaned on a regular schedule?

Record/column: 2/335

csB1a: 2nd floor: cleaned while occupied

```
QUESTION ASKED IF CLEANED ON REGULAR SCHEDULE ON 2ND FLOOR ('csB1' eq 1):
```

Is the cleaning done during occupied or unoccupied hours?

csB1b: 2nd floor: cleaned day or night

```
QUESTION ASKED IF CLEANED ON REGULAR SCHEDULE ON 2ND FLOOR ('csB1'
eq 1):

-----

Is the cleaning done during the day or at night?

* N VALUE LABEL
26.6 29 1 Days
52.3 57 2 Nights
21.1 23 3 Both
367 . Blank - DNA
----- ---
100.0 476 cases
```

Record/column: 2/337

csB1c: 2nd floor: cleaned by outside contractor

```
QUESTION ASKED IF CLEANED ON REGULAR SCHEDULE ON 2ND FLOOR ('csB1' eq 1):

-----

Is the cleaning done by an outside contractor?

* N VALUE LABEL
67.0 73 1 Yes
33.0 36 5 No
367 . Blank - DNA
```

100.0 476 cases

csB1d_1: 2nd floor: cleaned with wet mop

csB1d_2: 2nd floor: how often cleaned with wet mop

```
How often are the floors cleaned with a wet mop?

* N VALUE LABEL

59.0 46 1 Daily

15.4 12 2 Once a week

14.1 11 3 Twice a week

2.6 2 4 Every two weeks

9.0 7 6 Other (SPECIFY)

398 . Blank - DNA

-----

100.0 476 cases

Record/column: 2/340
```

QUESTION ASKED IF CLEANED WITH A WET MOP ('csBld_1' eq 1):

csB1e_1: 2nd floor: cleaned with dry mop

csB1e_2: 2nd floor: how often cleaned with dry mop

csB1f_1: 2nd floor: cleaned with a vacuum

```
QUESTION ASKED IF CLEANED ON REGULAR SCHEDULE ON 2ND FLOOR ('csB1'
eq 1):

-----

Is the cleaning done with a vacuum?

* N VALUE LABEL
96.3 105 1 Yes
3.7 4 5 No
367 . Blank - DNA
------
100.0 476 cases

Record/column: 2/343
```

csB1f_2: 2nd floor: how often cleaned with vacuum

csB1g_1: 2nd floor: window cleaner used

```
QUESTION ASKED IF CLEANED ON REGULAR SCHEDULE ON 2ND FLOOR ('csB1'
eq 1):

------

Are any of the following cleaning materials used in cleaning the space...

How about window cleaner?

* N VALUE LABEL
79.8 83 1 Yes
20.2 21 5 No
5 8 DK
367 . Blank - DNA
----- ---
100.0 476 cases

Record/column: 2/345
```

csB1g_1a: 2nd floor: how often window cleaner used

Record/column: 2/348

csB1g_2: 2nd floor: furniture cleaner used

csB1g_2a: 2nd floor: how often furniture cleaner used

csB1g_3: 2nd floor: floor/furniture wax used

```
(How about) Floor or furniture wax?

(See 'csBlg_1' for full text of this form.)

* N VALUE LABEL
31.4 32 1 Yes
68.6 70 5 No
7 8 DK
367 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 2/349
```

csB1g_3a: 2nd floor: how often floor/furn. wax used

```
How often?

* N VALUE LABEL

9.4 3 1 Daily

12.5 4 2 Once a week

6.2 2 3 Twice a week

21.9 7 5 Monthly

50.0 16 6 Other

444 . Blank - DNA

---- ---

100.0 476 cases
```

QUESTION ASKED IF FLOOR/FURNITURE WAX USED ('csB1g_3' eq 1):

csB1g_4: 2nd floor: bathroom cleaner used

```
(How about) Bathroom cleaner?

(See 'csBlg_1' for full text of this form.)

* N VALUE LABEL

87.6 92 1 Yes

12.4 13 5 No

4 8 DK

367 . Blank - DNA

---- ---

100.0 476 cases

Record/column: 2/351
```

csB1g_4a: 2nd floor: how often bathroom cleaner used

csB1g_5: 2nd floor: bleach used

```
(How about) Bleach?

(See 'csBlg_1' for full text of this form.)

* N VALUE LABEL
26.0 25 1 Yes
74.0 71 5 No
13 8 DK
367 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 2/353
```

csB1g_5a: 2nd floor: how often bleach used

csB1g_6: 2nd floor: soap/detergent used

```
(How about) Soap or detergent?

(See 'csBlg_1' for full text of this form.)

* N VALUE LABEL
73.0 73 1 Yes
27.0 27 5 No
9 8 DK
367 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 2/355
```

csB1g_6a: 2nd floor: how often soap/detergent used

csB1g_7: 2nd floor: carpet cleaner used

csB1g_7a: 2nd floor: how often carpet cleaner used

csB1h_1: 2nd floor: other cleaning materials used

csB1h_2: 2nd floor: describe other cleaning materials

csB1i: 2nd floor: propane floor buffers used

Record/column: 2/430

csB1q: 2nd floor: effort to use green products

Is there any effort to use only "green" cleaning products?

```
% N VALUE LABEL
58.5 55 1 Yes
41.5 39 5 No
15 8 DK
367 . Blank - DNA
---- ---
100.0 476 cases
```

csB1r_1: 2nd floor: cleaning materials kept in janitors closet

```
Where are cleaning materials kept on the SECOND floor?

...in the janitor's closet?

* N VALUE LABEL
52.8 57 1 Yes
47.2 51 5 No
1 8 DK
367 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 2/432
```

csB1r_2: 2nd floor: cleaning materials kept in another closet

csB1r_3: 2nd floor: cleaning materials kept in storage room

```
...in a storage room?

(See 'csBlr_1' for full text of this form.)

* N VALUE LABEL
6.5 7 1 Yes
93.5 101 5 No
1 8 DK
367 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 2/434
```

csB1r_4: 2nd floor: cleaning materials kept anywhere else

Regular Interior/Exterior Pesticide: 2nd Floor

csB2: 2nd floor: pesticide regularly applied

Is pesticide regularly applied to either the interior or to the exterior to the space?

Record/column: 2/436

csB2a_1: 2nd floor: outside contractor applies pesticide

csB2a_2: 2nd floor: building staff applies pesticide

```
Building staff

(See 'csB2a_1' for full text of this form.)

* N VALUE LABEL
2.2 1 1 Yes
97.8 44 5 No
431 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 2/438
```

csB2a_3: 2nd floor: employees apply pesticide

csB2a_4: 2nd floor: other person applies pesticide

csB2b: 2nd floor: how often exterior pesticide applied

csB2d: 2nd floor: how often interior pesticide applied

```
How often is INTERIOR pesticide applied?

* N VALUE LABEL

25.0 11 2 Monthly

4.5 2 3 Quarterly

34.1 15 5 Other (SPECIFY)

36.4 16 6 Not used

1 8 DK

431 . Blank - DNA

-----

100.0 476 cases

Record/column: 2/442
```

QUESTION ASKED IF PESTICIDE REGULARLY APPLIED ('csB2' eq 1):

csB2g: 2nd floor: pesticides stored on- or off-site

csB2h_1: 2nd floor: pesticides kept in janitors closet

csB2h_2: 2nd floor: pesticides kept in another closet

csB2h_3: 2nd floor: pesticides kept in a storage room

csB2h_4: 2nd floor: pesticides kept anywhere else

Indoor Ventilation Fixtures: 2nd Floor

ivfB23 a: 2nd floor: air cleaners used

Record/column: 2/448

ivfB23_b: 2nd floor: space heaters used

ivfB23_c: 2nd floor: humidifiers used

```
Humidifiers?

(See 'ivfB23_a' for full text of this form.)

* N VALUE LABEL
2.6 3 1 Yes
97.4 111 5 No
1 9 Ref/MD
361 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/450
```

ivfB23_d: 2nd floor: dehumidifiers used

```
Dehumidifiers?

(See 'ivfB23_a' for full text of this form.)

* N VALUE LABEL
0.9 1 1 Yes
99.1 113 5 No
1 9 Ref/MD
361 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 2/451
```

ivfB23_e: 2nd floor: desk fans used

```
Desk fans?

(See 'ivfB23_a' for full text of this form.)

* N VALUE LABEL
23.2 26 1 Yes
76.8 86 5 No
2 8 DK
1 9 Ref/MD
361 . Blank - DNA
-----
100.0 476 cases
```

ivfB23a: 2nd floor: number of air cleaners

Record/column: 2/452

ivfB23b_1: 2nd floor: type of air cleaner-mechanical

ivfB23b_2: 2nd floor: type of air cleaner-pleated filters

```
Contain pleated filters?

(See 'ivfB23b_1' for full text of this form.)

* N VALUE LABEL
28.6 2 1 Yes
71.4 5 5 No
3 8 DK
466 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 2/457
```

ivfB23b_3: 2nd floor: type of air cleaner-ionizers

ivfB23b_4: 2nd floor: type of air cleaner-electrostatic precipitators

```
Electrostatic precipitators?

(See 'ivfB23b_1' for full text of this form.)

* N VALUE LABEL
14.3 1 1 Yes
85.7 6 5 No
3 8 DK
466 . Blank - DNA
-----
100.0 476 cases
```

Record/column: 2/459

ivfB23b_5: 2nd floor: type of air cleaner-ozone generators

ivfB23b_6: 2nd floor: type of air cleaner-label-other

ivfB25a: 2nd floor: number of humidifiers

Record/columns: 2/462-464

ivfB26a: 2nd floor: number of dehumidifiers

Record/columns: 2/465-467

ivfB27a: 2nd floor: number of desk fans

% N VALUE LABEL
21.7 5 1
30.4 7 2
8.7 2 3
13.0 3 5
17.4 4 10
4.3 1 12
4.3 1 20
3 998 DK
450 . Blank - DNA

100.0 476 cases

Record/columns: 2/468-470

Fire Damage: 3rd Floor

fdC1: 3rd floor: any fire damage

fdC1a_mo: 3rd floor: fire damage-month

fdC1a_yr: 3rd floor: fire damage-year

```
Year (1979-2008)

(See 'fdCla_mo' for full text of this form.)

* N VALUE LABEL
476 . Blank - DNA
-----
100.0 476 cases

Record/columns: 2/474-477
```

Building Renovations: 3rd Floor

brC1: 3rd floor: any interior painting

Has there been any interior painting done in the THIRD floor space in the last year?

```
% N VALUE LABEL
28.6 4 1 Yes
71.4 10 5 No
462 . Blank - DNA
---- ---
100.0 476 cases
```

Record/column: 2/478

brC2: 3rd floor: any new carpet installed

Has new carpet been installed in the THIRD floor space in the last year?

Record/column: 2/479

brC2b_1: 3rd floor: new carpet type-natural fiber

brC2b_2: 3rd floor: new carpet type-nylon

```
QUESTION ASKED IF CARPET INSTALLED ON 3RD FLOOR ('brC2' eq 1):

Nylon?

(See 'brC2b_1' for full text of this form.)

% N VALUE LABEL

100.0 1 1 Yes

475 . Blank - DNA

---- ---

100.0 476 cases

Record/column: 2/481
```

brC2b_3: 3rd floor: new carpet type-olefin

Record/column: 2/482

brC2bb: 3rd floor: type of carpet backing

```
QUESTION ASKED IF CARPET INSTALLED ON 3RD FLOOR ('brC2' eq 1):

Does it have styrene-butadiene backed carpet, CRI Green Label,
CRI Green Label Plus, or some other kind?

* N VALUE LABEL
100.0 1 1 Styrene-butadiene
475 . Blank - DNA
-----
100.0 476 cases
```

Record/column: 2/483

brC2c: 3rd floor: type of carpet padding

brC3: 3rd floor: any new furniture installed

```
Has any new furniture been installed in the space in the last year?
```

```
% N VALUE LABEL

100.0 14 5 No (SKIP TO 'csC1')
462 . Blank - DNA
----- 100.0 476 cases
```

Record/column: 2/485

brC3b_1: 3rd floor: furniture type-solid wood

brC3b_2: 3rd floor: furniture type-composite w/ veneer

brC3b_3: 3rd floor: furniture type-ecapsulated composite

```
QUESTION ASKED IF NEW FURNITURE ON 3RD FLOOR ('brC3' eq 1):

Fully encapsulated composite wood construction

(See 'brC3b_1' for full text of this form.)

% N VALUE LABEL
476 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/488
```

brC3b_4: 3rd floor: furniture type-metal/plastic

brC3b_5: 3rd floor: furniture type-other

```
QUESTION ASKED IF NEW FURNITURE ON 3RD FLOOR ('brC3' eq 1):

Other (SPECIFY)

(See 'brC3b_1' for full text of this form.)

* N VALUE LABEL
476 . Blank - DNA
-----
100.0 476 cases

Record/column: 2/490
```

Cleaning Schedules: 3rd Floor

csC1: 3rd floor: cleaned on regular schedule

```
Is the space cleaned on a regular schedule?
```

```
% N VALUE LABEL

100.0 14 1 Yes
462 . Blank - DNA
---- ---
100.0 476 cases
```

Record/column: 2/491

csC1a: 3rd floor: cleaned while occupied

```
QUESTION ASKED IF CLEANED ON REGULAR SCHEDULE ON 3RD FLOOR ('csC1' eq 1):
```

Is the cleaning done during occupied or unoccupied hours?

Record/column: 2/492

csC1b: 3rd floor: cleaned day or night

Record/column: 2/493

csC1c: 3rd floor: cleaned by outside contractor

```
QUESTION ASKED IF CLEANED ON REGULAR SCHEDULE ON 3RD FLOOR ('csC1' eq 1):

-----

Is the cleaning done by an outside contractor?
```

```
% N VALUE LABEL
71.4 10 1 Yes
28.6 4 5 No
462 . Blank - DNA
---- ---
100.0 476 cases
```

Record/column: 2/494

csC1d_1: 3rd floor: cleaned with wet mop

csC1d_2: 3rd floor: how often cleaned with wet mop

csC1e_1: 3rd floor: cleaned with dry mop

csC1e_2: 3rd floor: how often cleaned with dry mop

Record/column: 2/498

csC1f_1: 3rd floor: cleaned with a vacuum

```
QUESTION ASKED IF CLEANED ON REGULAR SCHEDULE ON 3RD FLOOR ('csC1'
eq 1):

-----

Is the cleaning done with a vacuum?

* N VALUE LABEL
100.0 14 1 Yes
462 . Blank - DNA
----- ---
100.0 476 cases

Record/column: 2/499
```

csC1f_2: 3rd floor: how often cleaned with vacuum

csC1g_1: 3rd floor: window cleaner used

csC1g_1a: 3rd floor: how often window cleaner used

```
QUESTION ASKED IF WINDOW CLEANER USED ('csClg_1' eq 1):

How often?

* N VALUE LABEL
44.4 4 1 Daily
33.3 3 2 Once a week
22.2 2 6 Other
467 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 3/2
```

csC1g_2: 3rd floor: furniture cleaner used

```
How about furniture cleaner?

(See 'csClg_1' for full text of this form.)

* N VALUE LABEL

53.8 7 1 Yes

46.2 6 5 No

1 8 DK

462 . Blank - DNA

---- ---

100.0 476 cases

Record/column: 3/3
```

csC1g_2a: 3rd floor: how often furniture cleaner used

csC1g_3: 3rd floor: floor/furniture wax used

```
(How about) Floor or furniture wax?

(See 'csClg_1' for full text of this form.)

* N VALUE LABEL

38.5 5 1 Yes
61.5 8 5 No
1 8 DK
462 . Blank - DNA
-----
100.0 476 cases

Record/column: 3/5
```

csC1g_3a: 3rd floor: how often floor/furniture wax used

csC1g_4: 3rd floor: bathroom cleaner used

```
(How about) Bathroom cleaner?

(See 'csClg_1' for full text of this form.)

* N VALUE LABEL

92.3 12 1 Yes

7.7 1 5 No

1 8 DK

462 . Blank - DNA

---- ---

100.0 476 cases

Record/column: 3/7
```

csC1g_4a: 3rd floor: how often bathroom cleaner used

csC1g_5: 3rd floor: bleach used

```
(How about) Bleach?

(See 'csClg_1' for full text of this form.)

* N VALUE LABEL

15.4 2 1 Yes

84.6 11 5 No

1 8 DK

462 . Blank - DNA

---- ---

100.0 476 cases

Record/column: 3/9
```

csC1g_5a: 3rd floor: how often bleach used

csC1g_6: 3rd floor: soap/detergent used

csC1g_6a: 3rd floor: how often soap/detergent used

csC1g_7: 3rd floor: carpet cleaner used

```
(How about) Carpet cleaners?

(See 'csClg_1' for full text of this form.)

* N VALUE LABEL

92.3 12 1 Yes

7.7 1 5 No

1 8 DK

462 . Blank - DNA

---- ---

100.0 476 cases

Record/column: 3/13
```

csC1g_7a: 3rd floor: how often carpet cleaner used

csC1h_1: 3rd floor: other cleaning materials used

csC1h_2: 3rd floor: describe other cleaning materials

csC1i: 3rd floor: propane floor buffers used

csC1q: 3rd floor: effort to use green products

csC1r_1: 3rd floor: cleaning materials kept in janitors closet

```
Where are cleaning materials kept on the THIRD floor?

...in the janitor's closet?

% N VALUE LABEL
57.1 8 1 Yes
42.9 6 5 No
462 . Blank - DNA
-----
100.0 476 cases
```

Record/column: 3/88

csC1r_2: 3rd floor: cleaning materials kept in another closet

```
...in another closet?

(See 'csClr_1' for full text of this form.)

* N VALUE LABEL
7.1 1 1 Yes
92.9 13 5 No
462 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 3/89
```

csC1r_3: 3rd floor: cleaning materials kept in storage room

```
...in a storage room?

(See 'csClr_1' for full text of this form.)

* N VALUE LABEL
14.3 2 1 Yes
85.7 12 5 No
462 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 3/90
```

csC1r_4: 3rd floor: cleaning materials kept anywhere else

```
...anywhere else?

(See 'csClr_1' for full text of this form.)

* N VALUE LABEL
7.1 1 1 Yes (SPECIFY)
92.9 13 5 No
462 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 3/91
```

Regular Interior/Exterior Pesticide: 3rd Floor

csC2: 3rd floor: pesticide regularly applied

Is pesticide regularly applied to either the interior or to the exterior to the space?

Record/column: 3/92

csC2a_1: 3rd floor: outside contractor applies pesticide

csC2a_2: 3rd floor: building staff applies pesticide

csC2a_3: 3rd floor: outside employees apply pesticide

csC2a_4: 3rd floor: other person applies pesticide

csC2b: 3rd floor: how often exterior pesticide applied

Record/column: 3/98

Record/column: 3/99

csC2d: 3rd floor: how often interior pesticide applied

csC2g: 3rd floor: pesticides stored on- or off-site

```
QUESTION ASKED IF PESTICIDE REGULARLY APPLIED ('csC2' eq 1):

Are the pesticides stored on-site or off-site?

* N VALUE LABEL

100.0 3 5 Off-site (SKIP TO 'ivfC23')

473 . Blank - DNA

---- ---

100.0 476 cases
```

csC2h_1: 3rd floor: pesticides kept in janitors closet

csC2h_2: 3rd floor: pesticides kept in another closet

csC2h_3: 3rd floor: pesticides kept in a storage room

csC2h_4: 3rd floor: pesticides kept anywhere else

Indoor Ventilation Fixtures: 3rd Floor

ivfC23_a: 3rd floor: air cleaners used

ivfC23_b: 3rd floor: space heaters used

ivfC23_c: 3rd floor: humidifiers used

```
Humidifiers?

(See 'ivfC23_a' for full text of this form.)

* N VALUE LABEL
7.1 1 1 Yes
92.9 13 5 No
462 . Blank - DNA
----- ---
100.0 476 cases

Record/column: 3/106
```

ivfC23_d: 3rd floor: dehumidifiers used

```
Dehumidifiers?

(See 'ivfC23_a' for full text of this form.)

* N VALUE LABEL
7.1 1 1 Yes
92.9 13 5 No
462 . Blank - DNA
---- ---
100.0 476 cases

Record/column: 3/107
```

ivfC23 e: 3rd floor: desk fans used

```
Desk fans?

(See 'ivfC23_a' for full text of this form.)

* N VALUE LABEL
14.3 2 1 Yes
85.7 12 5 No
462 . Blank - DNA
-----
100.0 476 cases

Record/column: 3/108
```

ivfC23a: 3rd floor: number of air cleaners

ivfC23b_1: 3rd floor: type of air cleaner-mechanical

ivfC23b_2: 3rd floor: type of air cleaner-pleated filters

```
Contain pleated filters?

(See 'ivfC23b_1' for full text of this form.)

* N VALUE LABEL

100.0 1 1 Yes

475 . Blank - DNA

---- ---

100.0 476 cases

Record/column: 3/113
```

ivfC23b_3: 3rd floor: type of air cleaner-ionizers

ivfC23b_4: 3rd floor: type of air cleaner-electrostatic precipitators

ivfC23b_5: 3rd floor: type of air cleaner-ozone generators

ivfC23b_6: 3rd floor: type of air cleaner-other

ivfC25a: 3rd floor: number of humidifiers

ivfC26a: 3rd floor: number of dehumidifiers

ivfC27a: 3rd floor: number of desk fans

OCCUPANT COMPLAINTS

oc1_a: Occupant complaints: too hot

Have there been any of the following occupant complaints related to the indoor environment? (READ CODES)

Too hot?

```
% N VALUE LABEL
51.0 236 1 Yes
49.0 227 5 No
3 8 DK
10 9 Ref/MD
----- ---
100.0 476 cases
```

Record/column: 3/127

Record/column: 3/128

oc1_a1: Occupant complaints: how often too hot

QUESTION ASKED IF TOO HOT ('ocl_a' eq 1):

```
How often?

* N VALUE LABEL

19.0 44 1 Once or twice

42.9 99 2 Not very often

24.2 56 3 Somewhat often

7.8 18 4 Very often

6.1 14 5 Constantly

5 8 DK

240 . Blank - DNA

---- ---

100.0 476 cases
```

oc1_b: Occupant complaints: too cold

```
Too cold?

(See 'oc1_a' for full text of this form.)

% N VALUE LABEL
53.6 248 1 Yes
46.4 215 5 No
3 8 DK
10 9 Ref/MD
-----
100.0 476 cases

Record/column: 3/129
```

oc1_b1: Occupant complaints: how often too cold

oc1_c: Occupant complaints: too drafty

```
Too drafty?

(See 'oc1_a' for full text of this form.)

% N VALUE LABEL
6.3 29 1 Yes
93.7 432 5 No
5 8 DK
10 9 Ref/MD
-----
100.0 476 cases

Record/column: 3/131
```

oc1_c1: Occupant complaints: how often too drafty

oc1_d: Occupant complaints: no air movement

```
Too little air movement?

(See 'oc1_a' for full text of this form.)

* N VALUE LABEL

11.7 54 1 Yes

88.3 409 5 No
3 8 DK
10 9 Ref/MD
-----

100.0 476 cases

Record/column: 3/133
```

oc1_d1: Occupant complaints: how often no air movement

oc1_e: Occupant complaints: odors

```
Odors?

(See 'oc1_a' for full text of this form.)

* N VALUE LABEL

13.6 63 1 Yes

86.4 400 5 No

3 8 DK

10 9 Ref/MD

----

100.0 476 cases

Record/column: 3/135
```

oc1_e1: Occupant complaints: how often odors

oc1_f: Occupant complaints: something else

```
Something else?

(See 'oc1_a' for full text of this form.)

* N VALUE LABEL
1.7 8 1 Yes (SPECIFY)
98.3 455 5 No
3 8 DK
10 9 Ref/MD
-----
100.0 476 cases

Record/column: 3/137
```

oc1_f1: Occupant complaints: how often other problems

oc1y: Occupant complaints: when was last complaint

When did the last complaint occur?

Record/column: 3/139

oc1z_1: Corrective action: none

Various types of corrective action could be taken. Please tell me which actions were taken in response to the complaints:

```
(READ EACH - CODE 1 IF TAKEN - CODE 5 IF NOT TAKEN)
```

no corrective action taken?

oc1z_2: Corrective action: manager investigated

oc1z_3: Corrective action: contractor investigated

oc1z_4: Corrective action: supervisor investigated

oc1z_5: Corrective action: something else

OTHER BUSINESSES

ob1: Share building with other businesses

Do you share your building with any other businesses?

```
% N VALUE LABEL
35.2 164 1 Yes (SKIP TO 'ob3')
64.8 302 5 No
10 9 Ref/MD
----- ---
100.0 476 cases
```

INTERVIEWER OBSERVATIONS

observ_1: Interviewer observations: understanding

Overall, how well do you feel the respondent UNDERSTOOD the questions on a scale from 1 to 10 with 1 being hardly understood at all, and 10 being complete understanding?

%	N	VALUE	LABEL
0.2	1	1	
0.6	3	7	
0.4	2	8	
7.4	35	9	
91.4	434	10	
	1	98	
100.0	476	cases	

Record/columns: 1/76-77

observ_2: Interviewer observations: accuracy

Overall, how confident are you about the accuracy (validity) of R's answers on a scale from 1 to 10 with 1 being not at all accurate and 10 being completely accurate?

%	N	VALUE	${ t LABEL}$
0.2	1	1	
0.2	1	5	
0.4	2	6	
0.6	3	7	
1.7	8	8	
5.9	28	9	
90.9	432	10	
	1	98	
100.0	476	cases	

Record/columns: 1/78-79

observ_3: Interviewer observations: honesty

Overall, how honest do you think R was in answering the questions on a scale from 1 to 10 scale with 1 being hardly honest at all and 10 being completely honest?

%	N	VALUE	LABEL
0.2	1	1	
0.2	1	6	
0.2	1	7	
0.6	3	8	
1.7	8	9	
97.1	461	10	
	1	98	
100.0	476	cases	

Record/columns: 1/80-81

METHODOLOGICAL VARIABLES

repl: Replicate

%	N	VALUE	LABEL
18.5	88	1	
17.2	82	2	
18.7	89	3	
19.3	92	4	
19.1	91	5	
7.1	34	6	
100.0	476	cases	

Record/columns: 1/52-53

date: Interview date (yyyymmdd)

This variable contains the date that the interview was completed in ${\tt YYYYMMDD}$ format.

476 cases

Record/columns: 1/6-13

time: Interviee time (hhmm)

This variable contains the time of day that the interview was completed. (in HHMM format)

476 cases

Record/columns: 1/14-17

htime: Total case handling time (minutes)

Total minutes elapsed during all periods that the case was accessed at the computer terminal by an interviewer (and supervisors in "entry mode"). This includes all time spent on dialings, introductions, enumeration, callbacks, interviewing, editing, and so on.

476 cases (Range of valid codes: 26-335)

Record/columns: 1/24-27

inum: Interviewer number

This variable contains the unique interviewer identification number of the interviewer who completed the case.

8	N	VALUE	LABEL
0.4	2	108	
3.2	15	109	
2.3	11	115	
0.4	2	150	
8.2	39	155	
2.5	12	171	
20.0	95	173	
4.6	22	174	
0.2	1	179	
0.6	3	180	
0.8	4	185	
1.1	5	186	
5.3	25	245	
4.4	21	350	
1.1	5	356	
2.7	13	357	
5.0	24	361	
8.8	42	365	
7.6	36	371	
8.2	39	372	
6.9	33	373	
5.7	27	396	
100.0	476	cases	

Record/columns: 1/34-36

dow: Interview day of week

This variable contains the day of the week that the interview was completed.

```
        %
        N
        VALUE
        LABEL

        16.6
        79
        1
        Monday

        27.7
        132
        2
        Tuesday

        18.9
        90
        3
        Wednesday

        18.5
        88
        4
        Thursday

        18.1
        86
        5
        Friday

        0.2
        1
        6
        Saturday

100.0 476 cases
```

Record/column: 1/38

ttnt: Total calls

```
% N VALUE LABEL 100.0 1 9
    475 . Blank - DNA
100.0 476 cases
```

Record/columns: 1/40-41

stime: Substantive interview time (minutes)

```
[allow int 4][loc 0/101]
                            [# total substantive int time on
zero
         N VALUE LABEL
      용
    0.4
         2
             1
         1
    0.2
               2
    0.2
         1
               3
    0.2
         1
               6
    0.2
         1
               7
    0.4
         2
              8
    1.1
         5
              9
    4.6
         22
             10
    5.3
         25
             11
    5.9 28
             12
    8.0 38
              13
    8.2 39
              14
    8.8
        42
              15
    8.0
         38
              16
    8.8
        42
              17
    8.0
             18
        38
    5.3
        25
             19
    3.6
        17
              20
    4.6
        22
              21
    3.8
        18
              22
    3.2
         15
              23
    2.1
         10
              24
        13
              25
    2.7
    0.8
         4
              26
    0.8
             27
    0.4
         2
             28
    0.6
         3
             29
         5
             30
    1.1
         1
             31
    0.2
         2
             32
    0.4
         1
    0.2
              34
    0.2
         1
             38
    0.4
         2
              39
         1 41
1 43
1 48
1 52
    0.2
    0.2
    0.2
    0.2
    0.2
         1
             57
         1
              . Blank - DNA
   100.0 476 cases
```

Record/columns: 1/28-31

screen1 a: Screener: number of floors

First, how many stories is your building?

```
% N VALUE LABEL
66.8 318 1
27.9 133 2
5.3 25 3
---- ---
100.0 476 cases
```

Record/column: 1/69

screen2_a: Screener: floor area

```
What is the floor area of the building?

476 cases (Range of valid codes: 500-50,000)

Record/columns: 1/70-74
```

screen2_a1: Screener: estimate floor area

hvac: Completed supplemental HVAC SAQ

At the end of the CATI interview, respondents were asked to complete a supplemental questionnaire with more details regarding their HVAC system. This variable records the status of these SAQs $\frac{1}{2} \frac{1}{2} \frac{1$

%	N	VALUE	LABEL
85.1	405	0	Never returned
10.7	51	1	Complete
2.7	13	2	Partial
0.8	4	3	Refused
0.6	3	4	Post Office returned
100.0	476	cases	

APPENDIX A: Outcome of Fieldwork

Summary of Outcomes for CARB-SMCB 2008-09

-				
	Number	% of Total		
Total Selected Establishments	3,986	100.0%		
Ineligible sampling-units				
Out of Business Residence Language barrier/Other inel. Duplicate listing Outside CA	368 206 36 11 5	9.2 5.2 .9 .3		
Total	626	15.7		
Screened out sampling-units				
Building has 4+ Floors No Rooftop HVAC Unit Building too Large/Small Built Before 1978	231 553 500 728	5.8 13.9 12.5 18.3		
Total	2,012	50.5		
Total Ineligible	2,638	66.2		
Eligible sampling-units	1,348	33.8	100.0	
Non-Response				
Informant Refusal Respondent Refusal No one ever available Establishment not located	453 230 67	5.8 1.7	33.6 17.1 5.0	
Total Non-Response	872	22.0	64.8	
Total Complete	476	11.9	35.3	% of
Completes				
Supplemental HVAC SAQ	476			100.0
Never returned Complete Refused at phone interview Partial	405 51 13 13			85.1 10.5 2.7 2.7

•	4	-	1

Returned Refused	4	.8
Post Office returned	3	.6

APPENDIX B: Text for 'other specify' Response Categories

```
Item ci3
Case Text
11090:distribution
11120:distribution electonic products
33150:coujnty club / recreation, restaurant .
41520: Auto repair, beauty supply- 1/2 is Meineke, 1/2 is Cosmo Beauty
Supply
41520:
35160:federal law enforcement
11440:automotive repair
33500:
21600:sell lighting and audio video equipment.
13530: Marketing and technology company.
31650:underground utility surveys
33051: headquarters building for tribal administration, and their law
33051:offices
21281:warehouse
33351:retail items sold and also car wash
33351:d
33351:
41581:music store
41581:
25161:
25161:53 tenants, so R has difficulty deciding
31601:bail bonds
11591:Steele Distributor
11591:R who did interview was the owner TOM FOURMONT. He does not want
11591: the next survey sent to him, he wants us to send it to his store
```

```
11591:manager,Chris.
43122:prison
23242:IT
41282: Manufacturing
31242:Pharmacy
43342: Senior living- retirement home.
13332: just office..
13352:sell copiers
23502: Medical and non-medical offices..
43592:casino
11183:collision repair
25083:wholesale
31243:nightclub
11273: Education - college, computer training, also nonprofit org.
11273:ESL classes for San Diego college dist.
33303:Truck rental and lease.
41433:govt contractor - can't give out more info
33343:electronic retail/
33343:
53213:health and fitness club
21443: church
21443:
43443: One is job placement service office; other business is flower
43443: There is a vacant storefront there as well.
55004:auto sales
43164: Pump Wharehouse and offices
31294:hospice and offices
33494: Accounting, Dentist and Doctor, and 1 vacancy
35214:casino
35214:
21625:Comsmetic manufactures
```

```
Item ci3b
Case Text
____
31120:pghysical therapy
41260:Chiropractor's office
41260:.
23211:social services, mental health care
23441:Optical shop.
43192:collection of blood
41323: Pharmacy where they make drugs.
35024:blood banking
33474: Headquarters for home care and hospice nursing.
______
Item ci3c
Case Text
    _____
33065:fast food / sit down
_____
Item ci3d
Case Text
51470:convenience with gasoline
33510:food wholesale
33510:
51901:convenience with gas
______
Item ci3e
Case Text
41010:office supplies
41010:
51330:Tire sales
51710: Cabinet showroom & offices.
```

```
53260:Golf club place, semi-private. Retail store.
21670:retail facility for sales for water products
23061:equipment rental
43071:Ag Equipment like john deer
11261:construction and supply surveying
31321:flowers.
13321:freestanding bldn
13321:Motorcycle cales - free standing bldg
31361:convenience store.
43451:stand alone bldg.
43451:car wash
43062:sell building products
31342:industrial line of shops
41562:Comoics
51962:outlet center
31263:WIC store
41493:mini-mall
21014:convenience store
33034:mptprcycl;es
51124:glass sales
51124:and showroom
53194: Sells construction supplies to large suppliers/contractors
23574:retail florring
_____
Item ci3g
Case Text
     _____
33360:bowling association
33461:ARCADE
```

```
51012: Family fun center - arcade and laser tag, birthday party room
13223:school
31533:middle school
33503: Gambling casino.
51265:pre school, infants to 5 years
_____
Item ci3h
Case Text
15010:credit reporting/finances
15080:social
21250:automobile delivery service.
51950:retirement home - meals cooked for them
51031:Child Care.
41051:pest control
43051:after school programs
31151: Insurance Services.
11291:Hair Salon
11291:
11331:pest control
23511:Staffing Services.
35002:public service
35002:
33112:child care
23232:technology company - speech application software
13312:environmental consulting
41492:attorney office
23462:state water agency
51882: Equipment rental (heavy equip).
53282:police operations
13003:computer services
```

```
13003:
43303:call center for Parks/recreation
33273:car delewarship
33273:this is an auto delearship, per r, they sale new cars, don't do
33273:repairs
41393:educational
53203:vocational skills center
25173:city adminstrative
31124:adult day care
31124:/
31124:adult day care
21154:Dry cleaning, clock shop
15074: conculting for handicapped (San Diego Service Center), other
15074: offices for other companies.
51304:Furniture Repair
43274: Engineering services for US Navy at China Lake.
13264:nursing home
31664:sell and service water cleaning equipment
15145:training, education and research related to disabled - schools,
15145:center- DS is administrative, health, music room
21365:professional services ?
35015:mortgage loans
55005: Auto Sales and Service
Item ci3i
Case Text
23190:distributing, sales of communication products
11150:army recruiting
51300:plumbing and heating
25130:Construction, general contractor.
```

```
41710:whole retail distribitpr
21700:decorative plumbing manufacturer/wholesale
43141: Wholesale parts sales.
51531:Warehousing.
21631: Import Shipping Company.
31052:restaurant, golf shop, admin offices.
31142:wholesale distributor of taxi supplies
33202:Egg processing plant.
33242: Detention facility for juvenile deliquent.
51682:B2B solar panel systems they sell.
21692:silksreen garments
53342:do inventory on stores..hire clients to do inventory
21013:warehouse / admionistrative
21013:...and retail
41163:see note
13163: financial benefits
15093:.
21393:this business molds plastic
31603:Ship manuals.
53034:City Hall (police dept is next door, same address though).
53294:real estate
53294:
Item bd2b@4
Case Text
53010: Showroom and service area.
51080:interior/ painting
11090:painting, new carpet
33100: Facade, outdoors visible appearance, new meat case, dairy case,
things
```

```
33100:particular to store.
23190:interior offices, aditional bathrooms added'; lunchroom
redesigned
55020: New carpet, paint, that kind of thing.
21250:created more warehouse space.
35110:new front office.
51510:bathroom was added
13470:5000 sq. ft. added. Additional HVAC system put into another end
13470: the building.
33510:add-on
43540:metal bldg, added more passive ventilation
15290:Spa
13570:tenanat improvment, kitchen
31680: rennovated salad bar and booth
23041: two or three offices became one, main doors became double doors
41051:added some rooms and office spaces
33051:flooring and electrical systems
43181:HVAC units themselves replaced with new units
51341:Added 6000 square feet
43291: changed how the offices were configured, nothing was inhanced or
improve
43291:to a grate degree for ventalation to make a difference
23441: Research Lab - lot of improvements in ventialation in that area.
35002:added whole other building in the back
13022:Added a new ac unit
13032:Kitchen
13032:
55022: New air conditioning units
31212: Foamed the whole roof for energy efficiency.
31212:
```

```
41312: Just interior tenant improvements, nothing to do with
ventilation.
13332:4 bathrooms, two kitchens, a shower room
23462:new rooms
51792:Built out top floor
43552:Added washroom/ bathroom
43552:per R, the built a new washroom/bathroom that the public can
43552:enter from the outside but it is attached to the DS building
13003:dropped ceilings, new walls, etc.
43153:we modified and rerouted the ventillation systems..temporarry
31263: new roof - they have to change it every year
43353:new roof
43403: they added a patio, and a door headed out to the patio, and some
43403:- windows.
13393: Changed carpeting, booths, lamps.
13533:reconstruction of downstairs
25173:ceilings raised
33004: Made building larger
55004:expanded the showroom about 15 ft
41094:volume of space - added space office
35024:replaced some HVAC units
21094: Interior wall; floor plan changes.
23094:raised ceilings
23094:
15044: was a light industrial warehouse, converted it to offices, added
15044:atriums. at time, each suite had 1 or 2 HVAC / heat pumps
31124:traing down to connect the suites
51244: Rearranged interior space- moved non-load-bearing walls.
33174:New roof
15144: partial ventilation systems
51654:new roof
```

```
35214:remodel interior
13345:Fire REpair
13345:/.
13345:
15145:sunroofs
21145:replacing roof and paint
21505:drive thru window added
_____
Item sifA7@g
Case Text
13030: just said: laminate
21090:marble
11120:slate
33150:stone
41710:epoxy coating
13201:Epoxy flooring in kitchen
13201:
11291:Laminant (sp?)
13321:
13321:spray on rubber.
31581:Laminate in bathrooms.
11012:Polyeurothane.
33012:vct
25072:Carpet tiles
13352:marble
13382:VCT - vinyl composition tiles
33402:marble finish
51822: Carpet made of rubber.
15093:other is composite tile which is differenct from ceramic per R
```

```
15093:as noted composite tile -different from ceramic tile per R
13293:marble flooring.
41433:pebbly tiles - looks like building
15203:trabertine
15203:
13503:Slate tile
53024:Stone flooring.
51124:Pergo / fake wood
43214:aggragate finish
43214:
51654:commercial tile
33404:brick-like tile
53244: finished expoxy
43454:marble
43494:travertine
33494:slate (stone)
15145:rubber matting
33165:Granite
Item sifB7@g
Case Text
11120:ECT
11120:
33012:vct
13123:commercial tile
55004:plywood
-----
Item sifA7a
Case Text
```

```
----
15145:rubber matting
_____
Item sifB7a
Case Text
____
55004:plywood
_____
Item sul
Case Text
53010: Houses are on a different street. Big dealerships on either side.
11150:airport
41260:Commercial area- "whatever that is considered"/
41260:
33320:it's all fairgrounds
11380:industrial
51760:Auto mall - lots of auto dealers
11440:industrial park
15290:surrounded by water
33351:commercial
33461:industiral
41581:business park
11591:business park
35002:in the middle of the city
31242:commercial
13362:end of industrial park area; mix of residence and industrial
bldgs.
53272:business park
23522:Business park
43552:Mountains
21702:Industrial
```

```
33003:commercial
11133:suburban/rural
21203:commercial/retail
11183:commercial
25083:business district
53213:residential
11473: Mixed urban/residential area, she couldn't choose between them.
13533:waterfront
52013:Across the street, rail yards, commercial building next door,
52013:residences behind.
23024:Suburban/Rural- near Windsor and airport.
53194:Industrial park
Item os1b@1
Case Text
33500:50.
53001:55
53001:
_____
Item os1b@2
Case Text
____
53001:55
23211:go off at night
25083:no air circulating when the timer goes off
______
Item os2b@1
Case Text
23111: R said he puts thermostat at 55
23111:55
25042:54
```

```
25042:
33402:off
23582:58
23582:
23025:50
43015:58
_____
Item os3b@1
Case Text
13090:55
13090:
33360:on auto all the time
33500:50.
_____
Item os3b@2
Case Text
____
33402:less than 60
25083:turned off after timer goes off
21605:55 at night6
21605:
Item os4b@1
Case Text
____
33150:58
33150:
53001:55
53001:
13181:58
13181:
41421:45
43451:50 degrees
25042:54
```

```
43342:55 degrees.
33402:off
23502:55
23502:
23582:58
43073:58
13223:50
53293:58 degrees.
53034:55
41274:58
41274:
13334:55
13334:
33374:55/
33374:
53274:55
33554:turn down to 50
21605:55
_____
Item os4b@2
Case Text
____
33150:58
______
Item ic11a@3
Case Text
21704:not sure but not regular oven
Item ic22
Case Text
41010:office supplies/business machines
```

```
53010:Autos.
53010:Automotive
53040:sales services of auto vehicles.
33050:CARS
51330:Tire sales
51710:Cabinets.
51760:Auto sales
21670:retail store for water products and refilling water
bottles(commercial)
21670:
23061:equipment rental
51191:flower shop
31321:florist
13321:motorcycle dealership
31361: like a seven-eleven convenience store.
43451:car wash
11571: the store makes trophies.
43062:building materials
41172: Jewelry store.
33342:electronics, appliances
33402:automotive dealership
41542:Gas Station
41542:
43073:RV sales.
53083:Auto Sales and Parts
31263:food
11423:convenience store
11473: framing and art supplies
11034:party supplies and balloons
33034:motorcycle sakles
```

```
33054:auto
51124:showroom, mostly
51124:
51124:for glass
33164:Car sales
43234: Auto Dealership/Service place.
53154:restaraunt
53154:
33304:auotmotive
53194:All construction materials
23354:a TOY store
21484:Electronics store.
33415:Auto Sales
______
Item ic31ba@3
Case Text
----
33051:propane.
43592:propane
Item brA2bb
Case Text
23260:recycled carpet
23260:see note
23041:high traffic small pile carpet
23041:high traffic small pile carpet
23111: R said there was none
25042:dk
25072:No backing of this kind
13382:don't know what it is
```

```
43153: high grade commercial carpet-sure its not natural
13173:dk
25083:have no idea
33204:clued to the floor
Item brB2bb
Case Text
33391:padded glue down
11381:dk.
_____
Item brA2c
Case Text
    _____
33051:
33051:it has a rag pad, looks like it has some kind of clothe in it
33051:he described as pieces of clothe streched out and no gluw was
used
33051:staples on the walls were being use, did have pad didn't know
33051:kind described to the best of his ability
13381:square ones that you can remove and replace
52011:polypopelene
43244:no pad
_____
Item brB2c
Case Text
____
15290:horsehair rubber
11381:dk.
_____
Item brA3b@5
Case Text
____
```

```
45050:California furnishings - metal and laminates
55020: Wood with fabric inserts - these are church pews.
43370:leather
51600: Combination glass and wood.
15290:apolostered furniture.
53083: vinyl seat cushion
43203: Fabirc, and vinly applostry
13193:vinyl
51453:Fabrick
13293: Some chairs have nylon in them, etc.
33164:vinyl
25074:cloth
41274:leather and composite
41274:
33474:Glass and metal table style.
_____
Item brB3b@5
Case Text
55020: Wood with fabric inserts- they looks solid, might be plywood or
55020:board, but they look solid.
13470:Upholstered chairs.
13470:Upholstered chairs
55022: Fabric covered laminate
______
Item csAld@2
Case Text
13040: three times a week or more if needed
13040:
33170:3 times a week
```

```
51300:3xs a week
43370:as needed
41520: For shop, daily, they clean the floor; for both, they also clean
weekly.
41520:
41520: See previous note.
51031: Five nights a week.
41051: three times a week
11381: four times a week.
15251:as needed
13312:twice a month
41392:3 to 4 times a week
13332:bathrooms 5 times a week, kitchen 3 times a week
13352:on request only
33452:All day long.
51822:Cleaned after every use. Irregular use = irregular cleaning
schedule.
23502: Five days a week.
23502:
41023: Five days a week - M-F.
43043: Every other day.
43073:3 times a week.
41323: Monday thru Friday.
11273:2-3 times per day..
13293:3 days a week.
21393:at least 3 times a week
43403:2 to 3 times per day.
13393:On each shift- so 3 times/day.
11473:
11473: when customers complain
```

```
13503:Twice a day.
53293:3 times daily
53293:
51134: Three times a week.
51244: Three times a week.
53294: three times a week
13345:twice a day
Item csB1d@2
Case Text
13090:depends; if space is opened once 1st floor full; if business is
13090: and the space doesn't need to be opened then no cleaning is
needed
11381: four times a week.
15251:
15251:as needed
25161:cleaned three times a week, MWF.
23502: Five Days a week.
43073:3 times a week..
11273:Six times a day.
______
Item csA1e@2
Case Text
51080:4 times/wk
13040: three times a week, if needed
13040: three times a week or more if needed
13040:
33100: For small spaces, tight spaces.
33100:Whenever necessary.
```

```
51850:Twice a day.
41051: three times a week
11381: four times a week.
31242:every other day
41392:3 to 4 times a week
33452:All day long.
51882: Once a week, plus there's a dustmop people use if things get too
dusty./
51882:
41323: five days a week.
11273:When needed.
51244: Three times a week.
-----
Item csB1e@2
Case Text
13090:depends on usage - if space not opened/used then no cleaning
needed
11273:When needed.
Item csA1f@2
Case Text
21090:3 times a week
21090:three times a week
33170:3 times a week
51300:3xs per week
23380:5 days a week
51850:Once every 2 mos.
51031:5 nights a week.
31321:every other day
11381: four days a week.
```

```
25161:3x a week.
25161:
43122:3x a day
21142: Vacuum 3x week
41172: Three times a week.
33402:three times a week
23502: Five days a week (not weekends)...
33073: Five days a week.
11183:as needed
41323:5 days a week.
11273: Twice a day.
13293:3 times a week.
33024:3x week..
53024: As needed.
43054:3 times a week.
51244: three times/week or more.
23324:every other week day
25154:three times a week
53294:3 times a week
13345:twice a day
_____
Item csB1f@2
Case Text
13090:depends on busines if busy will open second space thus will clean
13090:if not opened will not clean
33320:M-F, every day after work.
11381: four times a week.
25161:mwf cleaning schedule.
43122:3 timers day
```

```
23502: Five Days a Week.
11273:2 -3 times'/day.
Item csA1r@4
Case Text
13020:some sort of wall mounted unit
13030:off-site
13030:Kept off-site
21090:under the kitchen sink
51190:not kept in the building
51190:
51190:
51190:Not kept in the building - brought in
51330:Brought in by janitorial service
41260:Under a sink
21250:in the break room.
21250:d
21250:
33230:contractor brings own cleaning supplies
45060:under the bathroom sink
51470:in the car wash, it has a storage room
35110:a garage outside the bldg.in storage..
35110:a garage outside the bldg in storage
33360:a cabinet in the restroom/./.
11380:company brings with them
51710: In the bathroom.
51800:in the bathroom
23490:engineer's office outside the building. Vendor brings in the
items
```

```
51850:Near sink.
33500:Under sink.
51950:maintenance office
41680: in a staralizing room underneath the sink
43540:storage "area"
13530:Outside contractors bring them in.
21670:next to the bathroom, not an enclosed room
13570:under the sink in the kitchen
13570:
31680:table designated for cleaning stuff
31680:d
31680:
53001:off site
23111: in the warehouse, that is thier business
51191:under utility sinks and cabinets
15071:in the Kitchen
13161:Dish soap in kitchen.
31151:Cleaning materials brought in by outside contractor.
31151:Cleaning materials brought in by outside contractor
21301:under sink
51491:shelf designeated for cleaning area
51491:
31321:under sinks
33391:in another building
33391:
11381:stored in cleaners van.
51781:storage area
31581:Underneath kitchen counter and sink.
41691:cabinet under sink
43551:chemical dispense system (?)
```

```
53331:outside of the building
53331:
41771: Mis. shelves in diswashing area
33591: Kept on back dock, possibly spray bottles throughout resturant..
51012:In a kitchen area - big wall units
11012: Various places in bathroom and around kitchen.
43112:in the sink under the kitchen
43122: supply room to hand out materials
31142:kitchen cupbard
25042:custodian's closet
23232:under kitchen sink
25072: Kitchen area has some materials for washing dishes and sink -
25072:clorox, etc
41272: Under the sink in the kitchewn.
25082:another building
31242:metal cabinet
13312:kitchen
31342:by the sink
33342:on janiotrs shelf
13382: janitor brings them in
51682:restroom
15232:warehouse
15232:q
15232:
51822: Cupboard in Kitchen.
51882:Under the front counter, so people don't walk away with it.
23522:In engineering shop for corrosives and flammables
41722: Janitor's closet in another building
52062:shelf
53342:on the lower floor where the garage is
```

```
52072:cabinets
21702:Back room, (not a storage room per R()
21702:I probed R to see if backroom was a storage room and she said
21702:don't really store anything in there
41023: Brought by outside cleaning crew, then taken when they leave.
21053:kitchen
21133:Bathroom.
13123:some are kept in each dept.
13123:
51223: they take back cleaning materials with them, we only keep their
51223:here.
15093:offsite maintenance storage area as they buy in bulk
13193: chemical tower, dispense unit
13203: supply cabinet
31243:rack in the bake of the kitchen
31263:back of a store
51453:A cabinet in the bathroom
21393:restroom in cabinet
21443:separate location
21473: In the Bathroom.
31453:cabinet in bathroom
11423:in the bathroom
33493: Shelf by the back door.
11473:locked cabinet in the back room
13503: Area on back dock where all chemicals are kept.
41703:office
52013:
11553:in bathroom and under sink
```

```
43044:Back dock
53024: Might be some in the break room under the sink..
51124:restroom under sink
51244: Undercabinet area in sterilization room.
51294:outside
51294:
51304:shelves in bathroom
51344:under the sink in the bathroom
41274:bathroom and under kitchen sink
41274:
53154:brought in, no inside storage at all
41294:brings with him
15144: "housekeeping locker"
53194: For the most part the stuff is brought in by the cleaning crew
51534: The supplies are stored in the space where they're used ie. if
cleaning
51534: supply is for the kitchen it's store there; if cleaning supply is
51534: the bathroom it's stored there
13334:boxes
31384: janitorial service rent their own rented shed
51654:alcove with sink, open area
21484:Bathroom.
43454:cleaning crew bring materials in - not stored on premises
51834:cabinet -office area
11484:bathroom in shop
25154:unders sink in lunchroom
41654:underneath restroom sink
13295:dishwashing area
13345: chemical storage area
21085:back room
```

```
23405:deli dept, meat dept, etc.
33065:some cabinets
43015:each exam room
45015:separate laundry room
51045: janitor provides equipment as part of service
51205:in a cabinet
51675:on wall by sink, open area with rack
51725:lab storage area
Item csB1r@4
Case Text
51190:R: "So you're calling from UC Berkeley... are you trying to make
51190:all use green stuff?"
51190:
51190:Brought in from outside with contractors
11120:first floor
33390:downstairs.
33390:
13470: Some materials kept under a sink.
35081:Brought in by outside contradctor
33391:another building
11381:matrerials stored in van.
55022:Brought in by contractor
23522:corrosivfes and flammables in engin dept
23542:bathroom
13123:in a hallway
13123:
53083:all on first floor
13203:all are kept on first floor
```

```
41353:on first floor only
21443: same room as first floor stuff.
13433:stored in another bldg
51244: All cleaning materials kept offsite by outside contractor;
51244: except for virucide, which is kept in sterlization area.
_____
Item csClr@4
Case Text
23522:corrosives and flammables
_____
Item csA2b
Case Text
    _____
53040: once a year. outside
53040:
11120:bi-monthly
11120:
53090:annually
15120:when there's a problem
23260:bi weekly
23260:
43270: once a year
41520: Every two months.
33031:Only when there's a problem, doesn't even know if there are any.
31181:bi anually
11092: Twice a month.
43122:2 times month
23232: once a year
41272: Every other month.
23322:bi-monthly
```

```
51542:only as needed
33342:every other month
51822: As needed. Inspection done monthly; not always a need for
spraying, etc.
51822:
51882: Every so often, will spray along rubber part of building where
51882: are getting in.
23522:As needed
41023: Things are checked once a month; pesticide sprayed as needed;
41023: been needed lately.,
41353:exterior not done
11423:every 2 months or as needed
51024:Don't know
51024:
53024:as needed.
51654:every two weeks
21484: Used as needed - infrequent need for it.
53244:periodically
33065:eevery third week
51045: once a year
Item csB2b
Case Text
13181:as needed
43122:2x month
51542:done as needed
23522:when needed
13173:as nmeeded
______
Item csC2b
```

```
Case Text
     _____
43342:as needed.
23522: when needed
Item csA2d
Case Text
15010: only if needed
53040: once in past 12 years.
53040:
55020:Only as necessary b/c of chemicals involved- have to give 72
55020:e to parents, so they avoid doing that.
15120:when needed
23380:annually
23380:
33380:When needed.
13410: As needed- when someone complains.
41520: Every two months.
23490: only when there is an ant problem. One time has it been needed
51850:As needed.
41630:as needed
33510:every other week
33510:
33510:every two weeks
33510:
53310:very sporadic
41710:as needed 9usually once a year)
21700:as need bases and only specific location
51031:as needed.
33051:not as often as exterior but they do sometimes, no specific
timeset
15071:as needed
```

```
45051:As needed
45051:As needed.
13181:as needed
31181:Bi-anuualy
43291:on call, if there is ants or something
23491:only if there's a problem.
35171:as needed
51012:As needed
35002: only in extreme situations do we apply interior pesticide
33012:rarely.
51172:as needed
11092:Up to the individual tenants.
43122:2 times month
21142:As needed.
43192:as needed, not very often
13212:As needed
41272: Every other month.
23322:bi-monthly
43342: Done as needed/as per demand.
51822: As necessary.
43482: once every two years for ants
51882: When ants are seen in the inside of the building.
23522:as needed
41642:as needed
13173:as needed
33273:as needed
11273:When requested.
31333:Everrty 3 mos.
```

```
41393:as needed, when they think it needs doing
35123:as needed
41433: once a year
15203:on request
21443:as needed.
11423:every 2 months
11553:only once a year at most
43583:as needed
51024:Don't know
23024: The few problems they've had could be taken care of with vaccum
23024: orange-type pesticide, nontoxic biodegradeable..
23024: Nontoxic pesticide used only when there's a complaint.
23024: see above.
33024:only if there's a problem
53024:as needed.
55004:if needed
51134:As needed.
21094: Doesn't know; maybe annually; may not need to be done at all
21094:if exterior done- not used unless there's a problem.
43164:as needed
51244: Used only when there's a problem (none in last 7 years).
51294:as needed
25074:as needed
15144:as needed
21484: As needed. Was applied at same time as exterior pesticide when
21484:was an ant problem back in July- no need for exterio or int
21484:pesticide since.
53244:periodically, as needed
33474: As needed- if we find we have ants inside.
52014:every six months
```

```
21625: they come insidee and check, but not regualry applied inside
33065:every three weeks
43215: once or twice a year
51265:as needed
Item csB2d
Case Text
15010:as needed
23490: as needed inside
13181:as needed
51012:As needed
33012:rarely...
43122:2x month
13212:As needed
43342: As required.
23522:When needed
41642:as needed
13173:as needed
11273:As requested.
55004:as needed
21094: Interior pesticide used as needed; which may be semi-annual,
annual, o
21094:or other- ants, when it rains...
51244:Only used if there is a call for it.
_____
Item csA2h@4
Case Text
51882:Under the counter, so it doesn't disappear.
43593:gas in the walls
```

```
43593:
43593: There are tubes throughout the walls of the building that contain
43593:pesticidal gas
45014:in cabinets
45014: they have cabinets for some storage
______
Item csB2h@4
Case Text
43593: There are tubes throughout the building walls that contain a
43593:pesticidal gas
Item ivfA23b@6
Case Text
53051:propane generators.
55022:Pleated filter, gas filter and hepa filter
43342:Probably, but R doesn't know.
41323:Clean room with its own filterong, etc- sterile room.
43403:battery operated.
43044:dont know
43044:
35214:UV
_____
Item oc1@f
Case Text
23041:direction of air flow from the vents, some of the vent locations
23041:dont have the vents to do the direction just an open space..
23041: they are installing vent regulated to detour the air different
ways
23041: for the flow
13032:mold
13032:
23502: They want to open a window once in a while, and they can't b/c
23502: the building is airtight.
```

```
53272:wasps
43013:alergy
31533:off and on varies
23024: Personal Hygiene Odors.
23574:we need windows
_____
Item oc1z@5
Case Text
53010:Upper management investigated and responded. New air conditioning
53010:came in as replacement.
53010:
53040:close doors
35040:an engineer in-house
35040: see note prev. AN in-house engineer investigated
55020:Inside crew handles complaints, outside contractor is brought in
55020:crew cannot handle it.
33170:Isolated employee complained and we turned the heat up a little -
33170:no formal investigation needed - simple response by employees
there
33170:at the time
23380:she said "put on a sweater"
51710: Actually changed the thermostat.
41620: Put on a sweater
21600:employees know where the thermostats are
41680:coworker
53310:we just do what we want, if we're too hot or too cold, we fix it
53310:ourselves.
15290:inhouse engineer
31151: Turned on desk fan.
31151:
```

31181:Lowered the thermostat 13201:AC wasn't turned on. 51491:complain to landowner to ask for section cooling but there isnt 51491: they can do 13381:corporate office took care of it. 23491:ac breaks. contractor repairs. 53331:relocate guest, or adjust thermostat 13032:cleaned out 55022:Buildiing facilitator investigates 33242: Readjusted temperature for employeee complaint. 33242: 13312: samples smell bad - they close them up 43552:had thermoastat fixed 23582:pipes re[ppalced 23582: Note should read the oder was being caused by a bad pipe, so the they 23582:had the pipe replaced 21702:air condition was repaired 21323: the business is a hair salon and nail salon. smells from different 21323:products used. Each station has an air purifier and doors are 21323:@ times to let air circulate 41353:thermostat adjusted 53203:put a lock on the thermostat box - they were changing the temp. 53203:too much. 21393:had broken thermostat that needed to be replaced 41433:individuals change thermostat settings 33503: We opened up an Economizer- they allow indoor smoking. 13503: "We just raised the temperature." 53293: Took burnt toast out, toasted some new toast. 31014: she plugged in space heater

31014:

53024: Just turned the fan on.

21094: Maintenance made adjustment on master stats.

43234: Someone turned up the heat or turned it down.

43274: Someone either used a space heater or put on a sweater.

33304:adjusted thermostat

51654:employees note it's cold, not customers

23025:turn heat up

45015:taken care of at station level, whatever the problem is

51675:staff took care of itr

Appendix F.

Codebook for the Heating, Ventilation and Air Conditioning SAQ (2008)

University of California Berkeley

CODEBOOK

for the

HEATING, VENTILATION AND AIR CONDITIONING SAQ (2008)
(71 completed cases)

Sponsor: California Air Resources Board (CARB)

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INTRODUCTION

DATA PROCESSING

The data entry, verification of the data, and the construction of data sets were conducted by the Data Management Unit of the Survey Research Center at the University of California, Berkeley.

- 1. After receiving the completed, self-administered questionnaires (SAQs) from the field, they were numbered sequentially and filed according to work assignments.
- A direct data entry (DDE) instrument using CASES software was designed specifically for these collection instruments. Only valid codes are accepted by the entry program, and some logical checks were added to maintain certain coding conventions.
- 3. All cases were entered into computer memory twice, by two different people at different times. This procedure offers not only 100% verification of the data, but also saves time should there require a revision of the entry instrument (i.e., additional valid codes, increase valid code ranges, or the need for new or improved coding rules).
- 4. Batches of paired cases were compared by a computer program which identifies discrepancies between the two entries. These differences were then checked against the original case documents. Once the correction was made to one of the paired entries, the duplicate case was discarded.
 - The "cleaned" batch of data cases was then checked yet again by another computer program which is very similar to the entry program (i.e., only valid codes are accepted and all logical checks are enforced). The cases which successfully complete this process are not only considered "cleaned" but "certified."
- 5. Certified data cases were then submitted for output. The cases become part of a comma delimited file (.csv) formatted to contain each data case as a single record with a length of 1046 columns.

GENERAL CODING CONVENTIONS

- 1. All cases delivered to the Data Management Office were considered valid and complete. No preliminary effort was made to delete or exclude any case from the data set.
- When no discriminate choice could be determined, or when no choice or multiple, conflicting choices were made on any particular question, that item was coded as "missing data." Likewise, if an item was expected to hold data and had none, that item was considered to have missing data.

DEFINITIONS:

INPUT LOCATION = Location of variable within data set.

In fixed format, this would be record

"1/column" location.

CODE (VALUE) = Numeric value given to each discrete,

response category. May also reflect the quantitative value of a continuous

variable.

NUMBER (N) = Frequency of response.

PERCENT (PCT) = Percentage of response.

CUMULATIVE (CUM.PCT) = Cumulative percentage.

MISSING DATA (MD) = Code value given to any question which was

unanswered or refused by the respondent; was missed by the interviewer; or was uncodeable.

BLANK - DNA (DNA) = The variable field is blank in the data

set because the question does not apply. Typically, these are questions embedded

within a "SKIP" pattern.

A note on "blank" values: If a field is blank in the data file, the codebook indicates that fact by placing a period (.) in the corresponding code value column. Fields left blank in the data file generally indicate that those variables are not relevant for a specific respondent because of the answer to a preceding question.

GENERAL DIRECTIONS:

- * For most questions, there are numbered answer categories. For those questions, please check the answer category that best represents your answer or experience. Most questions are looking for a single answer. In those instances where there are instructions to "Check all that apply," please check each answer category that applies to your (building's) situation.
- * If none of the answers are just right for you, please check the one that fits you the best.
- * Other questions have blank spaces to allow you room to answer the question with a written response. If you need more room to answer these kinds of questions, please use the back of the page (be sure to indicate the question number it refers to).
- * In some places there will be directions about which question to answer next. If there are no directions, then go to the very next question.

Please mail this survey back to us in the enclosed envelope. No stamps are needed. Thank you for your assistance with this important project.

Please answer the questions in this survey with the following building address in mind:

BUILDING		
ADDRESS:		

CASE IDENTIFICATION

CASEID: Case ID Number

71 cases (Range of valid codes: 11,012-53,293)

Data type: numeric Record/columns: 1/1-5

seqid: Case Sequential ID Number

71 cases (Range of valid codes: 1-1,071)

Data type: numeric Record/columns: 1/7-11

MAINTENANCE

q1: HVAC Systems Maintenance

Who does routine maintenance of the HVAC systems?

```
% N VALUE LABEL
74.6 53 1 Contractor
11.3 8
           2 Building manager
 5.6 4
           3 Janitorial staff
 8.5 6
           4 Other
---- --
100.0 71 cases
Data type: numeric
```

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/13

q2: Maintenance Training

What is the level of training of the person who does routine maintenance of the HVAC systems?

```
% N VALUE LABEL
 1.5 1
         1 None
10.3 7
          2 Certificate
79.4 54
          3 Licensed
          4 On the job
 7.4 5
          5 Other
 1.5
     1
     3
          9 Missing Data
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/15

SPACE INTERIOR FINISHES

q3x: Number of Floors Given

```
% N VALUE LABEL
60.6 40 1
33.3 22 2
6.1 4 3
5 99 Missing Data
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99 Record/columns: 1/17-18

q3aft: FLOOR #1: Floor-Ceiling (Feet)

What is the approximate distance from the floor to the ceiling in the space?

```
%
   N VALUE LABEL
23.1 15
       8
24.6 16
         9
26.2 17
        10
7.7 5
        12
1.5 1
        13
3.1 2
        15
    2
3.1
        16
    2
3.1
        18
1.5 1
        19
        22
3.1 2
1.5 1
        25
1.5 1
        27
        99 Missing Data
    1
    5
         . (Does not apply)
```

100.0 71 cases

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99 Record/columns: 1/20-21

q3ain: FLOOR #1: Floor-Ceiling (Inches)

```
% N VALUE LABEL
10.0 1 2
10.0 1
         4
70.0 7
         6
       10
10.0 1
    55
         0
    6
         . (Does not apply)
```

100.0 71 cases

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99 Record/columns: 1/23-24

q3atot: FLOOR #1: Floor-Ceiling (TOTAL Inches)

```
N VALUE LABEL
18.5 12
        96
        100
1.5 1
3.1 2
        102
18.5 12
        108
1.5 1
        110
3.1 2
        114
1.5 1
        118
23.1 15
        120
3.1 2
        126
    4
6.2
        144
1.5 1
        150
1.5 1
        156
3.1 2
        180
3.1 2
        192
3.1 2
        216
1.5 1
        228
3.1 2
       264
1.5 1 300
1.5 1 324
    1
         0
    5
         . (Does not apply)
   ___
```

100.0 71 cases

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 999 Record/columns: 1/26-28

q3bft: FLOOR #2: Floor-Ceiling (Feet)

What is the approximate distance from the floor to the ceiling in the space?

```
% N VALUE LABEL

15.4 4 8

30.8 8 9

38.5 10 10

3.8 1 12

7.7 2 15

3.8 1 20

45 . (Does not apply)

---- --

100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99

Record/columns: 1/42-43

q3bin: FLOOR #2: Floor-Ceiling (Inches)

```
% N VALUE LABEL

16.7 1 2

16.7 1 3

66.7 4 6
20 0
45 . (Does not apply)

---- --

100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99
Record/columns: 1/45-46

q3btot: FLOOR #2: Floor-Ceiling (TOTAL Inches)

```
%
     N VALUE LABEL
11.5 3
          96
 3.8 1
          102
15.4 4
         108
 3.8
     1
          110
 3.8
     1
          111
 7.7
     2
          114
34.6 9
         120
 3.8 1
          126
 3.8
     1
          144
 7.7
     2
         180
 3.8
     1
          240
     45
          . (Does not apply)
100.0 71 cases
Data type: numeric
```

Minimum code defined as valid: 1

Missing-data code: 999 Record/columns: 1/48-50

q3cft: FLOOR #3: Floor-Ceiling (Feet)

What is the approximate distance from the floor to the ceiling in the space?

```
N VALUE LABEL
     2
50.0
          9
25.0 1
          10
25.0 1
          22
     67
           . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99 Record/columns: 1/64-65

q3cin: FLOOR #3: Floor-Ceiling (Inches)

```
% N VALUE LABEL

100.0 1 6
3 0
67 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99 Record/columns: 1/67-68

q3ctot: FLOOR #3: Floor-Ceiling (TOTAL Inches)

```
% N VALUE LABEL
25.0 1 108
25.0 1 114
25.0 1 120
25.0 1 264
67 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 999 Record/columns: 1/70-72

q4a: FLOOR #1: Suspended Ceiling

Does the space have a suspended ceiling?

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/30

q4b: FLOOR #2: Suspended Ceiling

Does the space have a suspended ceiling?

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/52

q4c: FLOOR #3: Suspended Ceiling

Does the space have a suspended ceiling?

```
% N VALUE LABEL
75.0 3 1 Yes
25.0 1 2 No
67 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/74

q5aft: FLOOR #1: Depth of Plenum (Feet)

What is the approximate depth of the plenum, that is, the distance from the suspended ceiling to the floor above?

```
N VALUE LABEL
         5
 11.1
                     1
 20.0 9
                      2
 22.2 10
                    3
 20.0 9
  2.2 1
                   5
  4.4 2
                    7
  2.2 1
                   8

      2.2
      1
      8

      2.2
      1
      9

      8.9
      4
      10

      2.2
      1
      11

  2.2 1
                  14
  2.2 1
                  15
                  99 Missing Data
          10
          16
                  . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99
Record/columns: 1/32-33

q5ain: FLOOR #1: Depth of Plenum (Inches)

```
% N VALUE LABEL
16.7 2 4
83.3 10 6
33 0
26 . (Does not apply)
-----
100.0 71 cases

Data type: numeric
Minimum code defined as valid: 1
```

Missing-data code: 99
Record/columns: 1/35-36

q5atot: FLOOR #1: Depth of Plenum (TOTAL Inches)

```
% N VALUE LABEL
11.1 5
          18
15.6 7
          24
 2.2 1
          28
 2.2
     1
          30
     7
          36
15.6
 6.7 3
          42
20.0 9
          48
 2.2 1
          60
 2.2 1
          88
 2.2 1
          90
     1
          96
 2.2
     1
         108
 2.2
 8.9 4 120
 2.2 1 132
 2.2 1
         168
 2.2 1
         180
     10
          0
     16
          . (Does not apply)
100.0 71 cases
Data type: numeric
Minimum code defined as valid: 1
Missing-data code: 999
```

Record/columns: 1/38-40

q5bft: FLOOR #2: Depth of Plenum (Feet)

What is the approximate depth of the plenum, that is, the distance from the suspended ceiling to the floor above?

```
N VALUE LABEL
    3
15.8
         1
15.8 3
           2
36.8 7
          3
15.8 3
          4
 5.3 1
          5
 5.3 1
          6
          8
 5.3 1
     4
         99 Missing Data
     48
         . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99 Record/columns: 1/54-55

q5bin: FLOOR #2: Depth of Plenum (Inches)

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99
Record/columns: 1/57-58

q5btot: FLOOR #2: Depth of Plenum (TOTAL Inches)

```
용
     N VALUE LABEL
15.8 3
          18
10.5 2
           24
 5.3 1
          30
 26.3
     5
           36
     1
 5.3
           42
 5.3
     1
          45
15.8 3
          48
 5.3 1
          60
 5.3 1
          72
 5.3 1
          96
            0
     48
           . (Does not apply)
100.0 71 cases
Data type: numeric
```

Minimum code defined as valid: 1

Missing-data code: 999 Record/columns: 1/60-62

q5cft: FLOOR #3: Depth of Plenum (Feet)

What is the approximate depth of the plenum, that is, the distance from the suspended ceiling to the floor above?

```
N VALUE LABEL
     1
           1
50.0
50.0 1
            4
      1
           99 Missing Data
     68
            . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99 Record/columns: 1/76-77

q5cin: FLOOR #3: Depth of Plenum (Inches)

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99 Record/columns: 1/79-80

q5ctot: FLOOR #3: Depth of Plenum (TOTAL Inches)

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 999 Record/columns: 1/82-84

BUILDING EQUIPMENT

q6: Supplemental AC Devices

Besides the package rooftop units, are there any supplemental air conditioning devices?

```
% N VALUE LABEL
27.1 19 1 Yes
72.9 51 2 No
1 9 Missing Data
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/86

q7: Supplemental Heating Devices

Besides the package rooftop units, are there any supplemental heating devices?

```
% N VALUE LABEL
19.7 14 1 Yes
80.3 57 2 No
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/88

q8: Space Ventilation System Reconfigured

Has the space ventilation system been reconfigured based on space use changes, including modifications of the air handler, ductwork or diffusers?

```
% N VALUE LABEL
36.9 24 1 Yes
63.1 41 2 No
        6 9 Missing Data
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/90

HVAC OPERATING SCHEDULE

q9: Cool Setting When Space Occupied

What is the thermostat setting for cooling when the space is occupied?

```
N VALUE LABEL
 5.8 4 68.0
 7.2 5 70.0
17.4 12 72.0
 7.2
     5 73.0
 1.4 1
         73.5
        74.0
24.6 17
14.5 10 75.0
 8.7 6 76.0
10.1 7 78.0
 1.4 1 79.0
 1.4 1 80.0
      2 999.9
100.0 71 cases
```

Data type: numeric

Decimals: 1

Minimum code defined as valid: 0

Missing-data code: 999.9 Record/columns: 1/93-96

q10: Cool Setting When Space Unoccupied

What is the thermostat setting for cooling when the space is unoccupied?

```
%
    N VALUE LABEL
33.8 23 0.0
 1.5 1 55.0
 1.5 1 62.0
 1.5
     1 66.0
 1.5
     1
        68.0
 4.4
     3 72.0
 1.5
        74.0
     1
 1.5
     1
         75.0
 1.5
     1
         76.0
10.3 7 78.0
 1.5 1 79.0
 7.4 5 80.0
 7.4 5 82.0
 2.9 2 83.0
 1.5
     1 84.0
16.2 11 85.0
 1.5 1 86.0
 2.9 2 90.0
     3 999.9
100.0 71 cases
```

Data type: numeric Decimals: 1

Minimum code defined as valid: 0

Missing-data code: 999.9 Record/columns: 1/99-102

q11: Heat Setting When Space Occupied

What is the thermostat setting for heating when the space is occupied?

```
%
    N VALUE LABEL
1.4
    1
        0.0
2.9
    2 65.0
29.0 20 68.0
5.8 4 69.0
26.1 18 70.0
2.9 2 71.0
18.8 13
       72.0
1.4 1
        73.0
4.3 3 74.0
2.9 2 75.0
1.4 1 77.0
1.4 1 78.0
1.4 1 80.0
     2 999.9
```

100.0 71 cases

Data type: numeric

Decimals: 1

Minimum code defined as valid: 0

Missing-data code: 999.9 Record/columns: 1/105-108

q12: Heat Setting When Space Unoccupied

What is the thermostat setting for heating when the space is unoccupied?

```
%
     N VALUE LABEL
37.7 26
         0.0
 2.9 2 50.0
 8.7 6 55.0
 4.3
     3 58.0
     7 60.0
10.1
 1.4 1 61.0
 2.9 2 62.0
 4.3
     3 64.0
11.6 8 65.0
 1.4 1 66.5
 5.8 4 68.0
 2.9 2 70.0
 2.9 2 72.0
 1.4 1 74.0
 1.4 1
         82.0
     2 999.9
----
     ___
100.0 71 cases
```

Data type: numeric

Decimals: 1

Minimum code defined as valid: 0

Missing-data code: 999.9 Record/columns: 1/111-114

q13a: HVAC Start Before Occupied

Does the HVAC system start before occupants enter the space?

```
% N VALUE LABEL
57.1 40 1 Yes
42.9 30 2 No
1 9 Missing Data
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/116

q13hh: How Long HVAC Before Occupants (Hours)

How long does the HVAC system come on before occupants enter the space?

Data type: numeric

Minimum code defined as valid: 0

Missing-data code: 99
Record/columns: 1/118-119

q13mm: How Long HVAC Before Occupants (Minutes)

How long does the HVAC system come on before occupants enter the space?

```
% N VALUE LABEL
65.8 25 0
5.3 2 15
2.6 1 20
26.3 10 30
2 99 Missing Data
31 . (Does not apply)
-----
100.0 71 cases
```

Data type: numeric Minimum code defined as valid: 0

Missing-data code: 99
Record/columns: 1/121-122

q13tot: How Long HVAC Before (TOTAL Minutes)

```
%
     N VALUE LABEL
 5.4 2 15
 2.7 1
         20
24.3 9
         30
37.8 14
         60
         90
 2.7
     1
16.2 6
         120
10.8 4 1440
     1
         0
     2 9999 Missing Data
    31 . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9999 Record/columns: 1/124-127

q13c: Why Start HVAC Before Occupants

Why does the HVAC system start before occupants enter the space?

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/129

q14a: HVAC System Stay On

Does the HVAC system stay on after all occupants have left the space?

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/131

q14hh: How Long HVAC After Occupants (Hours)

How long does the HVAC system stay on after occupants have left?

```
% N VALUE LABEL
27.8 5
        0
         1
27.8 5
 5.6 1
          2
 5.6 1
          3
        16
 5.6 1
27.8 5
         24
     3
         99 Missing Data
     50
         . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 0

Missing-data code: 99
Record/columns: 1/133-134

q14mm: How Long HVAC After Occupants (Minutes)

How long does the HVAC system stay on after occupants have left?

```
% N VALUE LABEL
77.8 14 0
5.6 1 23
11.1 2 30
5.6 1 33
3 99 Missing Data
50 . (Does not apply)
-----
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 0

Missing-data code: 99
Record/columns: 1/136-137

q14tot: How Long HVAC After (TOTAL Minutes)

```
% N VALUE LABEL
 5.4 2
          15
 2.7 1
          20
          30
24.3 9
37.8 14 60
2.7 1 90
16.2 6 120
10.8 4 1440
     1
          0
     2 9999 Missing Data
     31
        . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9999 Record/columns: 1/124-127

When the building is occupied, how is the fan controlled? (Check all that apply)

q15a: FAN CNTRL OCC: Always On

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/144

q15b: FAN CNTRL OCC: Always Off

q15c: FAN CNTRL OCC: Cycles Heat or Cool

q15d: FAN CNTRL OCC: Manually Operated

q15e: FAN CNTRL OCC: Scheduled Timer

q15f: FAN CNTRL OCC: Occupancy Sensor

q15g: FAN CNTRL OCC: Other

When the building is not occupied, how is the fan controlled? (Check all that apply)

q16a: FAN CNTRL UNOCC: Always On

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/158

q16b: FAN CNTRL UNOCC: Always Off

Data type: numeric

Minimum code defined as valid: 1

q16c: FAN CNTRL UNOCC: Cycles Heat or Cool

q16d: FAN CNTRL UNOCC: Manually Operated

```
% N VALUE LABEL
4.3 3 1 Yes
95.7 66 2 No
2 9 ENTIRE Q16a-g Missing Data
---- --
100.0 71 cases

Data type: numeric
Minimum code defined as valid: 1
Missing-data code: 9
Record/column: 1/164
```

q16e: FAN CNTRL UNOCC: Scheduled Timer

q16f: FAN CNTRL UNOCC: Occupancy Sensor

```
% N VALUE LABEL
0.0 0 1 Yes
100.0 69 2 No
2 9 ENTIRE Q16a-g Missing Data
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/168

q16g: FAN CNTRL UNOCC: Other

Data type: numeric

Minimum code defined as valid: 1

INDOOR VENTILATION FIXTURES

q17: Number of Air Supply Vents

How many air supply vents are in the entire building?

```
N VALUE LABEL
1.9 1
        1
3.8 2
         2
1.9
   1
         3
   2
3.8
1.9
   1
         5
7.7
   4
5.8
   3
        7
3.8 2
        8
       10
5.8 3
1.9
   1
        11
       12
1.9
   1
1.9
   1
       14
3.8
   2
       15
1.9
   1
       17
   3
5.8
       18
   2
3.8
        20
1.9
   1
       22
       24
1.9
   1
3.8 2
       28
1.9 1
       30
1.9 1
       34
1.9 1
       36
       40
1.9 1
       48
60
   1
1.9
1.9
   1
1.9
   1
       68
1.9 1
       72
3.8 2
       75
1.9 1
       88
1.9 1
       100
1.9
   1
       122
   1
       136
1.9
3.8 2
       150
1.9 1
       181
1.9 1
       250
   19 999 Missing Data
```

100.0 71 cases

Data type: numeric

Minimum code defined as valid: 1

q18: Air Supply Vents in Ceiling

Are there air supply vents in the ceiling?

```
% N VALUE LABEL
94.2 65 1 Yes
5.8 4 2 No
2 9 Missing Data
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/176

q19a: Air Supply Vents on Walls

Are there air supply vents on the walls?

```
% N VALUE LABEL
8.6 6 1 Yes
91.4 64 2 No
1 9 Missing Data
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/178

Where are the supply vents located on the walls? (Check all that apply)

q19b1: IF WALLS: Upper Half

```
% N VALUE LABEL
100.0 5 1 Yes
0.0 0 2 No

1 9 ENTIRE Q19b1-4 Missing Data
65 . (Does not apply)
-----
100.0 71 cases

Data type: numeric
Minimum code defined as valid: 1
Missing-data code: 9
```

q19b2: IF WALLS: Lower Half

Record/column: 1/180

q19b3: IF WALLS: In the Middle

q19b4: IF WALLS: Multiple Heights

Record/column: 1/184

q20a: Air Supply Vents on Floor

Are there air supply vents on the floor?

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/188

q20b: FLOOR TYPE: Fan Coil/Unit Ventilators

What types of air supply vents are in the floor? Are there fan coil units or unit ventilators?

```
% N VALUE LABEL
0.0 0 1 Yes
100.0 1 2 No
0.0 0 3 Don't know
70 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q21: PRIMARY Type of Air Supply Vent

What kind of air supply vent is the primary type?

```
% N VALUE LABEL
 % N VALUE LABEL

94.3 66 1 Ceiling diffusers

2.9 2 2 Upper half of wall

0.0 0 3 Lower half of wall

0.0 0 4 Middle of wall

0.0 0 5 Floor registers

2.9 2 6 Fan coil units/unit ventilators

0.0 0 7 Other
                1
                             99 Missing Data
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q22: Number of Return Vents

How many return vents are in the entire building space?

%	N	VALUE	LABEL	
14.5	8	1		
10.9	6	2		
5.5	3	4		
5.5	3	5		
9.1	5	6		
1.8	1	7		
3.6	2	8		
1.8	1	9		
3.6	2	10		
3.6	2	12		
1.8	1	13		
5.5	3	15		
3.6	2	18		
5.5	3	20		
1.8	1	24		
1.8	1	25		
1.8	1	26		
1.8	1	40		
1.8	1	47		
1.8	1	50		
12.7	7	98	98+	
	16	99	Missing	Data
100.0	71	cases		

Data type: numeric

Minimum code defined as valid: 1

q23: PRIMARY Type of Return Vent

What kind of return vent is the primary vent type?

Data type: numeric

Minimum code defined as valid: 1

HVAC SYSTEM DESCRIPTION - OUTDOOR AIR INTAKE CONTROL

q24: Outdoor Air Control Strategy

What is the outdoor air control strategy for the air handling unit(s) serving the majority of occupants in the space?

```
% N VALUE LABEL
24.0 12 1 100% outdoor air intake
30.0 15 2 Fixed minimum outdoor air intake
30.0 15 3 Economizer cycle
14.0 7 4 Enthalpy economizer cycle
2.0 1 5 Something else
21 99 Missing Data
----- ---
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99
Record/columns: 1/201-202

q25: Maintaining Minimum Outdoor Air Flow

What is the method used by the air handling unit in maintaining a minimum outdoor air flow rate?

```
% N VALUE LABEL
67.4 29 1 Fixed damper position
2.3 1 2 Supply/return fan tracking
7.0 3 3 Intake airflow monitoring
18.6 8 4 Demand Controlled Ventilation
4.7 2 5 Something else
28 99 Missing Data
-----
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q26: Minimum Outdoor Air Setting (Pct)

What is the minimum outdoor air setting (in percent)?

```
% N VALUE LABEL

8.7 2 5

4.3 1 8

13.0 3 10

34.8 8 15

21.7 5 20

8.7 2 25

4.3 1 28

4.3 1 50

48 999 Missing Data
```

100.0 71 cases

Data type: numeric

Minimum code defined as valid: 1

AIR HANDLING UNIT SPECIFICATIONS

What is the make and model number of the 3 ventilation units that have the greatest airflow capacity?

q27x: Number of Ventilation Units

```
% N VALUE LABEL
10.3 3 1
17.2 5 2
72.4 21 3
41 0 DNA
1 9 Missing Data
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

EXHAUST FAN SPECIFICATIONS

q28a: EXHAUST FAN #1: Airflow Rate CFM

How many exhaust fans, if any, operate in the space?

%	N	VALUE	LABEL
47.9	34	0	None
16.9	12	1	
11.3	8	2	
2.8	2	3	
9.9	7	4	
4.2	3	5	
1.4	1	6	
1.4	1	7	
2.8	2	10	
1.4	1	25	
100 0	71	cases	

100.0 71 cases

Data type: numeric

Minimum code defined as valid: 0

Missing-data code: 99
Record/columns: 1/213-214

We would like to ask you a couple of questions about up to five of those exhaust fans. For each fan, please indicate the airflow rate, in cubic feet per minute, of the exhaust fan; the area, in square feet served by the fan, the control method for each exhaust fan (manual, time of day, temperature, pressure, or something else), and whether or not makeup air is supplied?

q28a1: EXHAUST FAN #1: Airflow Rate CFM

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/216-220

q28b1: EXHAUST FAN #1: Area (Square Feet)

```
N VALUE LABEL
   %
 7.1 1 25
 7.1 1
          48
 7.1 1
          87
 7.1 1
         135
14.3 2 200
7.1 1 275
14.3 2 400
         600
 7.1 1
 7.1 1 1600
14.3 2 2000
 7.1 1 20400
     23 99999 Missing Data
     34
           . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/222-226

q28c1: EXHAUST FAN #1: Manual Control

```
% N VALUE LABEL
 47.4 9 1 Yes
 52.6 10
             2 No
      10 2 NO
18 9 Missing Data
34 . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/228

q28d1: EXHAUST FAN #1: Time of Day Control

```
% N VALUE LABEL
38.9 7 1 Yes
61.1 11 2 No
19 9 Mis
           9 Missing Data
           . (Does not apply)
      34
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q28e1: EXHAUST FAN #1: Temperature Control

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/232

q28f1: EXHAUST FAN #1: Pressure

```
% N VALUE LABEL
0.0 0 1 Yes
100.0 18 2 No
19 9 Missing Data
34 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q28g1: EXHAUST FAN #1: Other Control

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/236

q28h1: EXHAUST FAN #1: Makeup Air Supplied

Data type: numeric

Minimum code defined as valid: 1

q28a2: EXHAUST FAN #2: Airflow Rate CFM

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/240-244

q28b2: EXHAUST FAN #2: Area (Square Feet)

```
N VALUE LABEL
10.0 1 25
10.0 1
          48
10.0 1
         144
10.0 1
         350
20.0 2 400
10.0 1
         440
10.0 1
         500
10.0 1
        2000
10.0 1 20400
    15 99999 Missing Data
    46
          . (Does not apply)
    --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/246-250

q28c2: EXHAUST FAN #2: Manual Control

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/252

q28d2: EXHAUST FAN #2: Time of Day Control

```
% N VALUE LABEL
27.3 3 1 Yes
72.7 8 2 No
    14 9 Missing Data
    46 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q28e2: EXHAUST FAN #2: Temperature Control

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/256

q28f2: EXHAUST FAN #2: Pressure

Data type: numeric

Minimum code defined as valid: 1

q28g2: EXHAUST FAN #2: Other Control

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/260

q28h2: EXHAUST FAN #2: Makeup Air Supplied

Data type: numeric

Minimum code defined as valid: 1

q28a3: EXHAUST FAN #3: Airflow Rate CFM

```
N VALUE LABEL
33.3 2 200
16.7 1 1400
16.7 1 1401
16.7 1 1413
16.7 1 4000
    11 99999 Missing Data
    . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/264-268

q28b3: EXHAUST FAN #3: Area (Square Feet)

```
% N VALUE LABEL
14.3 1
        16
14.3 1
          25
14.3 1
          40
14.3 1 275
14.3 1
        400
14.3 1 1000
14.3 1
        2000
     10 99999 Missing Data
     . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/270-274

q28c3: EXHAUST FAN #3: Manual Control

```
% N VALUE LABEL
55.6 5 1 Yes
          2 No
44.4 4
     8 9 Missing Data
     . (Does not apply)
100.0 71 cases
Data type: numeric
```

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/276

q28d3: EXHAUST FAN #3: Time of Day Control

```
% N VALUE LABEL
50.0 4 1 Yes
         2 No
50.0 4
          9 Missing Data
     9
     54
         . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q28e3: EXHAUST FAN #3: Temperature Control

```
% N VALUE LABEL
0.0 0 1 Yes
100.0 9 2 No
    8 9 Missing Data
    54 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/280

q28f3: EXHAUST FAN #3: Pressure

```
% N VALUE LABEL
0.0 0 1 Yes
100.0 9 2 No
    8 9 Missing Data
    54 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q28g3: EXHAUST FAN #3: Other Control

```
% N VALUE LABEL
18.2 2 1 Yes
81.8 9 2 No
6 9 Missing Data
54 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/284

q28h3: EXHAUST FAN #3: Makeup Air Supplied

```
% N VALUE LABEL
63.6 7 1 Yes
36.4 4 2 No
6 9 Missing Data
54 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q28a4: EXHAUST FAN #4: Airflow Rate CFM

q28b4: EXHAUST FAN #4: Area (Square Feet)

```
% N VALUE LABEL

20.0 1 25

20.0 1 60

20.0 1 225

20.0 1 400

20.0 1 2000

10 99999 Missing Data

56 . (Does not apply)

---- --

100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/294-298

q28c4: EXHAUST FAN #4: Manual Control

```
% N VALUE LABEL
57.1 4 1 Yes
42.9 3 2 No
    8 9 Missing Data
    56 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/300

q28d4: EXHAUST FAN #4: Time of Day Control

```
% N VALUE LABEL
50.0 3 1 Yes
50.0 3 2 No
9 9 Missing Data
56 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q28e4: EXHAUST FAN #4: Temperature Control

```
% N VALUE LABEL
0.0 0 1 Yes
100.0 7 2 No
8 9 Missing Data
56 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/304

q28f4: EXHAUST FAN #4: Pressure

```
% N VALUE LABEL
0.0 0 1 Yes
100.0 7 2 No
    8 9 Missing Data
    56 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q28g4: EXHAUST FAN #4: Other Control

```
% N VALUE LABEL
22.2 2 1 Yes
77.8 7 2 No
    6 9 Missing Data
    56 . (Does not apply)
----- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/308

q28h4: EXHAUST FAN #4: Makeup Air Supplied

```
% N VALUE LABEL
55.6 5 1 Yes
44.4 4 2 No
6 9 Missing Data
56 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q28a5: EXHAUST FAN #5: Airflow Rate CFM

```
% N VALUE LABEL
100.0 1 2629
          7 99999 Missing Data
          63 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/312-316

q28b5: EXHAUST FAN #5: Area (Square Feet)

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/318-322

q28c5: EXHAUST FAN #5: Manual Control

```
% N VALUE LABEL
100.0 4 1 Yes
          2 No
 0.0
         9 Missing Data
     4
     63 . (Does not apply)
100.0 71 cases
Data type: numeric
```

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/324

q28d5: EXHAUST FAN #5: Time of Day Control

```
% N VALUE LABEL
 0.0 0 1 Yes
100.0 3
          2 No
          9 Missing Data
     5
     63
         . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q28e5: EXHAUST FAN #5: Temperature Control

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/328

q28f5: EXHAUST FAN #5: Pressure

```
% N VALUE LABEL
0.0 0 1 Yes
100.0 4 2 No
          4 9 Missing Data
          63 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q28g5: EXHAUST FAN #5: Other Control

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/332

q28h5: EXHAUST FAN #5: Makeup Air Supplied

Data type: numeric

Minimum code defined as valid: 1

FILTRATION AND AIR CLEANING SYSTEMS

q29: Number of Package Rooftop HVAC Units

How many package rooftop HVAC units are there for this building?

```
N VALUE LABEL
11.8
    8 0 None
20.6 14
          1
 8.8 6
 8.8 6
           3
10.3 7
          4
 7.4 5
          5
 7.4
    5
          6
 4.4 3
          7
 1.5 1
          9
 2.9 2
         10
 1.5 1
         11
 1.5
     1
         13
 1.5
     1
          16
 1.5
     1
          17
 2.9 2
         18
 1.5 1
         19
 1.5 1
         22
 1.5 1
         26
 1.5 1
         29
 1.5 1
         35
     3
         99 Missing Data
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 0

ROOFTOP UNIT #1

For, at most, three of the largest package rooftop units, we would like to know about the filtration or air-cleaning device that is installed in each.

q30a: ROOFTOP UNIT #1: Filtration Type

First, thinking about rooftop unit #1, what type of filtration or air cleaning device is installed in the air handling unit?

```
N VALUE LABEL
96.6 57
         1 Particle filter
 0.0
     0
           2 Electronic air cleaner
     1
 1.7
           3 Gaseous filter
 1.7 1
         4 Multi-function air cleaning unit
      4
           9 Missing Data
      8
           . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/339

q30x: ROOFTOP UNIT #1: Particle Filter M/M

What is the make and model number of the particle filter?

```
% N VALUE LABEL
17.7 11 0 DNA
82.3 51 1 Unknown
9 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 0

Record/column: 1/341

q30c: ROOFTOP UNIT #1: Device Rating

What is the rating of the filtration or air cleaning device?

```
% N VALUE LABEL
 35.7 5 1 ASHRAE Standard 52 rating 57.1 8 2 DOP efficiency rating 7.1 1 3 48 9 Missing Data 9 . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/343

q30c1: ROOFTOP UNIT #1: MERV Rating

IF ASHRAE Standard 52 rating (MERV)

```
N VALUE LABEL
66.7 2 8
33.3 1
         12
     3
         99 Missing Data
    65
         . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q30c2: ROOFTOP UNIT #1: DOP Efficiency (Pct)

IF DOP efficiency rating (percent)

```
% N VALUE LABEL
22.2 2 30
22.2 2 35
44.4 4 40
11.1 1 90
62 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q30d: ROOFTOP UNIT #1: Filter Bank (Sq feet)

What is the total area of the filter bank? (in square feet)

```
N VALUE LABEL
  %
 9.5 2 3
 4.8 1
          4
 4.8 1
          5
28.6 6
 4.8 1
          9
 4.8 1
        15
 9.5 2
         20
 4.8 1
         60
 4.8 1
         64
 4.8 1
        100
 4.8 1
        800
 4.8 1 1000
 4.8 1 1020
 4.8 1 1350
     41 99999 Missing Data
     9 . (Does not apply)
----
     ___
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/352-356

q30e: ROOFTOP UNIT #1: Filter Media

```
What is the filter media?
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/358

q30f: ROOFTOP UNIT #1: Filter Panel or Roll

Is the filter a panel or roll type?

```
% N VALUE LABEL
100.0 51 1 Panel
0.0 0 2 Roll
    11 9 Missing Data
    9 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q30g: ROOFTOP UNIT #1: Panel Dry or Viscous

Is the panel filter dry or viscous?

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/362

Is the dry panel filter a flat panel, pleated, bag, or HEPA? (Check all that apply)

q30h1: ROOFTOP UNIT #1: Flat Panel

Data type: numeric

Minimum code defined as valid: 1

q30h2: ROOFTOP UNIT #1: Pleated Panel

```
% N VALUE LABEL
70.2 33 1 Yes
           2 No
29.8 14
     3 9 ENTIRE Q30h1-4 Missing Data
     21
        . (Does not apply)
100.0 71 cases
Data type: numeric
```

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/366

q30h3: ROOFTOP UNIT #1: Bag Panel

```
% N VALUE LABEL
 0.0 0 1 Yes
100.0 47 2 No
          9 ENTIRE Q30h1-4 Missing Data
     3
          . (Does not apply)
     21
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q30h4: ROOFTOP UNIT #1: HEPA Panel

```
% N VALUE LABEL
6.4 3 1 Yes
93.6 44 2 No
3 9 ENTIRE Q30h1-4 Missing Data
21 . (Does not apply)
-----
100.0 71 cases

Data type: numeric
Minimum code defined as valid: 1
```

q30i: ROOFTOP UNIT #1: Roll Dry or Viscous

Is the roll filter dry or viscous impingement?

```
% N VALUE LABEL
0.0 0 1 Dry
0.0 0 2 Viscous impingement
11 9 Missing Data
60 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Missing-data code: 9 Record/column: 1/370

Minimum code defined as valid: 1

q30j: ROOFTOP UNIT #1: Electronic Device

What type of "electronic" filtration device is used?

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/374

q30I: ROOFTOP UNIT #1: Filter Bank (Sq feet)

What is the total area of the filter bank? (in square feet)

```
% N VALUE LABEL
71 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/376-380

q30m: ROOFTOP UNIT #1: Filter Bank (Face area)

```
What is the total face area of the filter bank? (in square feet)
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/382-386

q30n: ROOFTOP UNIT #1: Depth of Media Bed

```
What is the depth of the media bed? (in square feet)
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/388-392

q30o: ROOFTOP UNIT #1: Media in Air Cleaning

What is the media utilized in the air cleaning?

Data type: numeric

Minimum code defined as valid: 1

Record/columns: 1/394-395

ROOFTOP UNIT #2

For, at most, three of the largest package rooftop units, we would like to know about the filtration or air-cleaning device that is installed in each.

q31a: ROOFTOP UNIT #2: Filtration Type

Next, thinking about rooftop unit #2, what type of filtration or air cleaning device is installed in the air handling unit?

```
N VALUE LABEL
97.4 37
          1 Particle filter
 2.6
      1
            2 Electronic air cleaner
 0.0
     0
            3 Gaseous filter
 0.0
     0
            4 Multi-function air cleaning unit
      11
           9 Missing Data
      22
            . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/397

q31x: ROOFTOP UNIT #2: Filtration M/M

What is the make and model number of the filtration or air cleaning device?

Data type: numeric

Minimum code defined as valid: 0

Record/column: 1/399

q31c: ROOFTOP UNIT #2: Device Rating

What is the rating of the filtration or air cleaning device?

```
% N VALUE LABEL

38.5 5 1 ASHRAE Standard 52 rating
61.5 8 2 DOP efficiency rating
35 9 Missing Data
23 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/401

q31c1: ROOFTOP UNIT #2: MERV Rating

IF ASHRAE Standard 52 rating (MERV)

```
% N VALUE LABEL
100.0 2 8
3 99 Missing Data
66 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q31c2: ROOFTOP UNIT #2: DOP Efficiency (Pct)

```
IF DOP efficiency rating (percent)
```

```
% N VALUE LABEL
12.5 1 30
25.0 2 35
50.0 4 40
12.5 1 90
63 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 999 Record/columns: 1/406-408

q31d: ROOFTOP UNIT #2: Filter Bank (Sq feet)

What is the total area of the filter bank? (in square feet)

```
%
     N VALUE LABEL
 5.9 1
         3
 5.9 1
            4
35.3 6
           6
 5.9 1
           9
5.9 1 15
11.8 2 20
5.9 1 23
 5.9 1
          60
 5.9 1
          64
 5.9 1
         100
 5.9 1 1000
     31 99999 Missing Data
     23
           . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/410-414

q31e: ROOFTOP UNIT #2: Filter Media

```
What is the filter media?
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/416

q31f: ROOFTOP UNIT #2: Filter Panel or Roll

Is the filter a panel or roll type?

Data type: numeric

Minimum code defined as valid: 1

q31g: ROOFTOP UNIT #2: Panel Dry or Viscous

Is the panel filter dry or viscous?

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/420

Is the dry panel filter a flat panel, pleated, bag, or HEPA? (Check all that apply)

q31h1: ROOFTOP UNIT #2: Flat Panel

Data type: numeric

Minimum code defined as valid: 1

q31h2: ROOFTOP UNIT #2: Pleated Panel

```
% N VALUE LABEL
77.1 27 1 Yes
          2 No
22.9 8
     2 9 ENTIRE Q30h1-4 Missing Data
     . (Does not apply)
100.0 71 cases
Data type: numeric
```

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/424

q31h3: ROOFTOP UNIT #2: Bag Panel

```
% N VALUE LABEL
 0.0 0 1 Yes
100.0 35 2 No
          9 ENTIRE Q30h1-4 Missing Data
     2
     34
          . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q31h4: ROOFTOP UNIT #2: HEPA Panel

```
% N VALUE LABEL
0.0 0 1 Yes
100.0 35 2 No
2 9 ENTIRE Q30h1-4 Missing Data
34 . (Does not apply)
-----
100.0 71 cases

Data type: numeric
Minimum code defined as valid: 1
Missing-data code: 9
```

q31i: ROOFTOP UNIT #2: Roll Dry or Viscous

Is the roll filter dry or viscous impingement?

```
% N VALUE LABEL
0.0 0 1 Dry
0.0 0 2 Viscous impingement
11 9 Missing Data
60 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Record/column: 1/428

Minimum code defined as valid: 1

q31j: ROOFTOP UNIT #2: Electronic Device

What type of "electronic" filtration device is used?

```
% N VALUE LABEL
0.0 0 1 Ionizer
100.0 1 2 Electrostatic precipitator
0.0 0 3 Ultraviolet
0.0 0 4 Ozone generator
0.0 0 5 Other
70 . (Does not apply)
---- --
100.0 71 cases

Data type: numeric
Minimum code defined as valid: 1
Missing-data code: 9
Record/column: 1/432
```

q311: ROOFTOP UNIT #2: Filter Bank (Sq feet)

```
What is the total area of the filter bank? (in square feet)
```

```
% N VALUE LABEL
    1 99999 Missing Data
    70 . (Does not apply)
-----
100.0 71 cases

Data type: numeric
Minimum code defined as valid: 1
Missing-data code: 99999
```

Record/columns: 1/434-438

q31m: ROOFTOP UNIT #2: Filter Bank (Face area)

```
What is the total face area of the filter bank? (in square feet)
```

```
% N VALUE LABEL
71 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/440-444

q31n: ROOFTOP UNIT #2: Depth of Media Bed

What is the depth of the media bed? (in square feet)

```
% N VALUE LABEL
71 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/446-450

q31o: ROOFTOP UNIT #2: Media in Air Cleaning

What is the media utilized in the air cleaning?

```
% N VALUE LABEL
0.0 0 1 Given
0.0 0 2 Not given
71 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Record/columns: 1/452-453

ROOFTOP UNIT #3

For, at most, three of the largest package rooftop units, we would like to know about the filtration or air-cleaning device that is installed in each.

q32a: ROOFTOP UNIT #3: Filtration Type

Next, thinking about rooftop unit #3, what type of filtration or air cleaning device is installed in the air handling unit?

```
N VALUE LABEL
97.0 32
          1 Particle filter
 3.0
     1
            2 Electronic air cleaner
 0.0
      0
            3 Gaseous filter
 0.0
     0
            4 Multi-function air cleaning unit
      10
           9 Missing Data
      28
            . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/455

q32x: ROOFTOP UNIT #3: Filtration M/M

What is the make and model number of the filtration or air cleaning device?

Data type: numeric

Minimum code defined as valid: 0

Record/column: 1/457

q32c: ROOFTOP UNIT #3: Device Rating

What is the rating of the filtration or air cleaning device?

```
% N VALUE LABEL
30.0 3 1 ASHRAE Standard 52 rating
70.0 7 2 DOP efficiency rating
32 9 Missing Data
29 . (Does not apply)
-----
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/459

q32c1: ROOFTOP UNIT #3: MERV Rating

IF ASHRAE Standard 52 rating (MERV)

```
% N VALUE LABEL
100.0 1 8
2 99 Missing Data
68 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q32c2: ROOFTOP UNIT #3: DOP Efficiency (Pct)

IF DOP efficiency rating (percent)

```
% N VALUE LABEL
28.6 2 35
57.1 4 40
14.3 1 90
64 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 999 Record/columns: 1/464-466

q32d: ROOFTOP UNIT #3: Filter Bank (Sq feet)

What is the total area of the filter bank? (in square feet)

```
N VALUE LABEL
 7.1 1 3
 7.1 1
           4
35.7 5
 7.1 1
           9
7.1 1 15
14.3 2 20
 7.1 1
 7.1 1
          67
 7.1 1 1000
     28 99999 Missing Data
     29
           . (Does not apply)
     --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/468-472

q32e: ROOFTOP UNIT #3: Filter Media

```
What is the filter media?
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/474

q32f: ROOFTOP UNIT #3: Filter Panel or Roll

Is the filter a panel or roll type?

```
% N VALUE LABEL
100.0 32 1 Panel
0.0 0 2 Roll
10 9 Missing Data
29 . (Does not apply)
----- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q32g: ROOFTOP UNIT #3: Panel Dry or Viscous

Is the panel filter dry or viscous?

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/478

Is the dry panel filter a flat panel, pleated, bag, or HEPA? (Check all that apply)

q32h1: ROOFTOP UNIT #3: Flat Panel

Data type: numeric

Minimum code defined as valid: 1

q32h2: ROOFTOP UNIT #3: Pleated Panel

```
% N VALUE LABEL
         1 Yes
72.4 21
           2 No
27.6 8
         9 ENTIRE Q30h1-4 Missing Data
     3
     39
        . (Does not apply)
100.0 71 cases
Data type: numeric
```

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/482

q32h3: ROOFTOP UNIT #3: Bag Panel

```
% N VALUE LABEL
 0.0 0 1 Yes
100.0 29
          2 No
          9 ENTIRE Q30h1-4 Missing Data
     3
          . (Does not apply)
     39
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

q32h4: ROOFTOP UNIT #3: HEPA Panel

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/486

q32i: ROOFTOP UNIT #3: Roll Dry or Viscous

Is the roll filter dry or viscous impingement?

Data type: numeric

Minimum code defined as valid: 1

q32j: ROOFTOP UNIT #3: Electronic Device

What type of "electronic" filtration device is used?

```
% N VALUE LABEL
0.0 0 1 Ionizer
0.0 0 2 Electrostatic precipitator
100.0 1 3 Ultraviolet
0.0 0 4 Ozone generator
0.0 0 5 Other
70 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/490

q32I: ROOFTOP UNIT #3: Filter Bank (Sq feet)

What is the total area of the filter bank? (in square feet)

```
% N VALUE LABEL
1 99999 Missing Data
70 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/492-496

q32m: ROOFTOP UNIT #3: Filter Bank (Face area)

```
What is the total face area of the filter bank? (in square feet)
```

```
% N VALUE LABEL
71 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/498-502

q32n: ROOFTOP UNIT #3: Depth of Media Bed

What is the depth of the media bed? (in square feet)

```
% N VALUE LABEL
71 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99999 Record/columns: 1/504-508

q32o: ROOFTOP UNIT #3: Media in Air Cleaning

What is the media utilized in the air cleaning?

```
% N VALUE LABEL
0.0 0 1 Given
0.0 0 2 Not given
71 . (Does not apply)
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Record/columns: 1/510-511

AIR WASHERS

q33: ROOFTOP UNIT: Air Washer System

Is there an air washer system in the package rooftop unit?

```
% N VALUE LABEL
0.0 0 1 Yes
100.0 46 2 No
25 9 Missing Data
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

HUMIDIFICATION SYSTEMS

q34: ROOFTOP UNIT: Humidification System

(Is the package rooftop unit/Are any of the package rooftop units) equipped with a humidification system?

```
% N VALUE LABEL
2.1 1 1 Yes
97.9 47 2 No
23 9 Missing Data
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

AIR HANDLER INSPECTIONS

q35a: ROOFTOP UNITS: Reg Inspection Schedule

(Is the package rooftop unit/Are the package rooftop units) inspected on a regular schedule, have they been inspected but not on a regular basis, or have they not been inspected?

```
% N VALUE LABEL
83.3 45 1 Yes, inspected on a regular schedule
14.8 8 2 Inspected, but not on regular basis
1.9 1 3 Not inspected
17 9 Missing Data
----- ---
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/517

q35b: ROOFTOP UNITS: Freq of Inspections

```
(ROOFTOP UNITS)
What is the frequency of inspections?
(Answer in months between inspections)
```

```
% N VALUE LABEL
        1
11.9 5
 7.1
     3
         3
52.4 22
 4.8 2
          4
16.7 7
          6
 7.1 3
         12
         99 Missing Data
     3
     26
          . (Does not apply)
100.0 71 cases
```

100.0 /1 cases

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99
Record/columns: 1/519-520

INSTRUCTION BOX: Answer Q36 only if use particulate filters. Otherwise, please skip to next instruction box on page 16.

q36x: INSTRUCTION BOX: Use Particulate Filters

INSTRUCTION BOX: Answer Q36 only if use particulate filters. Otherwise, please skip to next instruction box.

```
% N VALUE LABEL
18.3 13 0 DNA-Skip Q36
81.7 58 1 Ask Q36
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 0

Record/column: 1/522

q36a: Replace Particulate Filter Regularly

(Is the particulate filter/Are the particulate filters) replaced on a regular schedule, have they been replaced but not on a regular basis, or have they not been replaced?

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/524

q36b: PARTICULATE FILTER: Freq of Replacement

```
(PARTICULATE FILTER)
What is the frequency of replacement?
(Answer in months between replacement)
          N VALUE LABEL
     12.8 5 1
     10.3 4
               2
     53.8 21
     2.6 1
              5
     2.6 1
     12.8 5
                6
      5.1 2 12
3 99 Missing Data
          29
               . (Does not apply)
    ----- --
    100.0 71 cases
    Data type: numeric
    Minimum code defined as valid: 1
    Missing-data code: 99
    Record/columns: 1/526-527
```

*INSTRUCTION BOX: Answer Q37 only if use electronic filters. Otherwise, please go to Q39 below. *(Revised SKIP PATTERN instruction -Feb 2009)

q37x: INSTRUCTION BOX: Have Electronic Filters

INSTRUCTION BOX: Answer Q37 only if have electronic filters. Otherwise, please skip to Q39A.

```
% N VALUE LABEL
98.6 70 0 DNA-Skip Q37
1.4 1 1 Ask Q37
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 0

Record/column: 1/529

q37a: Electronic Filter Inspected Regularly

(Is the electronic filter/Are the electronic filters) inspected on a regular schedule, have they been inspected but not on a regular basis, or have they not been inspected?

```
N VALUE LABEL
100.0 \quad 1 \quad 1 \quad \text{Yes, inspected on a regular schedule}
 70
          . (Does not apply)
100.0 71 cases
Data type: numeric
```

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/531

q37b: ELECTRONIC FILTERS: Freq of Inspections

```
(ELECTRONIC FILTERS)
What is the frequency of inspections?
(Answer in months between inspections)
        % N VALUE LABEL
    100.0 1
                  1
           70
                   . (Does not apply)
    100.0 71 cases
    Data type: numeric
    Minimum code defined as valid: 1
    Missing-data code: 99
    Record/columns: 1/533-534
```

q38a: Electronic Filter Cleaned Regularly

(Is the electronic filter/Are the electronic filters) cleaned on a regular schedule, have they been cleaned but not on a regular basis, or have they not been cleaned?

```
% N VALUE LABEL

100.0 1 1 Yes, cleaned on a regular schedule
0.0 0 2 Cleaned, but not on regular basis
0.0 0 3 Not cleaned
70 . (Does not apply)
-----
100.0 71 cases

Data type: numeric
Minimum code defined as valid: 1
Missing-data code: 9
```

q38b: ELECTRONIC FILTERS: Freq of Cleanings

Record/column: 1/536

q39a: Cooling/Heating Coils Inspected Regularly

Are the heating and cooling coils inspected on a regular schedule, have they been inspected but not on a regular basis, or have they not been inspected?

```
% N VALUE LABEL
83.3 25 1 Yes, inspected on a regular schedule
6.7 2 2 Inspected, but not on regular basis
10.0 3 3 Not inspected
41 9 Missing Data
---- --
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/541

q39b: COILS: Frequency of Inspections

```
(HEATING AND COOLING COILS)
What is the frequency of inspections?
(Answer in months between inspections)
```

```
% N VALUE LABEL

9.5 2 1

14.3 3 2

57.1 12 3

14.3 3 4

4.8 1 12

4 99 Missing Data
46 . (Does not apply)

---- --

100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99
Record/columns: 1/543-544

q40a: Cooling/Heating Coils Cleaned Regularly

Are the heating and cooling coils cleaned on a regular schedule, have they been cleaned but not on a regular basis, or have they not been cleaned?

```
% N VALUE LABEL
71.9 23 1 Yes, cleaned on a regular schedule
18.8 6 2 Cleaned, but not on regular basis
9.4 3 3 Not cleaned
39 9 Missing Data
---- ---
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/546

q40b: COILS: Freq of Cleanings

```
(HEATING AND COOLING COILS) What is the frequency of cleanings? (Answer in months between cleanings)
```

```
% N VALUE LABEL

9.1 2 1

9.1 2 2

27.3 6 3

9.1 2 4

13.6 3 6

31.8 7 12

1 99 Missing Data

48 . (Does not apply)

---- --

100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99
Record/columns: 1/548-549

q41a: Drain Pans Inspected Regularly

Are the drain pans inspected on a regular schedule, have they been inspected but not on a regular basis, or have they not been inspected?

```
% N VALUE LABEL
81.2 26 1 Yes, inspected on a regular schedule
 9.4 39.4 39.4 39.4 3Not inspected
    39
          9 Missing Data
100.0 71 cases
Data type: numeric
```

(DRAIN PANS)

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/551

q41b: DRAIN PANS: Freq of Inspections

```
What is the frequency of inspections?
(Answer in months between inspections)
        % N VALUE LABEL
     12.0 3
                1
     12.0 3
                  2
      52.0 13 3
8.0 2 4
8.0 2 6
8.0 2 12
     52.0 13
           1
                 99 Missing Data
           45
                 . (Does not apply)
    100.0 71 cases
    Data type: numeric
    Minimum code defined as valid: 1
```

Missing-data code: 99

Record/columns: 1/553-554

q42a: Drain Pans Cleaned Regularly

Are the drain pans cleaned on a regular schedule, have they been cleaned but not on a regular basis, or have they not been cleaned?

```
N VALUE LABEL
 14.3 \quad 1 \quad 1 \quad Yes, cleaned on a regular schedule
 42.9 3 2 Cleaned, but not on regular basis
42.9 3 3 Not cleaned
38 9 Missing Data
      26 . (Does not apply)
100.0 71 cases
Data type: numeric
```

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/556

q42b: DRAIN PANS: Freq of Cleanings

```
(DRAIN PANS)
What is the frequency of cleanings?
(Answer in months between cleanings)
           N VALUE LABEL
               99 Missing Data
            1
           70
                  . (Does not apply)
    100.0 71 cases
    Data type: numeric
    Minimum code defined as valid: 1
    Missing-data code: 99
    Record/columns: 1/558-559
```

q43: Frequency of Drain Line Test

How often is the drain line tested? (Answer in months between inspection)

```
% N VALUE LABEL
15.8 3
        1
         2
10.5 2
26.3 5
         3
        4
 5.3 1
15.8 3
         6
21.1 4
        12
 5.3 1
        13
        99 Missing Data
     11
    41
         . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99
Record/columns: 1/561-562

q44a: Ductwork Inspected Regularly

```
Is the ductwork inspected on a regular schedule, has it been inspected but not on a regular basis, or has it not been inspected?
```

```
% N VALUE LABEL

18.4 7 1 Yes, inspected on a regular schedule

42.1 16 2 Inspected, but not on regular basis

39.5 15 3 Not inspected

33 9 Missing Data

-----

100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/564

q44b: DUCTWORK: Freq of Inspections

```
(DUCTWORK)
What is the frequency of inspections?
(Answer in months between inspections)

* N VALUE LABEL
16.7 1 1
33.3 2 3
16.7 1 4
16.7 1 6
16.7 1 12
1 99 Missing Data
64 . (Does not apply)
-----
100.0 71 cases

Data type: numeric
Minimum code defined as valid: 1
Missing-data code: 99
Record/columns: 1/566-567
```

q45a: Ductwork Cleaned Regularly

Has the ductwork been cleaned on a regular schedule, has it been cleaned but not on a regular basis, or has it not been cleaned?

q45b: DUCTWORK: Freq of Cleanings

```
(DUCTWORK)
What is the frequency of cleanings?
(Answer in months between cleanings)

* N VALUE LABEL
33.3 1 3
33.3 1 4
33.3 1 24
1 99 Missing Data
67 . (Does not apply)
-----
100.0 71 cases

Data type: numeric
Minimum code defined as valid: 1
Missing-data code: 99
Record/columns: 1/571-572
```

TESTING AND BALANCING

q46a: Rooftop Units Tested & Balanced

(Is the package rooftop unit/Are the package rooftop units) tested and balanced on a regular schedule, have they been tested and balanced but not on a regular basis, or have they not been tested and balanced?

```
N VALUE LABEL
17.9 10 1 Yes, tested & balanced
            2 Yes, but not regularly
41.1 23
41.1 23
            3 Not tested & balanced
     15
           9 Missing Data
100.0 71 cases
Data type: numeric
```

Minimum code defined as valid: 1

Missing-data code: 9 Record/column: 1/574

q46b: ROOFTOP UNIT: Freq of Testing/Balancing

```
(ROOFTOP UNIT)
What is the frequency of testing and balancing?
(Answer in months between testings and balancings)
```

```
N VALUE LABEL
37.5
     3
12.5 1
           4
12.5 1
          6
37.5 3
         12
     2
         99 Missing Data
     61
          . (Does not apply)
100.0 71 cases
```

Data type: numeric

Minimum code defined as valid: 1

Missing-data code: 99 Record/columns: 1/576-577

MAKE AND MODEL

q27a_mak: AIRFLOW CAPACITY: Unit 1 Make

(var is a 20-character string)

```
% N VALUE LABEL
2.8 2 AAON
1.4 1 ARCO Aire
1.4 1 BDP/Carrier
1.4 1 Bryant
11.3 8 Carrier
1.4 1 Janitorioh
1.4 1 Payne
2.8 2 Rheem
1.4 1 Train
14.1 10 Trane
2.8 2 York
57.7 41
---- --
100.0 71 cases
```

Data type: character Record/columns: 1/579-598

q27a_mod: AIRFLOW CAPACITY: Unit 1 Model

```
(var is a 30-character string)
```

```
% N VALUE
                              LABEL
 1.4 1 10ton Heat Pump
 1.4 1 12.5 Ton
 1.4 1 15ton
 1.4 1 2.5 ton heat pump unit
 1.4 1 3-M-A60-10
 1.4 1 30 Ton Intellipak
 1.4 1 48GS
 1.4 1 48HJ004
 1.4 1 48HJD005-007
 1.4 1 48HJD060
 1.4 1 48HJE004...541
 1.4 1 505 JP 060 100
 1.4 1 585CP060125C
 1.4 1 604ANX303600AA
 1.4 1 7ton
 1.4 1 D360060NO8225B
 1.4 1 Intellipak
 1.4 1 RJKA-A060
 2.8 2 RK15300
 1.4 1 RKKA-A048-CKIOE
 1.4 1 XBOX40
 1.4 1 YC0180B3LADE
 1.4 1 YCD300B4L06A
 1.4 1 YOD150B3LODA
 7.0 5 missing
57.7 41
____
100.0 71 cases
```

Data type: character Record/columns: 1/600-629

q27b_mak: AIRFLOW CAPACITY: Unit 2 Make

(var is a 20-character string)

```
% N VALUE LABEL
2.8 2 AAON
1.4 1 BDP/Carrier
14.1 10 Carrier
1.4 1 Janitorioh
1.4 1 Payne
1.4 1 Rheem
1.4 1 Train
9.9 7 Trane
4.2 3 York
62.0 44
---- ---
100.0 71 cases
```

Data type: character Record/columns: 1/631-650

q27b_mod: AIRFLOW CAPACITY: Unit 2 Model

(var is a 30-character string)

Data type: character Record/columns: 1/652-681

```
% N VALUE
                               LABEL
 1.4 1 10ton Heat Pump
 1.4 1 12.5 Ton
 1.4 1 12ton
 1.4 1 2.5 ton heat pump unit
 1.4 1 3-M-A60-10
 1.4 1 3307G4412
 1.4 1 48GS
 1.4 1 48HJ004
 1.4 1 48HJD080
 1.4 1 48HJE-HJF004-007
 1.4 1 48HJE006...541
 1.4 1 48SDNO24040301--
 1.4 1 505 JP 060 100
 1.4 1 585CP060125C
 1.4 1 5ton
 1.4 1 B1HA-060A-06B
 1.4 1 DIHGD60N07925B0B
 1.4 1 RJKA-A048
 1.4 1 RK-10
 1.4 1 RK10
 1.4 1 XBOX40
 1.4 1 YCD048C1LEBE
1.4 1 YCH301C3LOCA
 5.6 4 missing
62.0 44
100.0 71 cases
```

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q27c_mak: AIRFLOW CAPACITY: Unit 3 Make

(var is a 20-character string)

% N VALUE LABEL
2.8 2 AAON
1.4 1 BDP/Carrier
12.7 9 Carrier
1.4 1 Janitorioh
1.4 1 Rheem
1.4 1 Train
4.2 3 Trane
5.6 4 York
69.0 49

100.0 71 cases

Data type: character Record/columns: 1/683-702

q27c_mod: AIRFLOW CAPACITY: Unit 3 Model

(var is a 30-character string)

```
% N VALUE
                               LABEL
 1.4 1 10ton
 1.4 1 10ton Heat Pump
 1.4 1 2.5 ton heat pump unit
 1.4 1 26BO36525A
 1.4 1 3-M-A60-10
 1.4 1 40HJ024
 1.4 1 48GS
 1.4 1 48HJD009-551
 1.4 1 48HJD080
1.4 1 48SDN024040301
 1.4 1 585CP060125C
 1.4 1 5ton
 1.4 1 8.5 Ton
 1.4 1 B1HA-060-A25B
 1.4 1 DINH048N0625C
 1.4 1 RJKA-A048
 1.4 1 RK-10
 1.4 1 RK10
 1.4 1 YCD036C1LOBE
 4.2 3 missing
69.0 49
----
100.0 71 cases
```

Data type: character Record/columns: 1/704-733

q30b_mak: ROOFTOP UNIT #1: Particle Filter Make

(var is a 20-character string)

q30b_mod: ROOFTOP UNIT #1: Particle Filter Model

(var is a 30-character string)

Record/columns: 1/735-754

```
% N VALUE
                            LABEL
 1.4 1 16"x25"x2 Class E
 1.4 1 All 2" HI-5
     1 E-35
 1.4
 1.4 1 HI-E
 1.4 1 HIE60
 1.4 1 Model 40
 1.4 1 Tri DEK 3 ply 15/40
 1.4 1 ZL
 4.2 3 missing
84.5 60
100.0 71 cases
Data type: character
Record/columns: 1/756-785
```

q30k_mak: ROOFTOP UNIT #1: Electronic Filter Make

q30k_mod: ROOFTOP UNIT #1: Electronic Filter Model

q31b_mak: ROOFTOP UNIT #2: Filter/Cleaning Make

(var is a 20-character string)

```
% N VALUE LABEL
1.4 1 Aeroplant
1.4 1 Ecoaire
2.8 2 Econo Filter
1.4 1 Flanders
1.4 1 Glass Floss
1.4 1 Perfect Pleat
1.4 1 Purcolator
88.7 63
---- ---
100.0 71 cases
```

Data type: character Record/columns: 1/839-858

q31b_mod: ROOFTOP UNIT #2: Filter/Cleaning Model

(var is a 30-character string)

```
% N VALUE LABEL
1.4 1 All 2" HI-5
1.4 1 E-35
1.4 1 HIE60
1.4 1 Model 40
1.4 1 ZL
4.2 3 missing
88.7 63
---- --
100.0 71 cases
```

Data type: character Record/columns: 1/860-889

q31k_mak: ROOFTOP UNIT #2: Electronic Filter Make

q31k_mod: ROOFTOP UNIT #2: Electronic Filter Model

q32b_mak: ROOFTOP UNIT #3: Filter/Cleaning Make

```
(var is a 20-character string)
```

```
% N VALUE LABEL
1.4 1 Aeroplant
1.4 1 Ecoaire
2.8 2 Econo Filter
1.4 1 Flanders
1.4 1 Glass Floss
1.4 1 Perfect Pleat
90.1 64
---- --
100.0 71 cases
```

Data type: character Record/columns: 1/943-962

q32b_mod: ROOFTOP UNIT #3: Filter/Cleaning Model

(var is a 30-character string)

```
% N VALUE LABEL
1.4 1 All 2" HI-5
1.4 1 E-35
1.4 1 Model 40
1.4 1 ZL
4.2 3 missing
90.1 64
---- --
100.0 71 cases
```

Data type: character Record/columns: 1/964-993

q32k_mak: ROOFTOP UNIT #3: Electronic Filter Make

Record/columns: 1/995-1014

q32k_mod: ROOFTOP UNIT #3: Electronic Filter Model

TEXT ITEMS

TEXT ITEMS			
CASEID	VAR		TEXT
21094 21605 23094 23542 25173 51760	q1 q1 q1 q1 q1	: : : : : : : : : : : : : : : : : : : :	<pre>in-house engineer shop personnel on site In-house staff landlord In house [staff?] Brower Mechanical (HVAC Company)</pre>
52014 53274	q15g q15g	: :	auto also cycle auto
23242 52014 53274	q16g q16g q16g	: :	Switch outside auto cycles auto
15010 23094 25173 43181 43291 51792 53232	q22 q22 q22 q22 q22 q22 q22 q22	: : : : : : : : : : : : : : : : : : : :	100 140 120 100 ~150 157 100ish
11133	q24	 :	No outdoor air intake
11133 41722	q25 q25	:	No outdoor air intake Minimum position on economiser
25073	q28g1 	 :	Alarm
13332 25073	q28g2 q28g2	: :	IR electric Alarm
13332 25073	q28g3 q28g3	:	IR electric Alarm
13332 25073	q28g4 q28g4	: :	IR electric Alarm
	q30e q30e		H1-E paper pleat
53274	q31e	 :	paper pleat
53274	q32e 	:	paper pleat

Appendix G.

Pie Charts for SMCB Survey Responses

Pie Charts for SMCB Survey Responses

(for both the telephone survey and the HVAC supplement)

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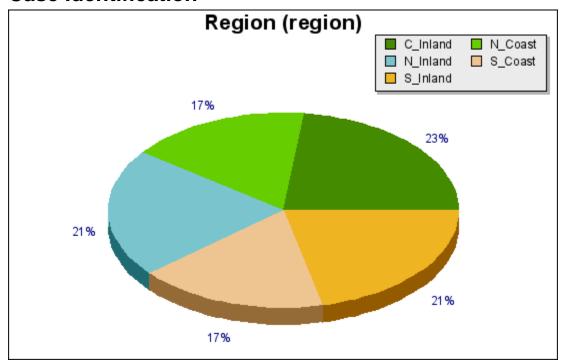
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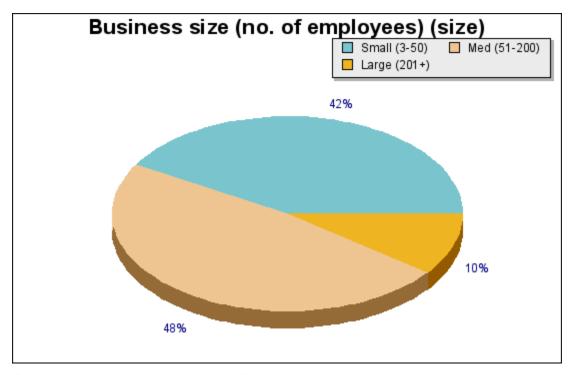
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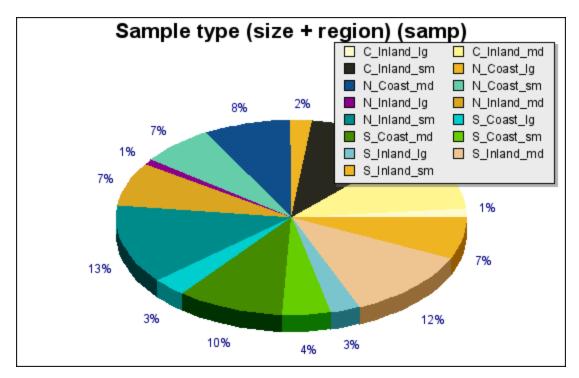
Case Identification



Question region: Region

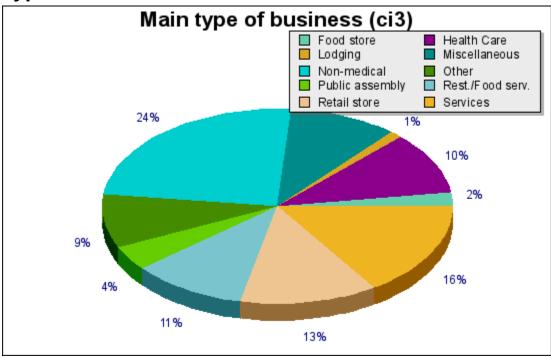


Question size: Business size (no. of employees)

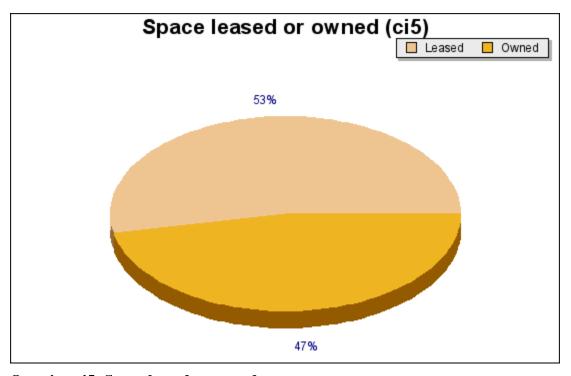


Question samp: Sample type (size + region)

Type Of Business

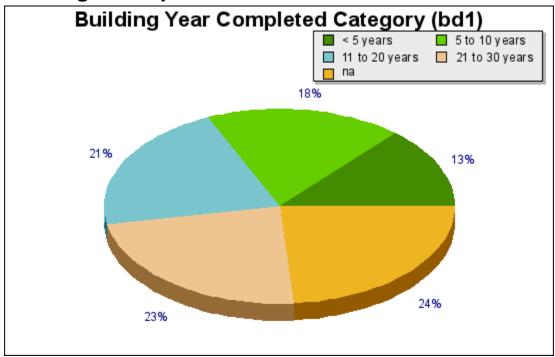


Question ci3: Main type of business

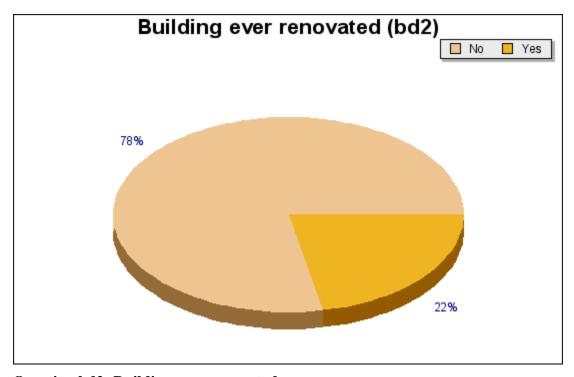


Question ci5: Space leased or owned

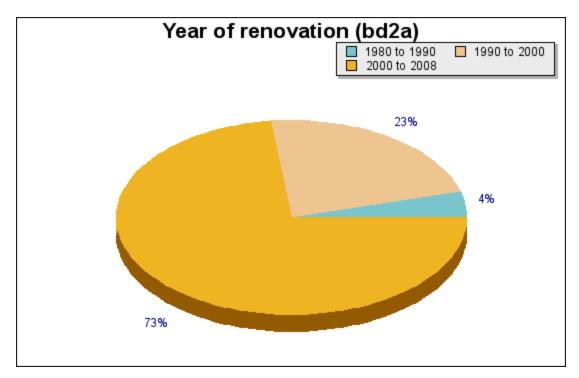
Building Description



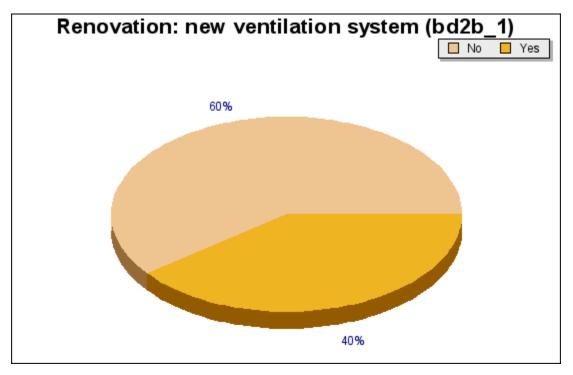
Question bd1: Year building completed



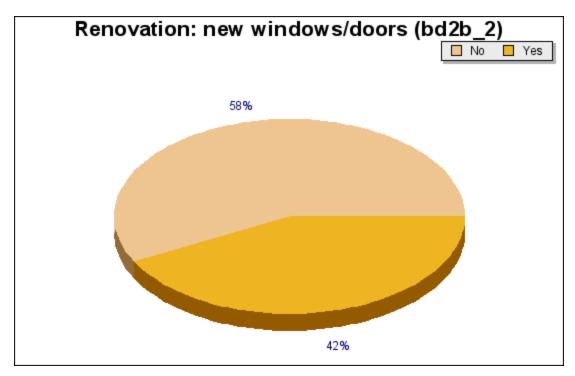
Question bd2: Building ever renovated



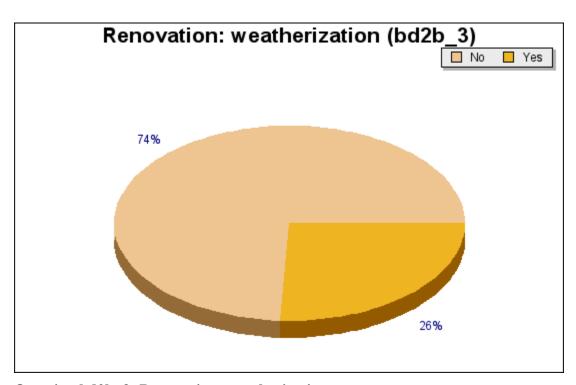
Question bd2a: Year of renovation



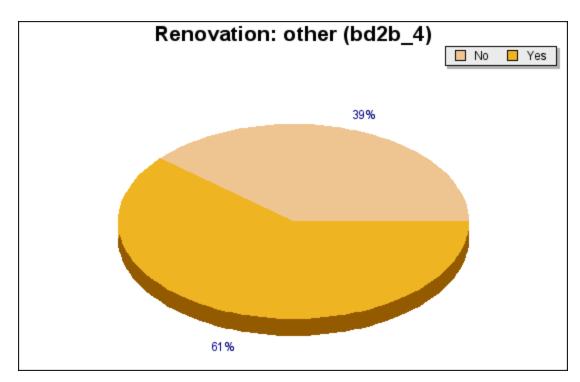
Question bd2b_1: Renovation: new ventilation system



Question bd2b_2: Renovation: new windows/doors

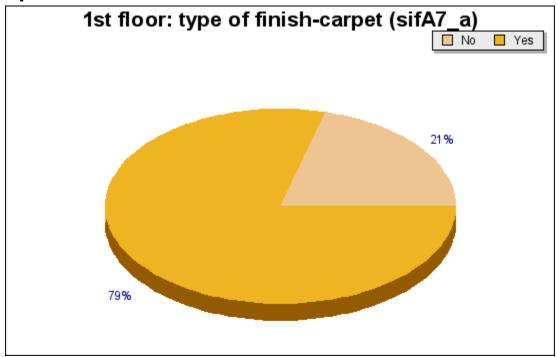


Question bd2b_3: Renovation: weatherization

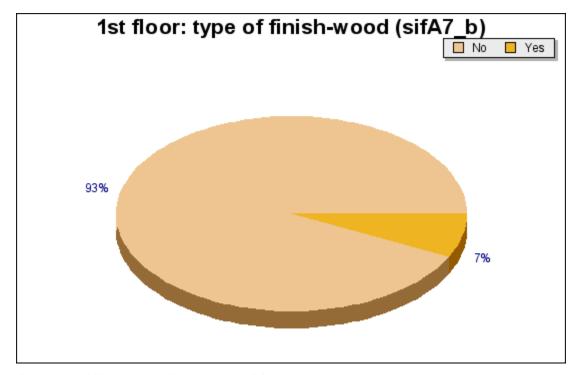


Question bd2b_4: Renovation: other

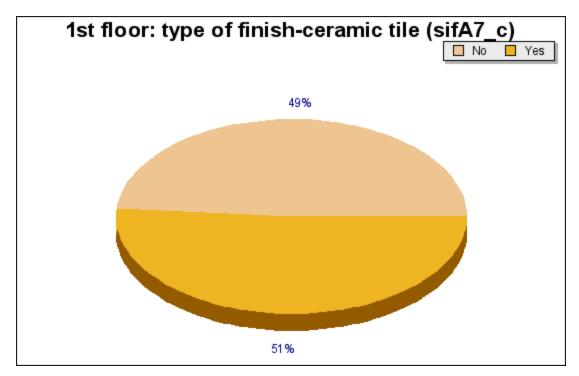
Space Interior Finishes



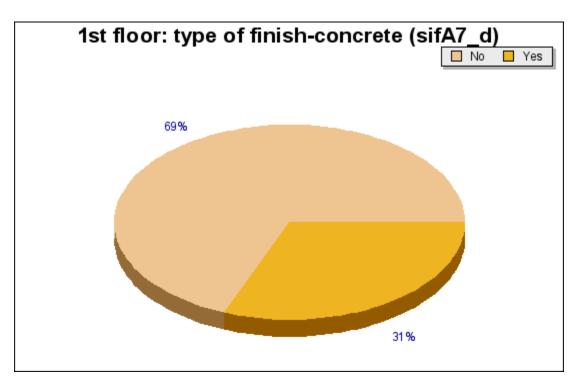
Question sifA7_a: 1st floor: type of finish-carpet



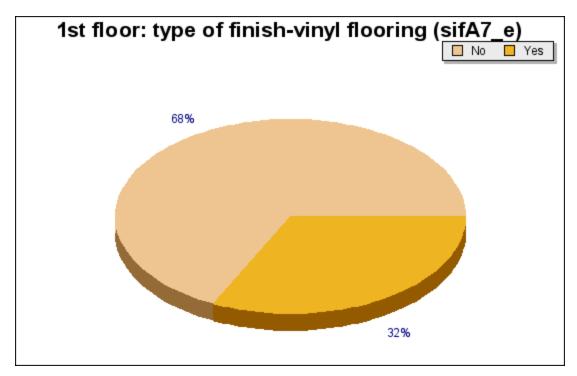
Question sifA7_b: 1st floor: type of finish-wood



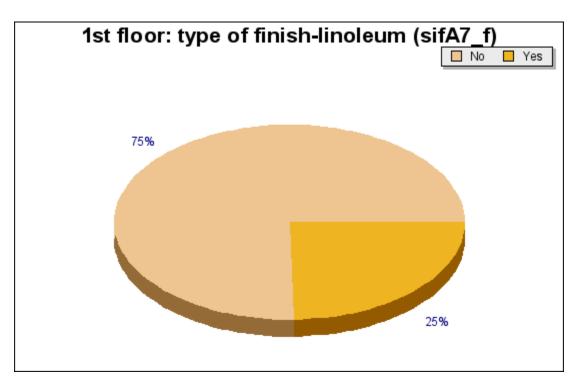
Question sifA7_c: 1st floor: type of finish-ceramic tile



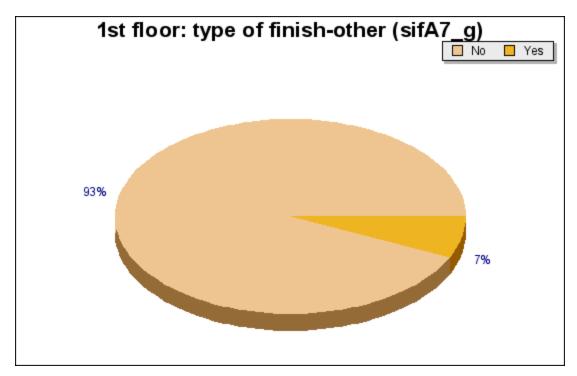
Question sifA7_d: 1st floor: type of finish-concrete



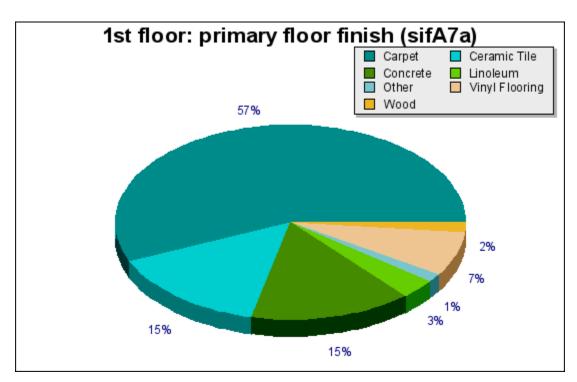
Question sifA7_e: 1st floor: type of finish-vinyl flooring



Question sifA7_f: 1st floor: type of finish-linoleum

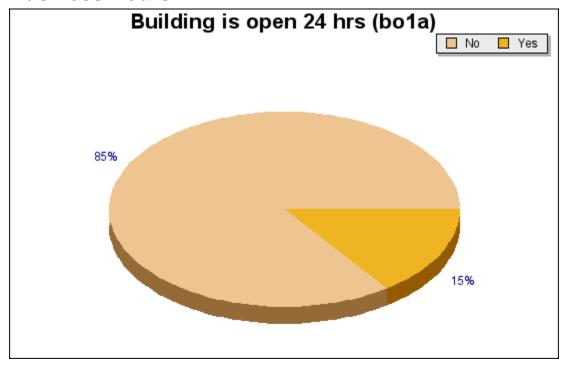


Question sifA7_g: 1st floor: type of finish-other

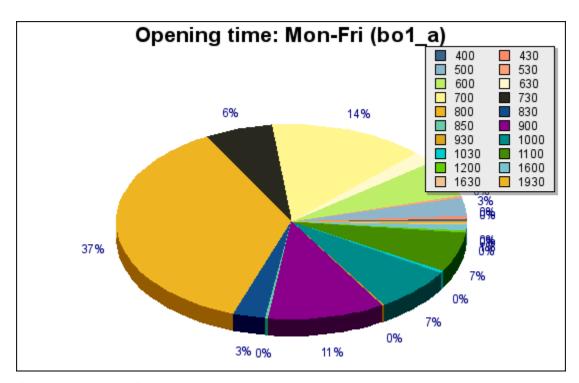


Question sifA7a: 1st floor: primary floor finish

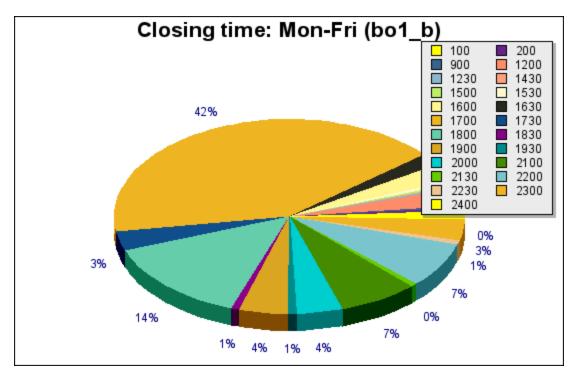
Business Hours



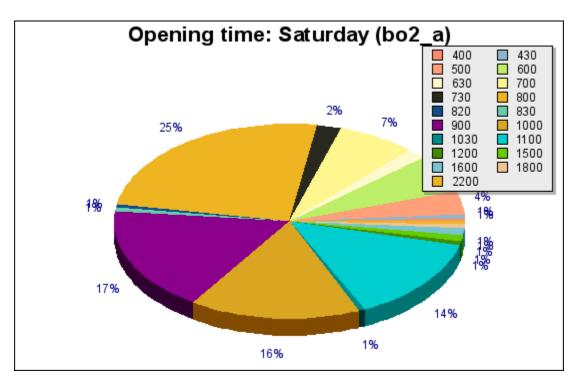
Question bo1a: Building is open 24 hrs



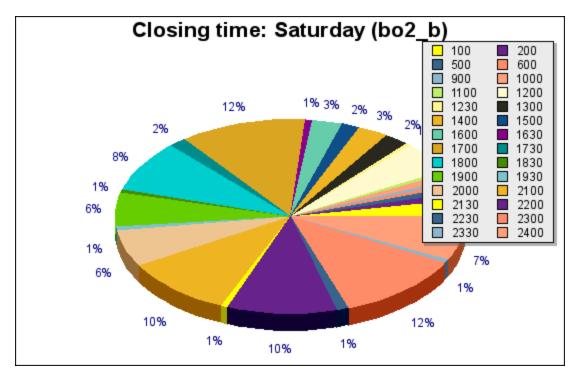
Question bo1_a: Opening time: Mon-Fri



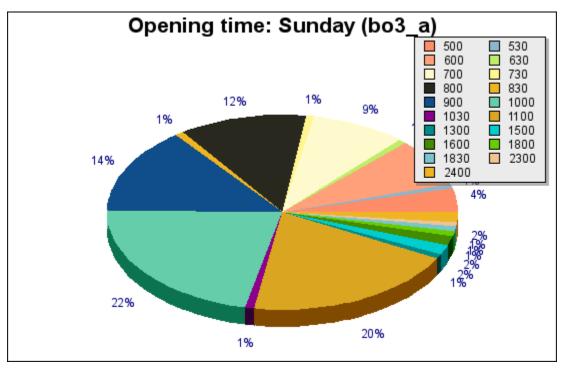
Question bo1_b: Closing Time: Mon-Fri



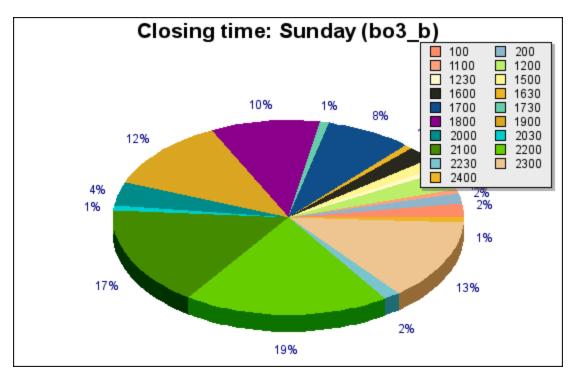
Question bo2_a: Opening time: Saturday



Question bo2_b: Closing time: Saturday

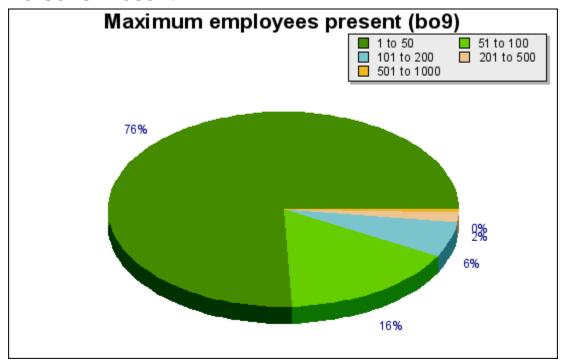


Question bo3_a: Opening time: Sunday

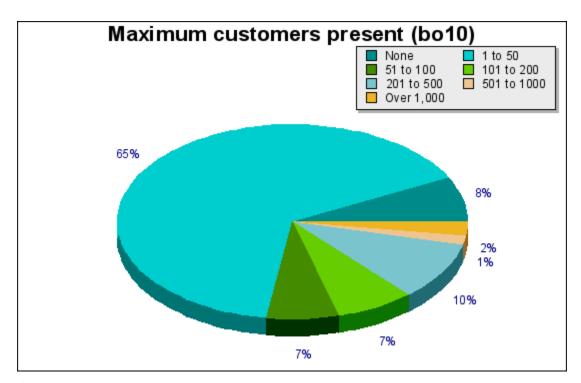


Question bo3_b: Closing time: Sunday

Persons Present

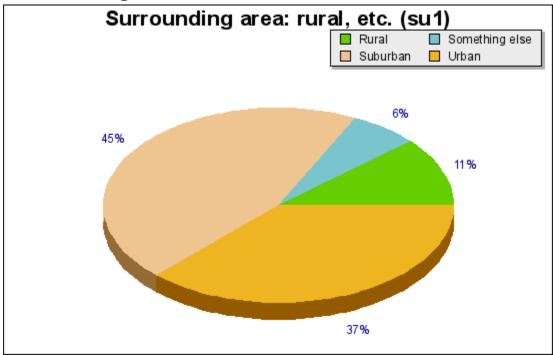


Question bo9: Maximum employees present



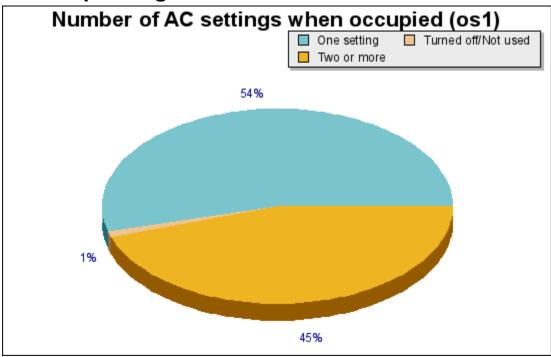
Question bo10: Maximum customers present

Surrounding Locale

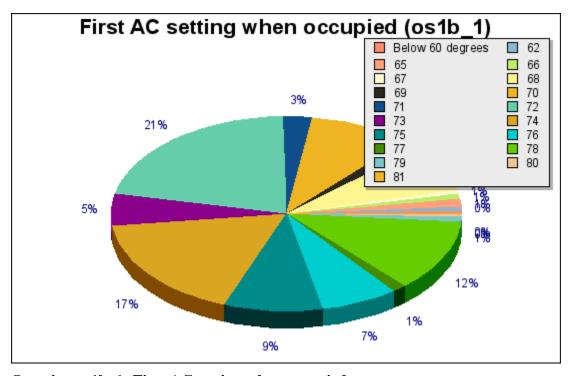


Question su1: Surrounding area: rural, etc.

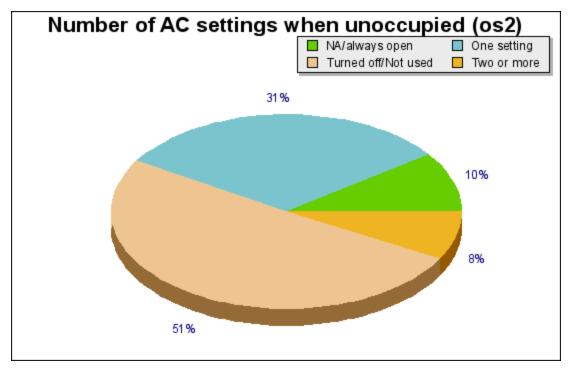
HVAC Operating Schedule



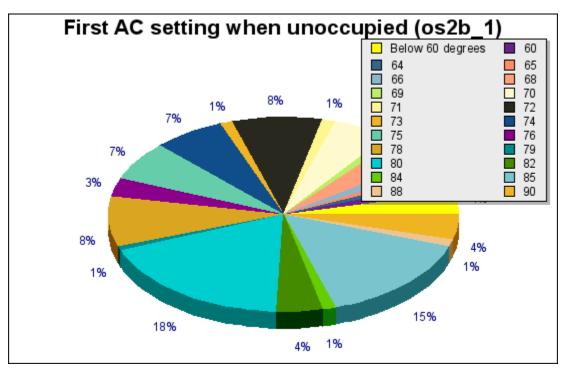
Question os1: Number of AC settings when occupied



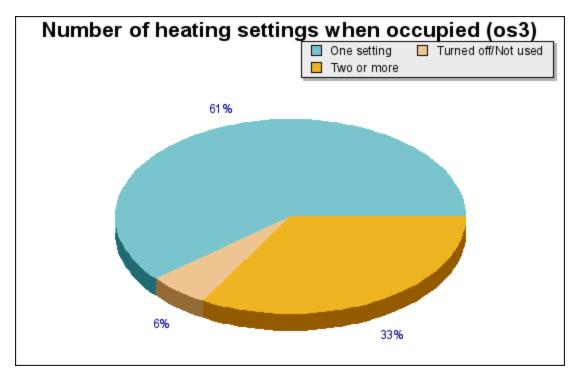
Question os1b_1: First AC setting when occupied



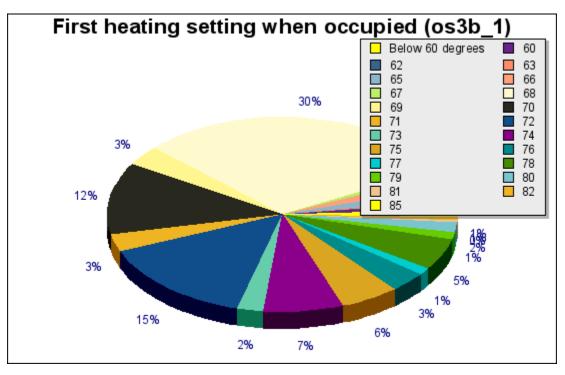
Question os2: Number of AC settings when unoccupied



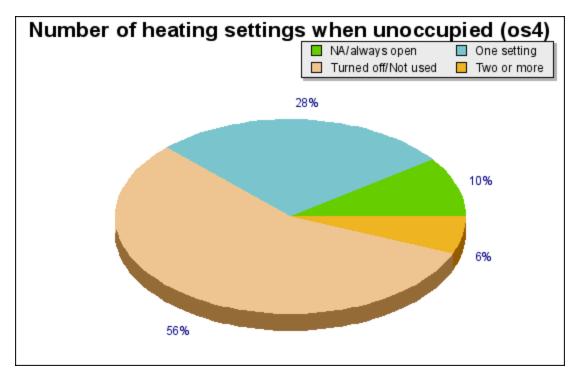
Question os2b_1: First AC setting when unoccupied



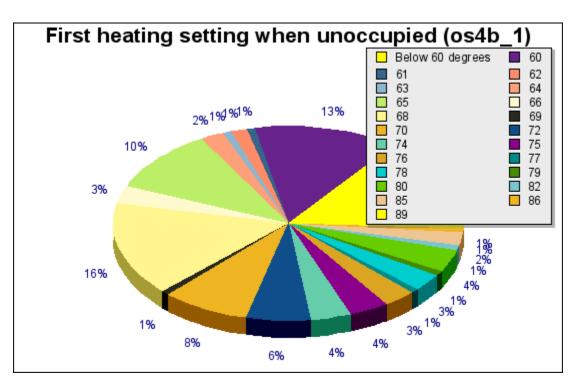
Question os3: Number of heating settings when occupied



Question os3b_1: First heating setting when occupied

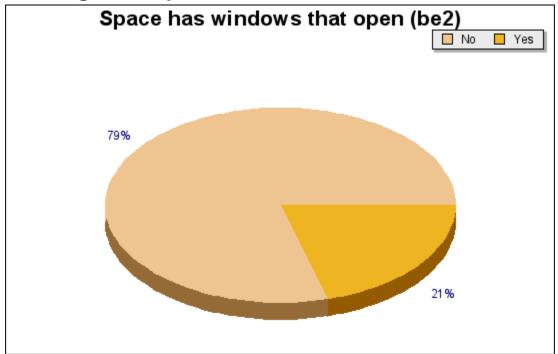


Question os4: Number of heating settings when unoccupied

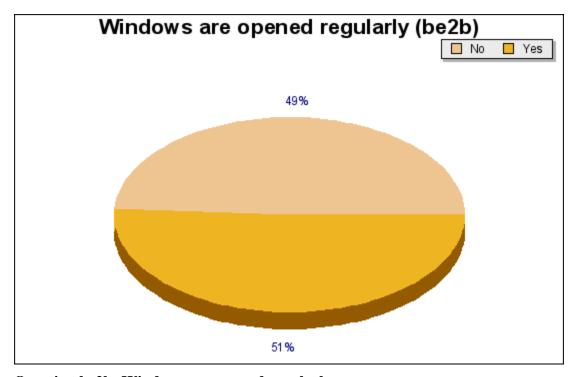


Question os4b_1: First heating setting when unoccupied

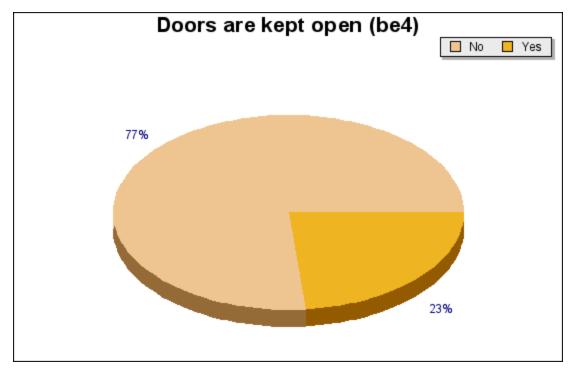
Building Envelope



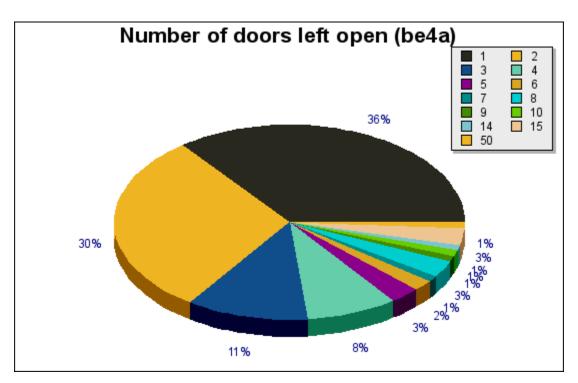
Question be2: Space has windows that open



Question be2b: Windows are opened regularly

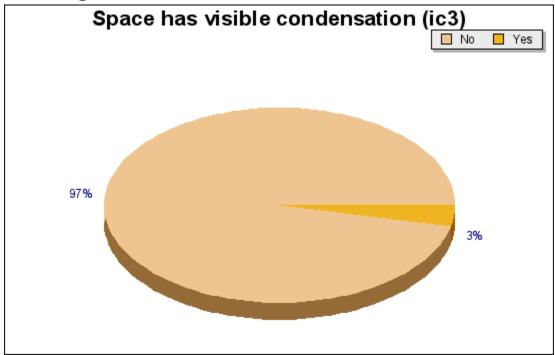


Question be4: Doors are kept open

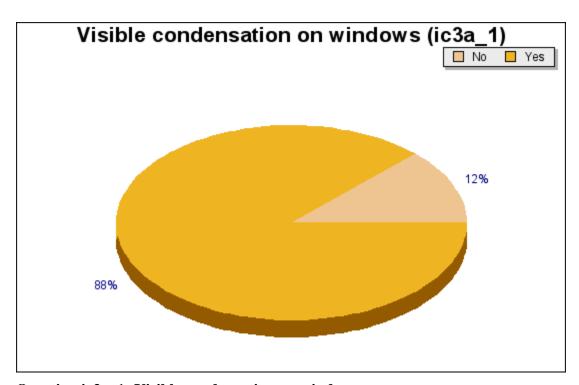


Question be4a: Number of doors left open

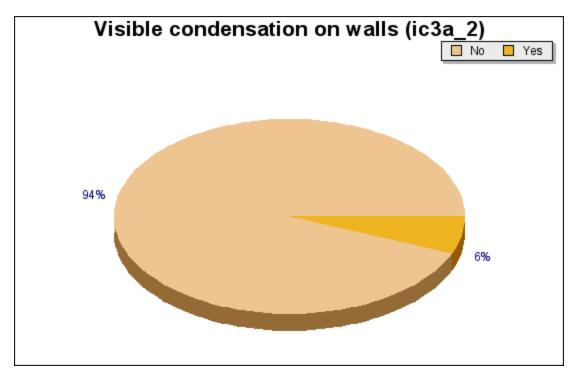
Building Contaminant Source Information



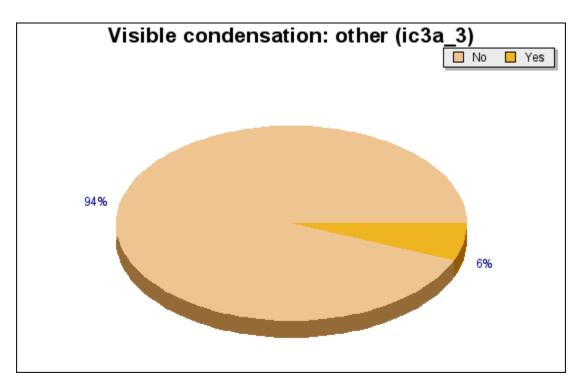
Question ic3: Space has visible condensation



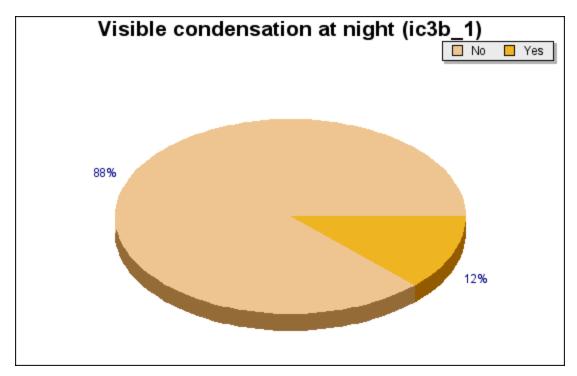
Question ic3a_1: Visible condensation on windows



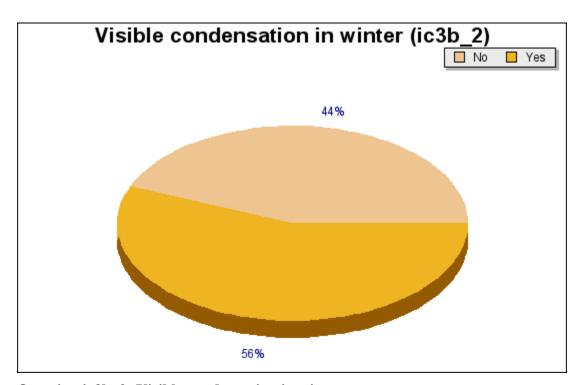
Question ic3a_2: Visible condensation on walls



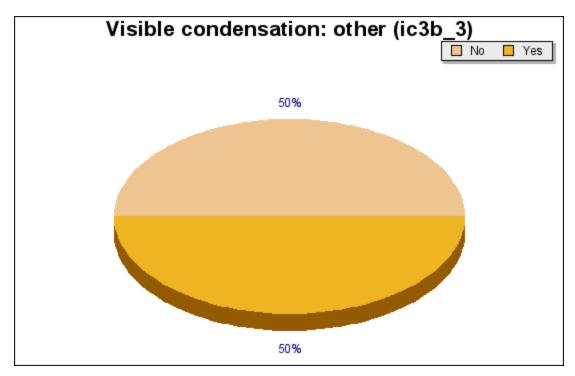
Question ic3a_3: Visible condensation: other



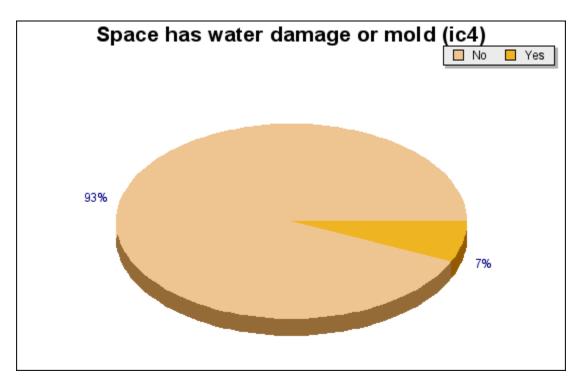
Question ic3b_1: Visible condensation at night



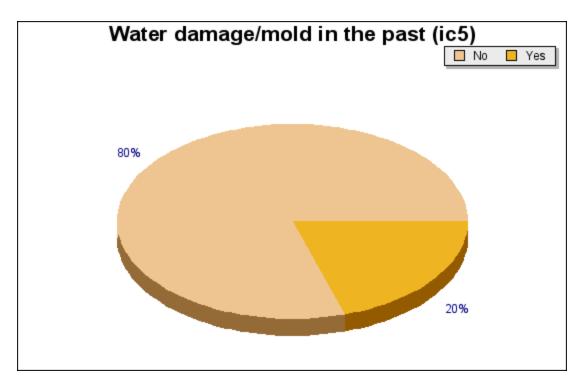
Question ic3b_2: Visible condensation in winter



Question ic3b_3: Visible condensation: other

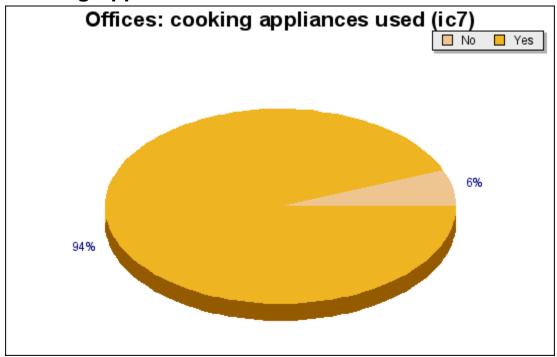


Question ic4: Space has water damage or mold



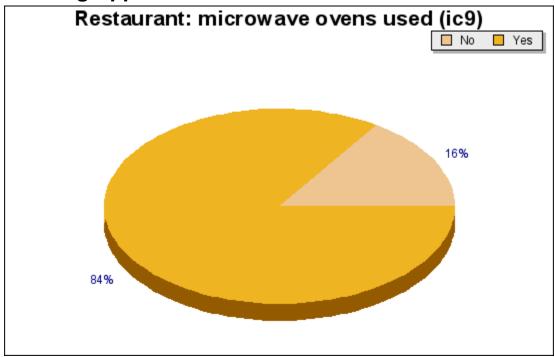
Question ic5: Water damage/mold in the past

Cooking Appliances: Non-medical Offices

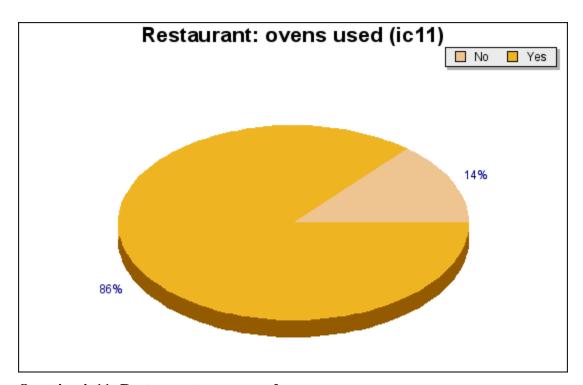


Question ic7: Offices: cooking appliances used

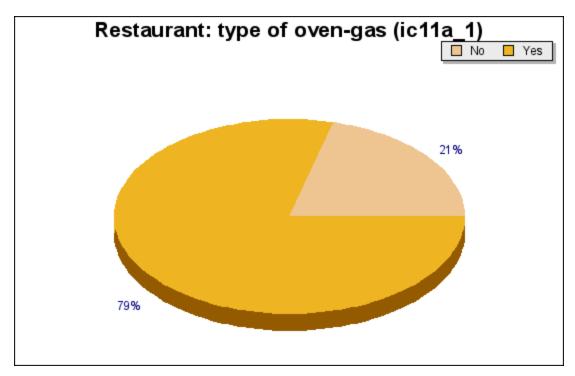
Cooking Appliances: Restaurants



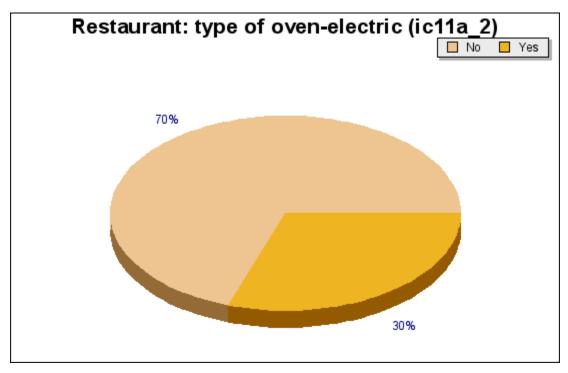
Question ic9: Restaurant: microwave ovens used



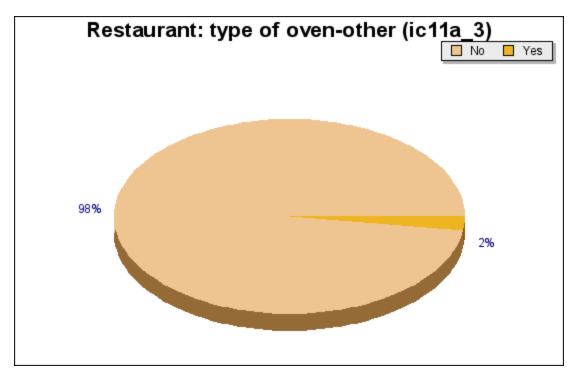
Question ic11: Restaurant: ovens used



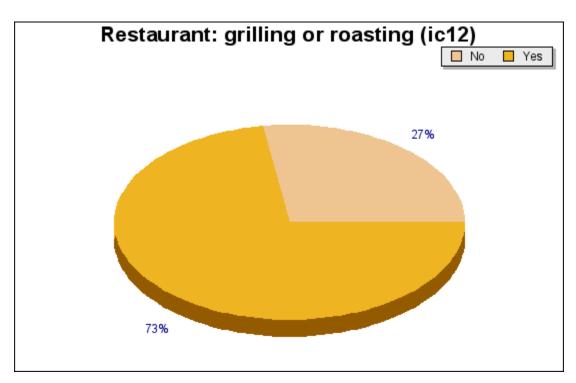
Question ic11a_1: Restaurant: type of oven-gas



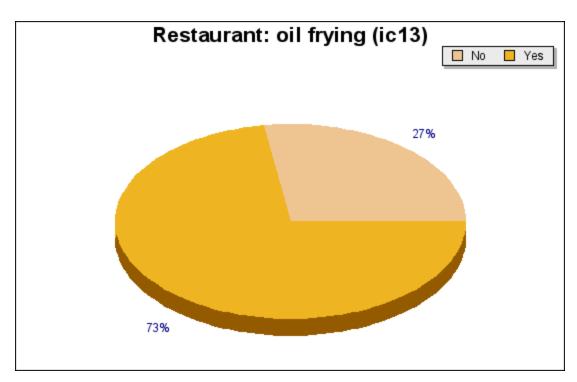
Question ic11a_2: Restaurant: type of oven-electric



Question ic11a_3: Restaurant: type of oven-other



Question ic12: Restaurant: grilling or roasting



Question ic13: Restaurant: oil frying

Cooking Appliances: Food Stores

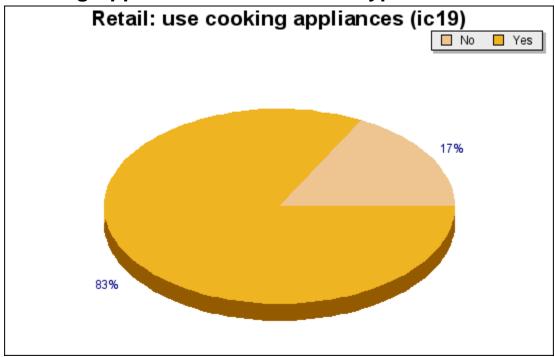


Question ic15: Food store: use cooking appliances

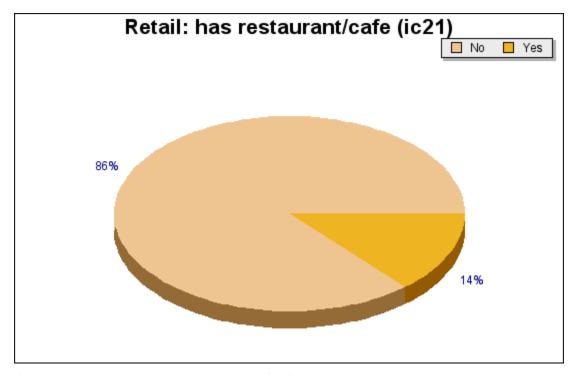


Question ic17: Food store: film processing

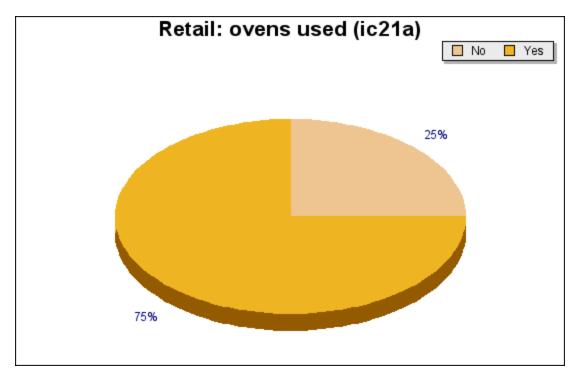
Cooking Appliances: Retail Stores Type



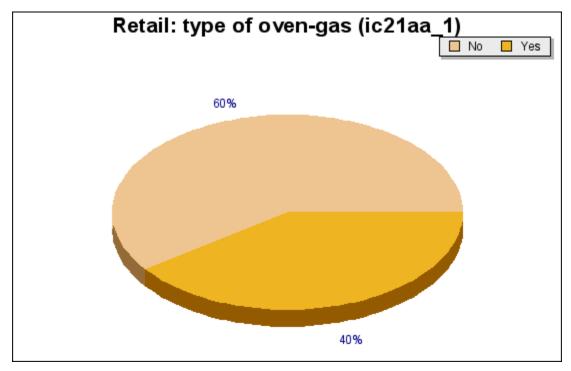
Question ic19: Retail: use cooking appliances



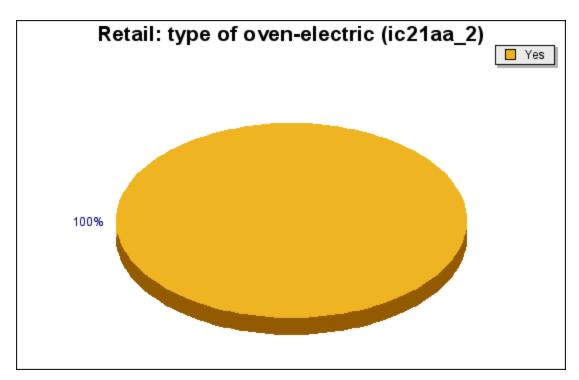
Question ic21: Retail: has restaurant/cafe



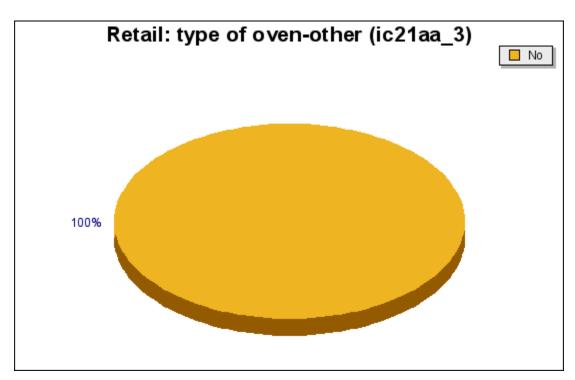
Question ic21a: Retail: ovens used



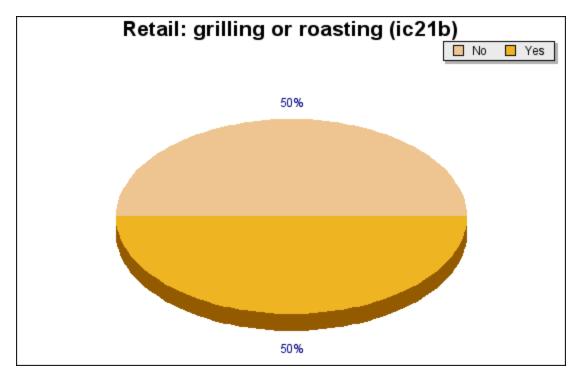
Question ic21aa_1: Retail: type of oven-gas



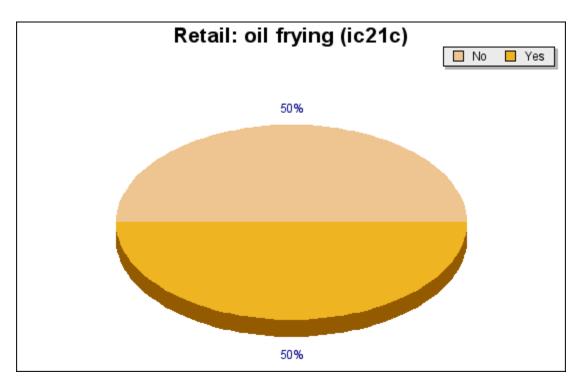
Question ic21aa_2: Retail: type of oven-electric



Question ic21aa_3: Retail: type of oven-other

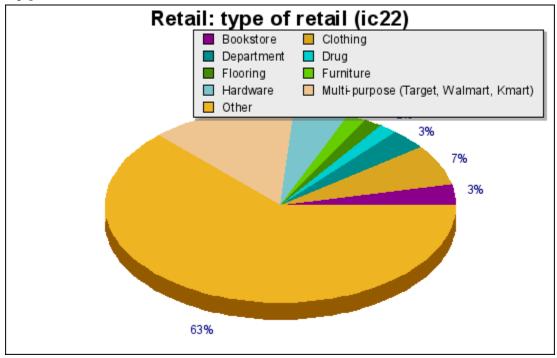


Question ic21b: Retail: grilling or roasting

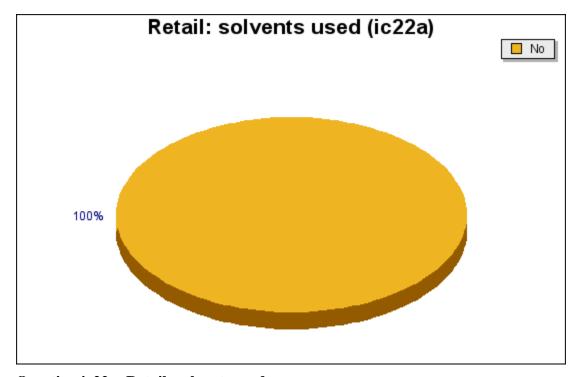


Question ic21c: Retail: oil frying

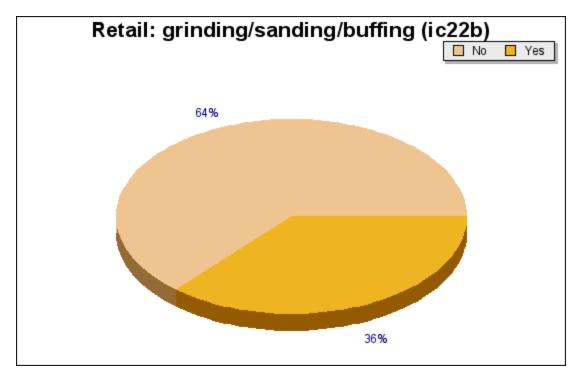
Type Of Retail Stores



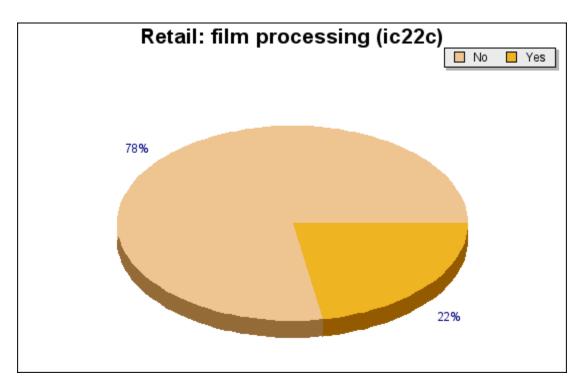
Question ic22: Retail: type of retail



Question ic22a: Retail: solvents used



Question ic22b: Retail: grinding/sanding/buffing

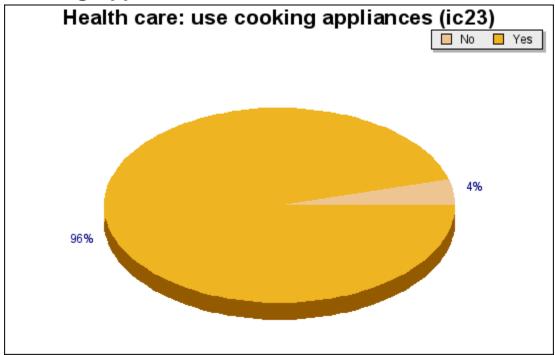


Question ic22c: Retail: film processing

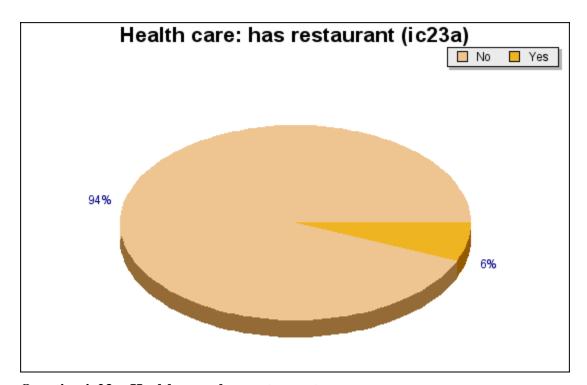


Question ic22d: Retail: tires stored

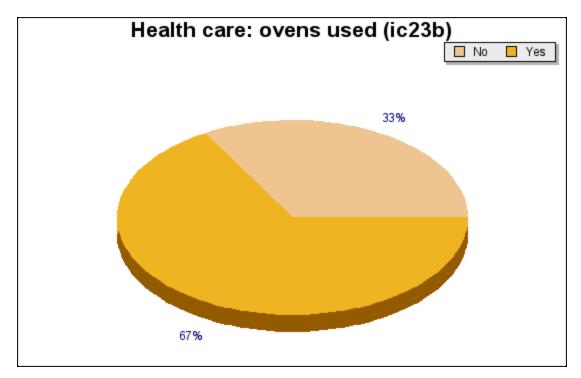
Cooking Appliances: Health-care Offices



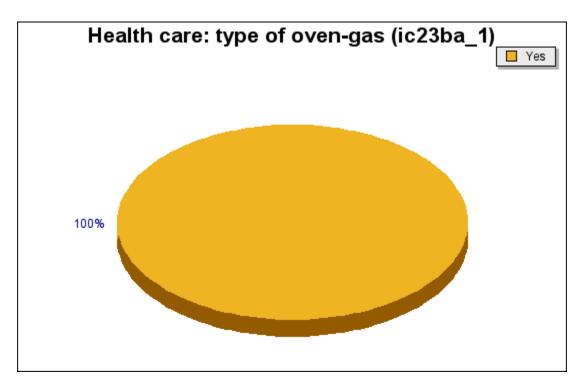
Question ic23: Health care: use cooking appliances



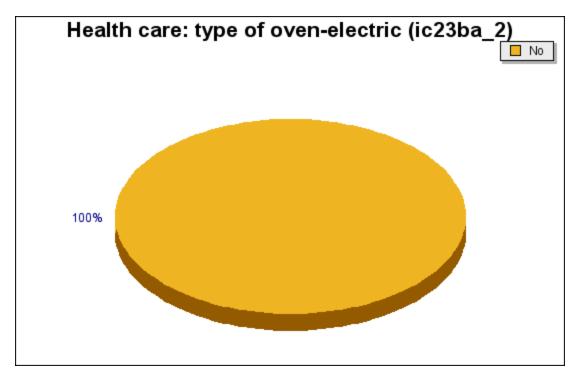
Question ic23a: Health care: has restaurant



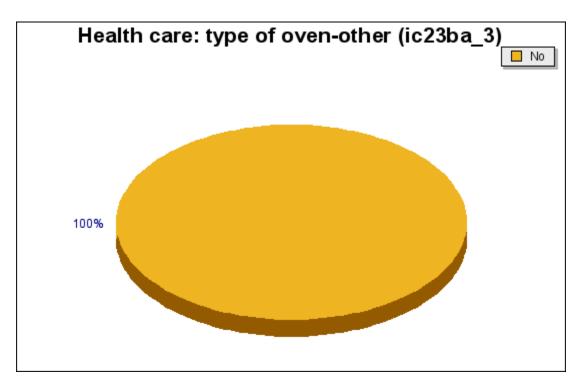
Question ic23b: Health care: ovens used



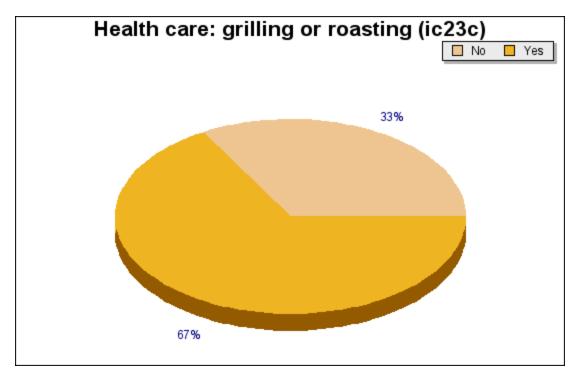
Question ic23ba_1: Health care: type of oven-gas



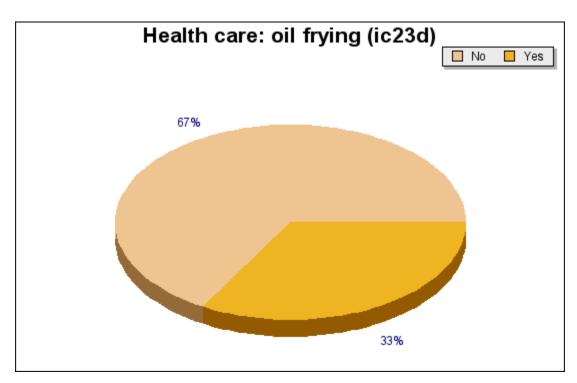
Question ic23ba_2: Health care: type of oven-electric



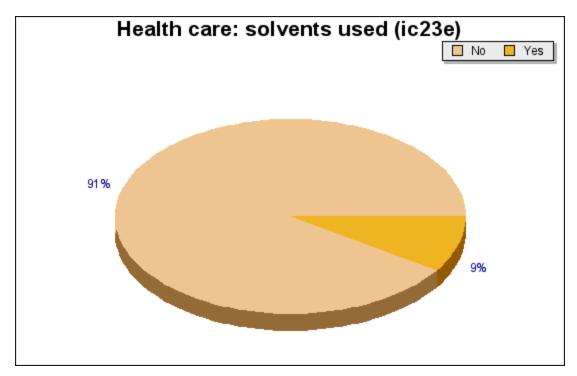
Question ic23ba_3: Health care: type of oven-other



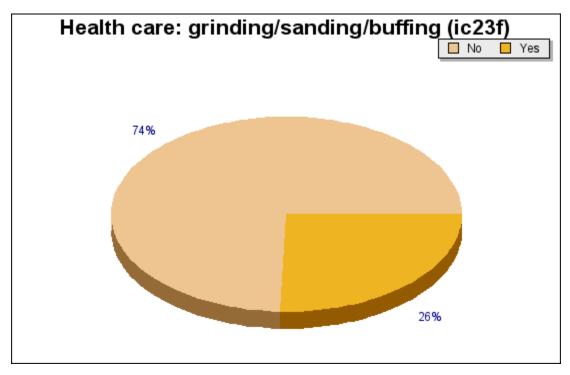
Question ic23c: Health care: grilling or roasting



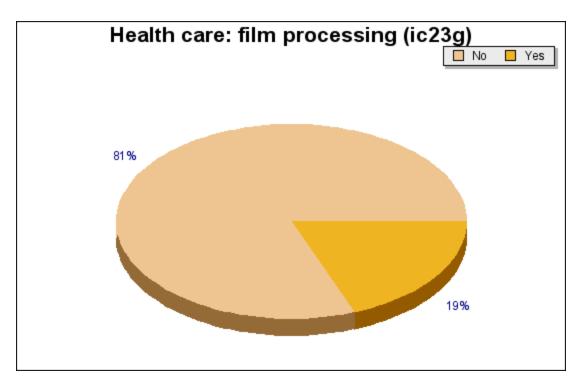
Question ic23d: Health care: oil frying



Question ic23e: Health care: solvents used

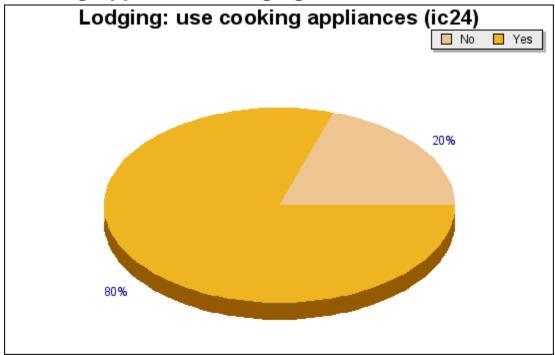


Question ic23f: Health care: grinding/sanding/buffing

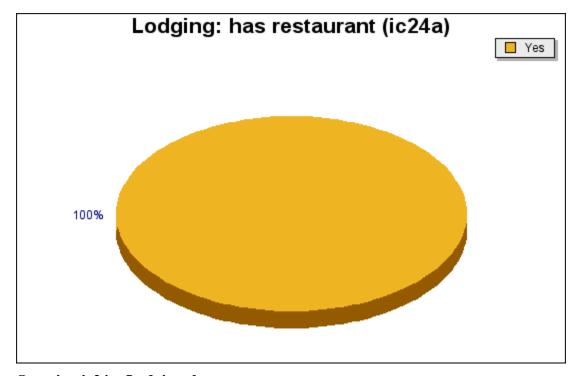


Question ic23g: Health care: film processing

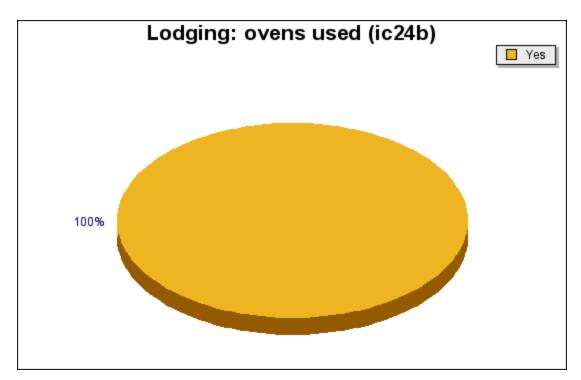
Cooking Appliances: Lodging Businesses



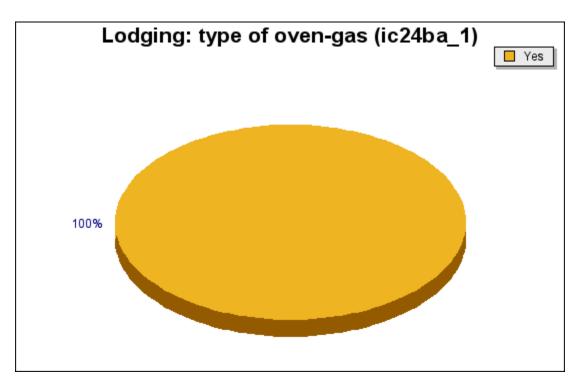
Question ic24: Lodging: use cooking appliances



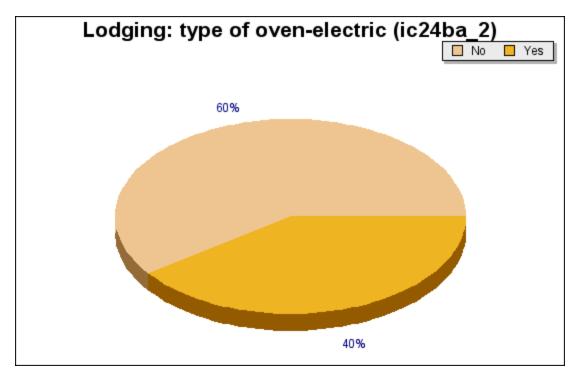
Question ic24a: Lodging: has restaurant



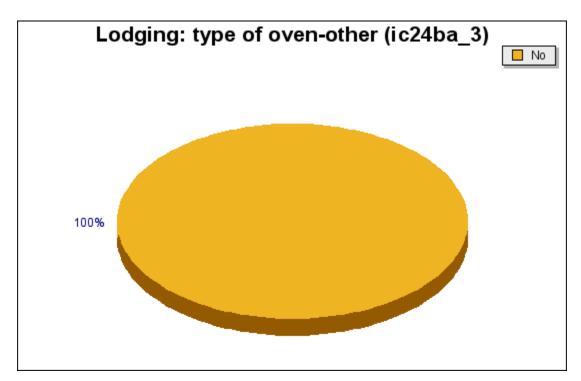
Question ic24b: Lodging: ovens used



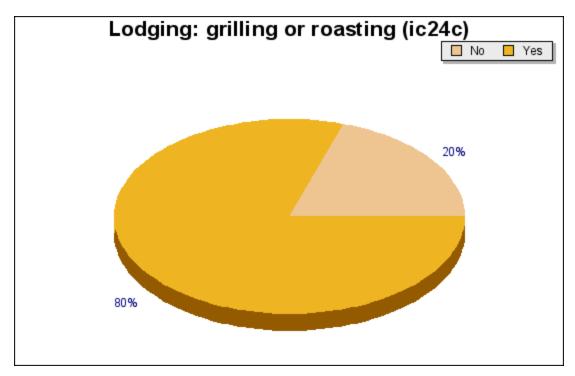
Question ic24ba_1: Lodging: type of oven-gas



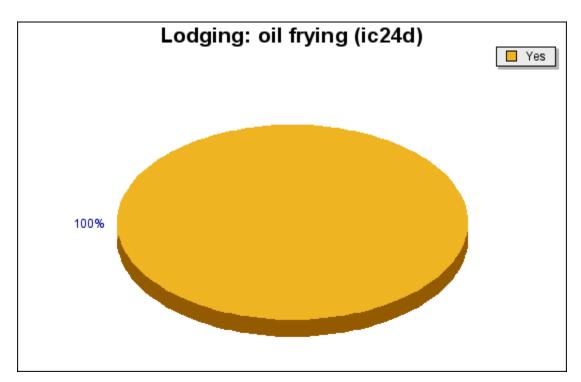
Question ic24ba_2: Lodging: type of oven-electric



Question ic24ba_3: Lodging: type of oven-other

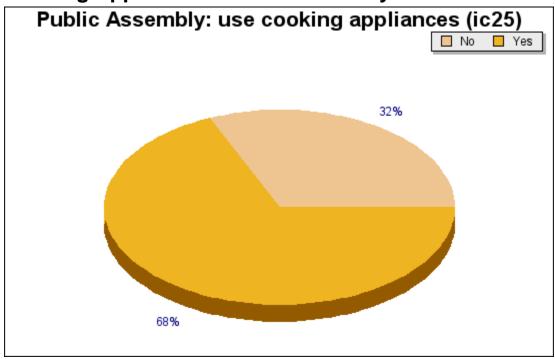


Question ic24c: Lodging: grilling or roasting

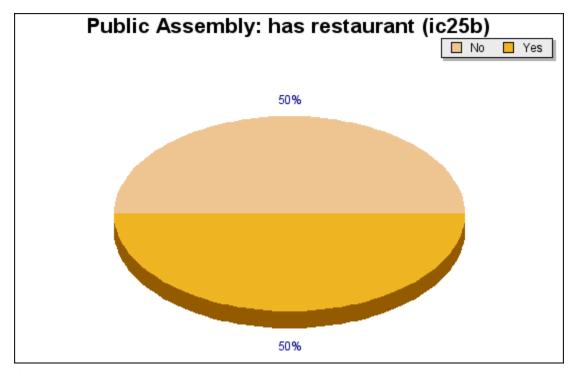


Question ic24d: Lodging: oil frying

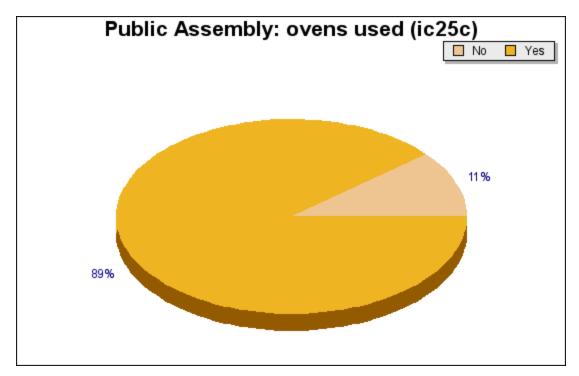
Cooking Appliances: Public Assembly Businesses



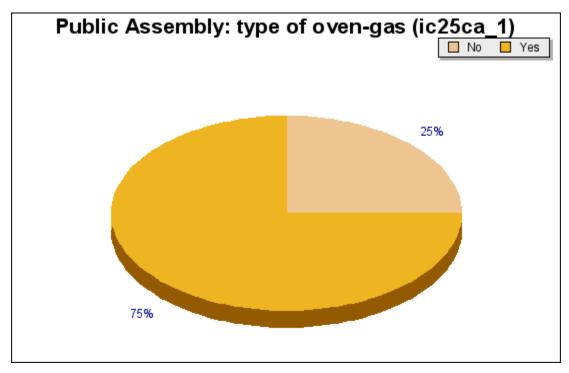
Question ic25: Public Assembly: use cooking appliances



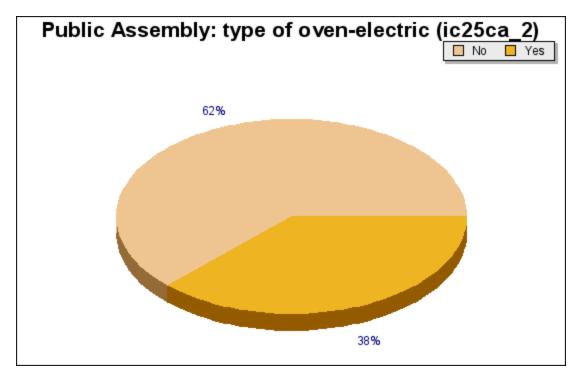
Question ic25b: Public Assembly: has restaurant



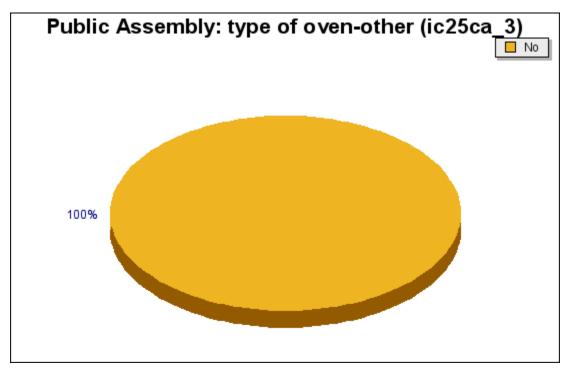
Question ic25c: Public Assembly: ovens used



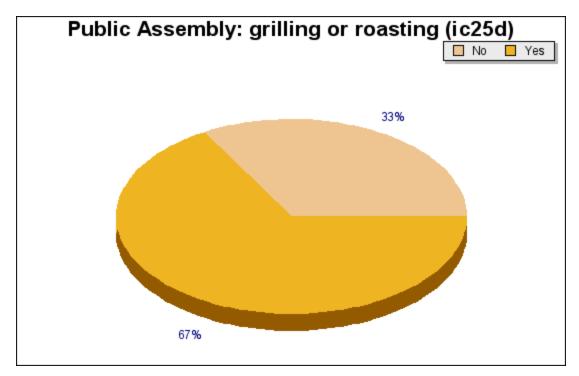
Question ic25ca_1: Public Assembly: type of oven-gas



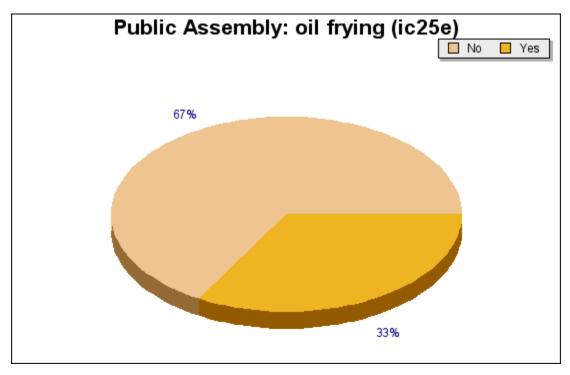
Question ic25ca_2: Public Assembly: type of oven-electric



Question ic25ca_3: Public Assembly: type of oven-other

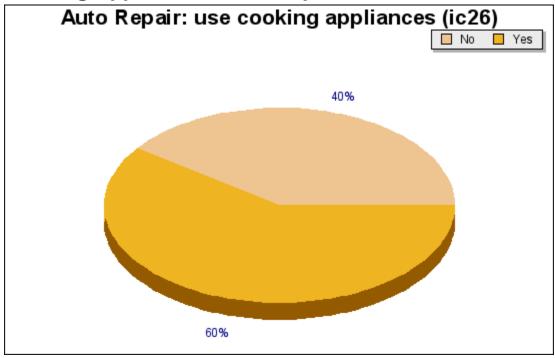


Question ic25d: Public Assembly: grilling or roasting

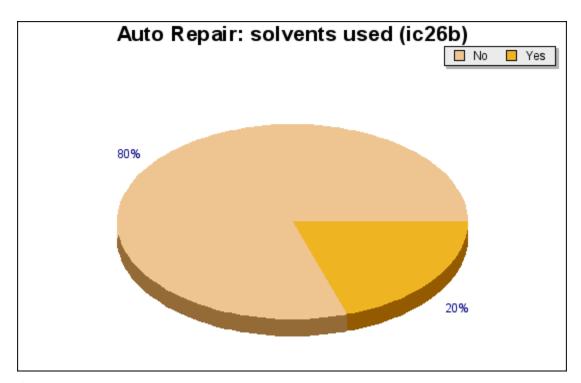


Question ic25e: Public Assembly: oil frying

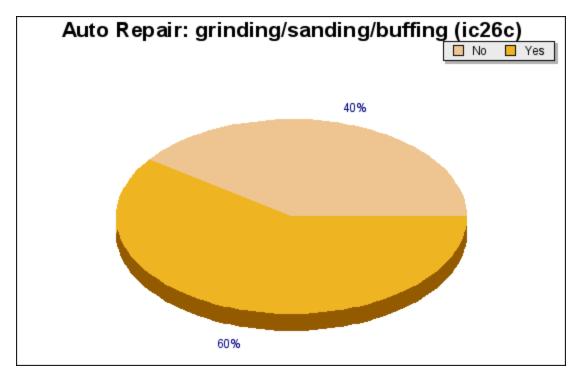
Cooking Appliances: Auto Repair - No Gasoline Sales



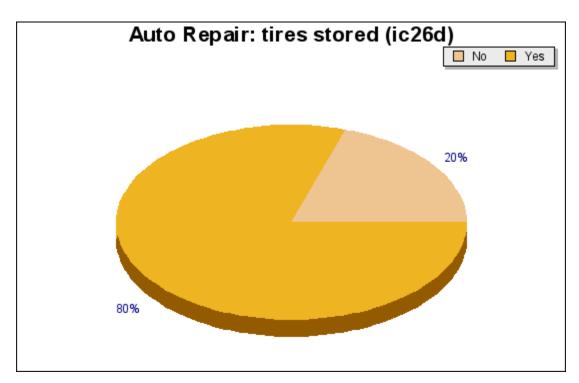
Question ic26: Auto Repair: use cooking appliances



Question ic26b: Auto Repair: solvents used

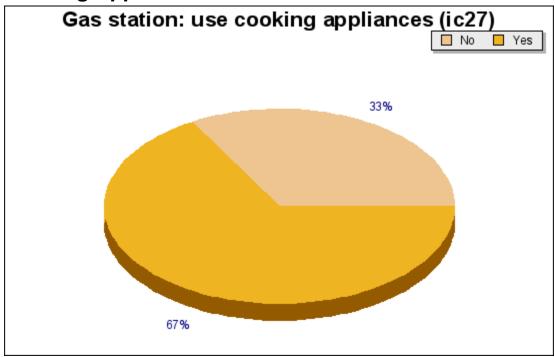


Question ic26c: Auto Repair: grinding/sanding/buffing

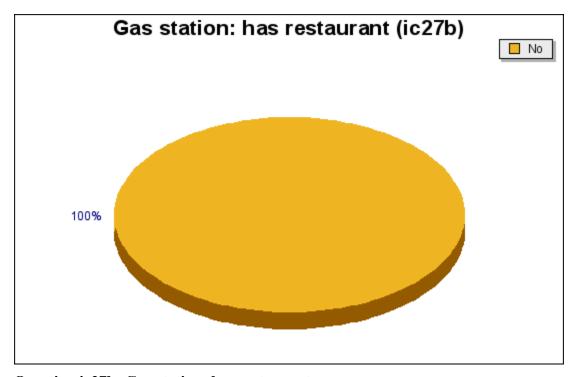


Question ic26d: Auto Repair: tires stored

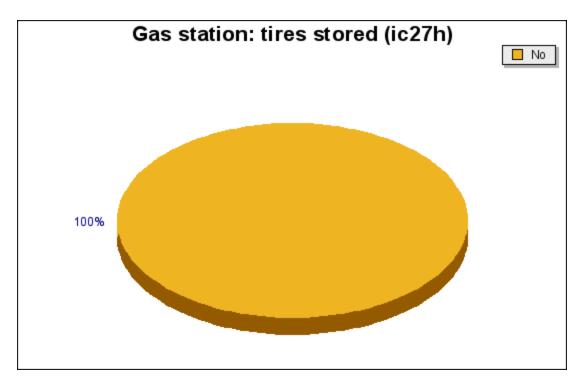
Cooking Appliances: Gas Stations



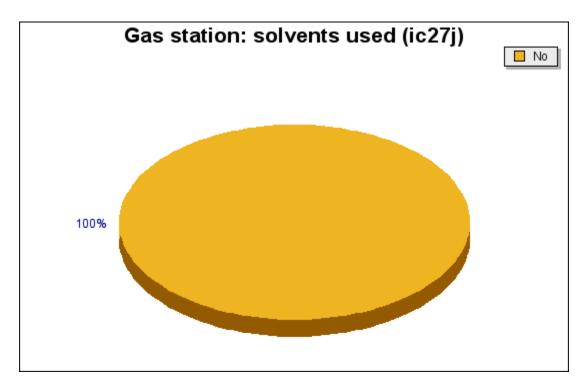
Question ic27: Gas station: use cooking appliances



Question ic27b: Gas station: has restaurant



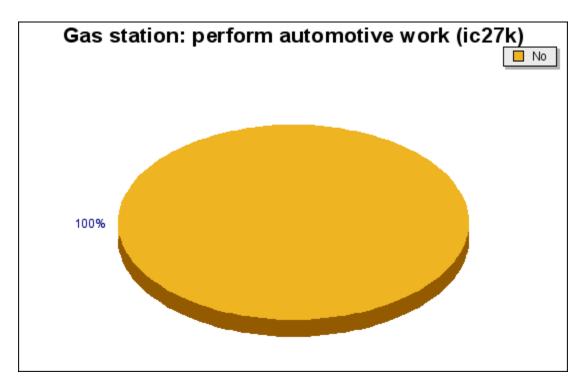
Question ic27h: Gas station: tires stored



Question ic27j: Gas station: solvents used

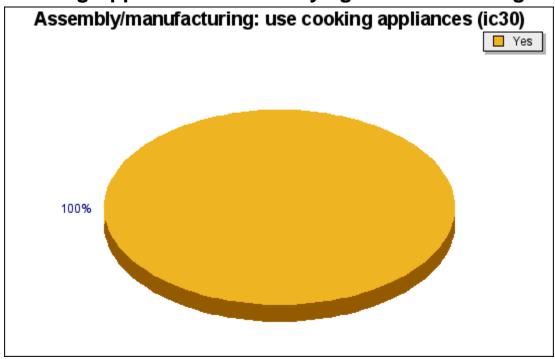


Question ic27i: Gas station: has convenience store

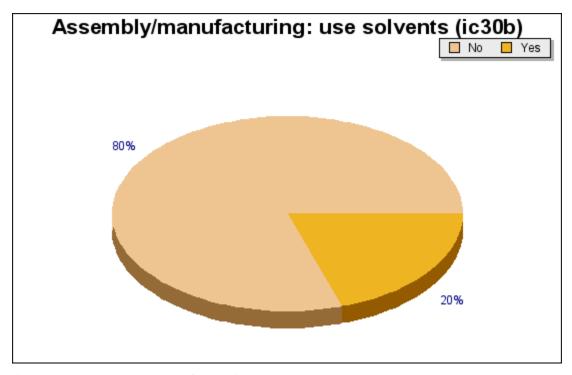


Question ic27k: Gas station: perform automotive work

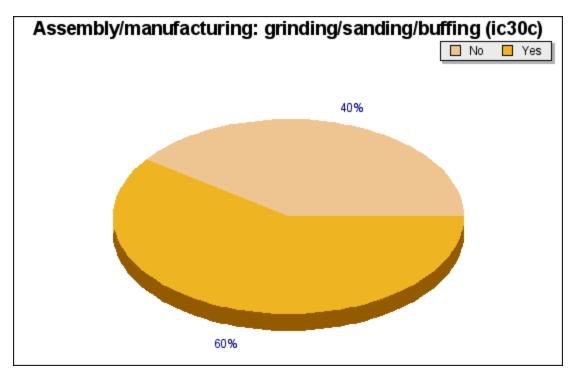
Cooking Appliances: Assembly/light Manufacturing



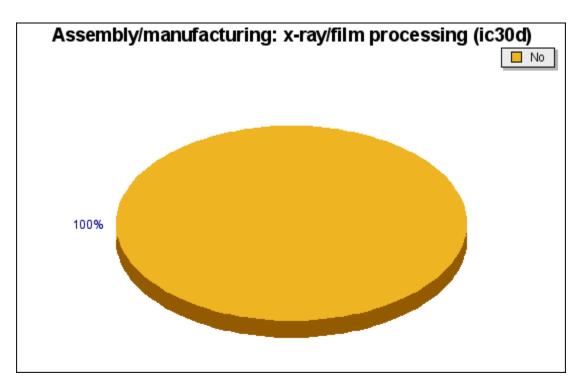
Question ic30: Assembly/manufacturing: use cooking appliances



Question ic30b: Assembly/manufacturing: use solvents



Question ic30c: Assembly/manufacturing: grinding/sanding/buffing

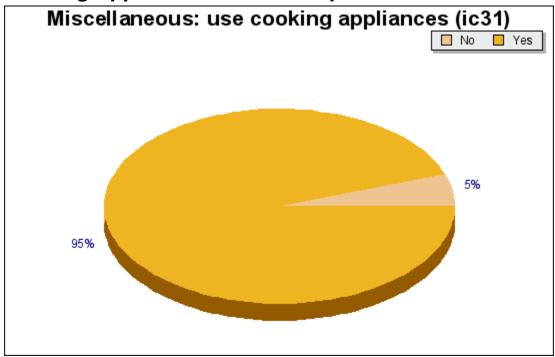


Question ic30d: Assembly/manufacturing: x-ray/film processing

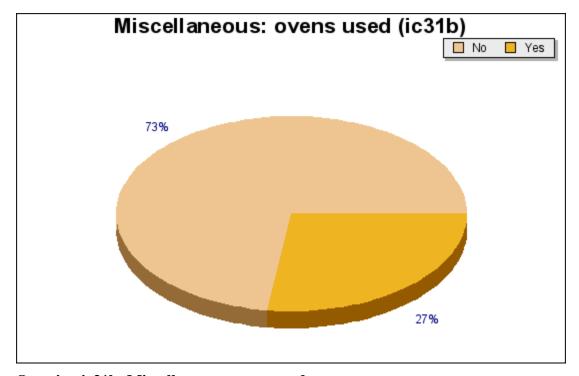


Question ic30e: Assembly/manufacturing: tires stored

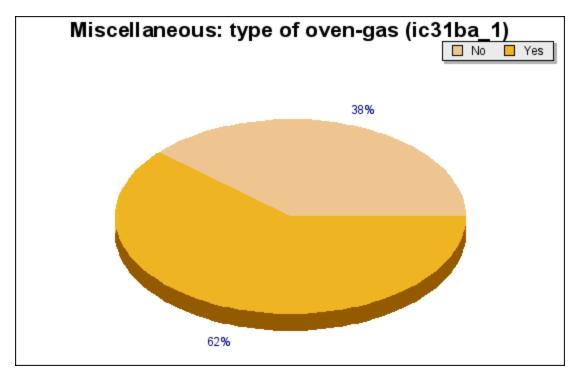
Cooking Appliances: Police/fire/post Office



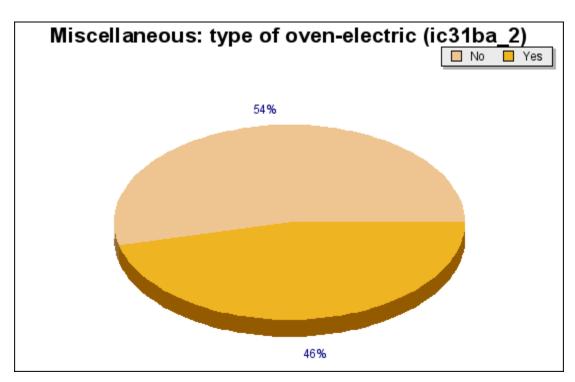
Question ic31: Miscellaneous: use cooking appliances



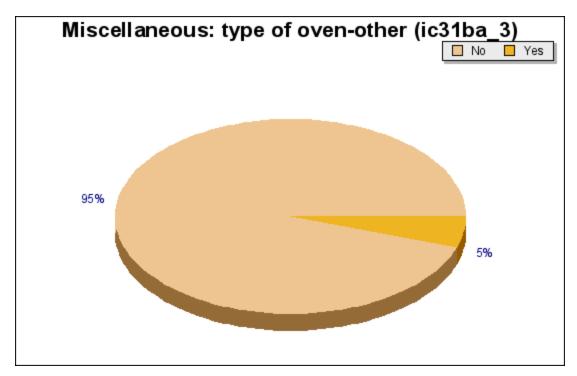
Question ic31b: Miscellaneous: ovens used



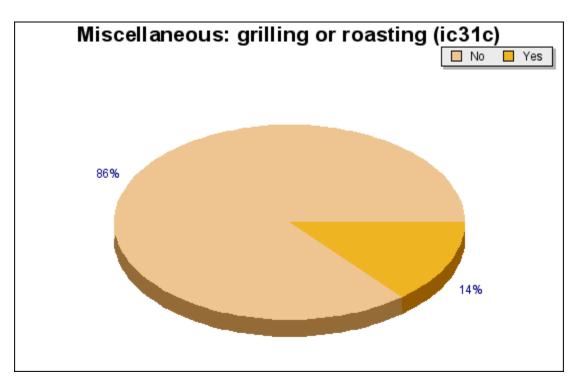
Question ic31ba_1: Miscellaneous: type of oven-gas



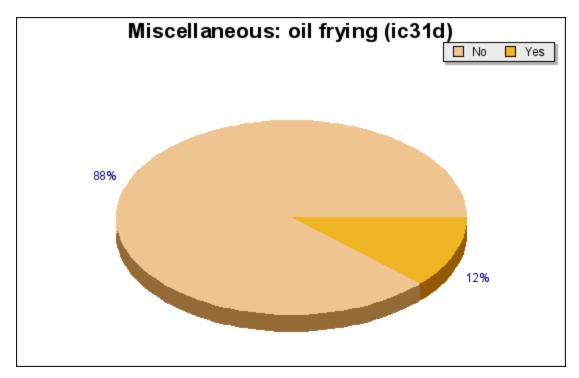
Question ic31ba_2: Miscellaneous: type of oven-electric



Question ic31ba_3: Miscellaneous: type of oven-other



Question ic31c: Miscellaneous: grilling or roasting



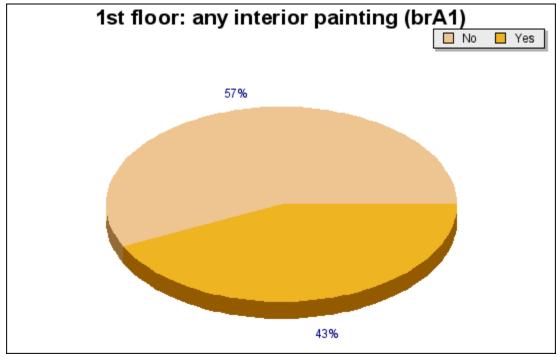
Question ic31d: Miscellaneous: oil frying

Fire Damage: 1st Floor

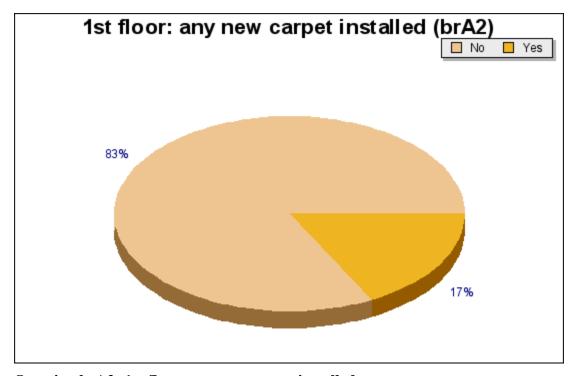


Question fdA1: 1st floor: any fire damage

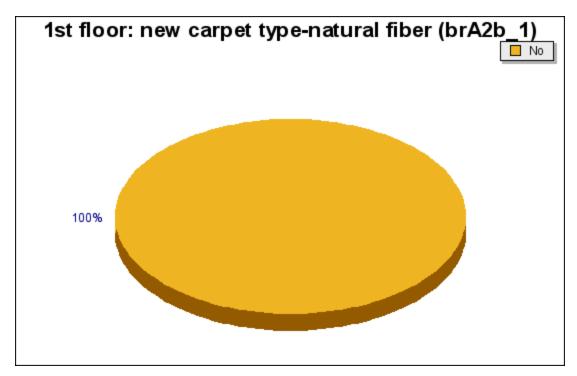
Building Renovations: 1st Floor



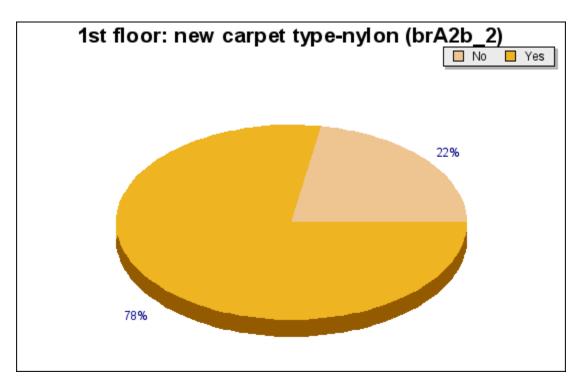
Question brA1: 1st floor: any interior painting



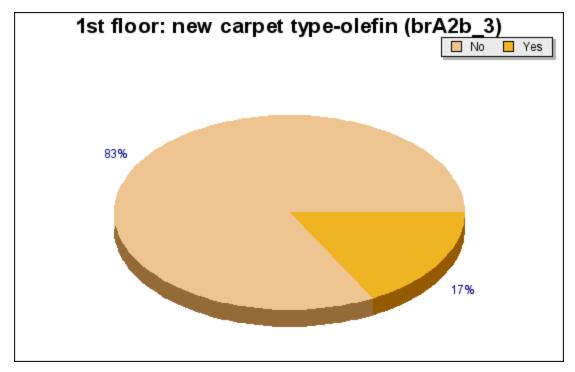
Question brA2: 1st floor: any new carpet installed



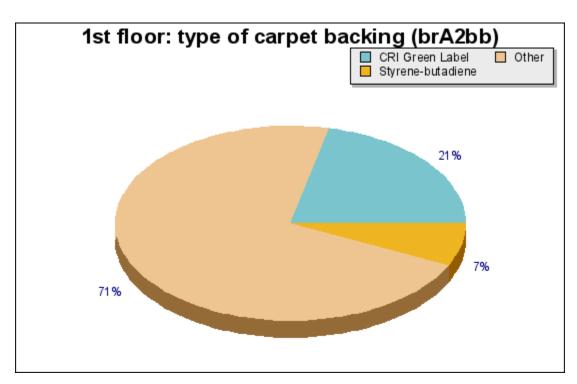
Question brA2b_1: 1st floor: new carpet type-natural fiber



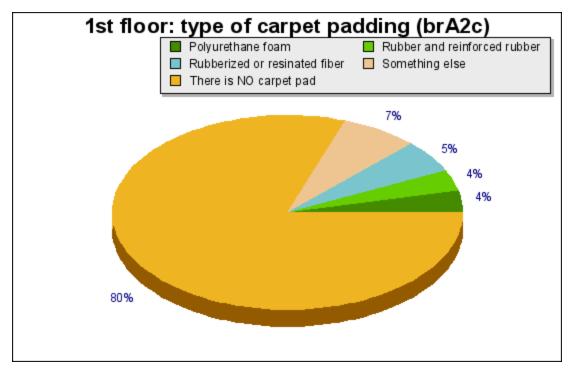
Question brA2b_2: 1st floor: new carpet type-nylon



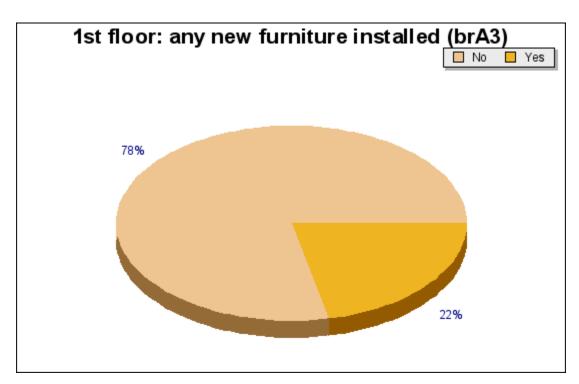
Question brA2b_3: 1st floor: new carpet type-olefin



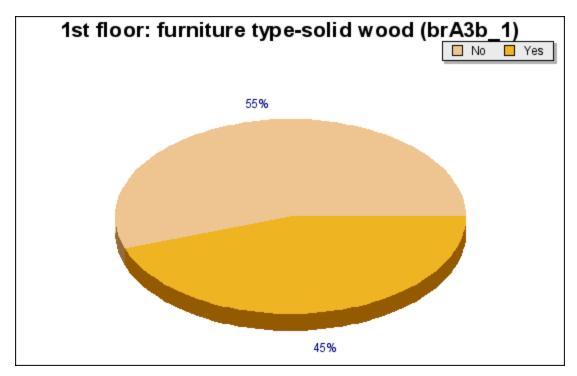
Question brA2bb: 1st floor: type of carpet backing



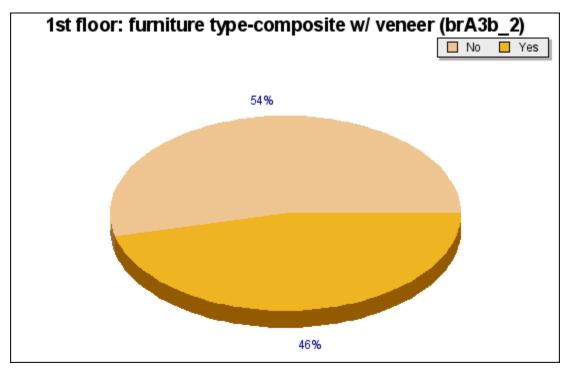
Question brA2c: 1st floor: type of carpet padding



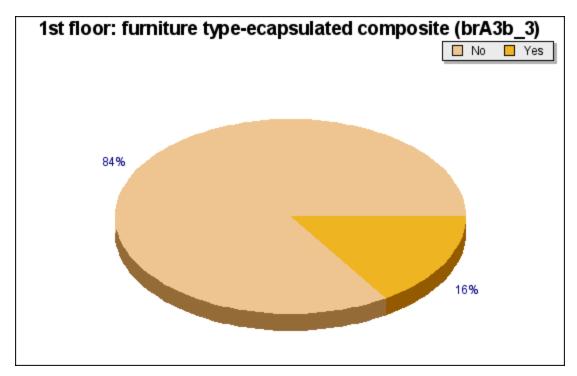
Question brA3: 1st floor: any new furniture installed



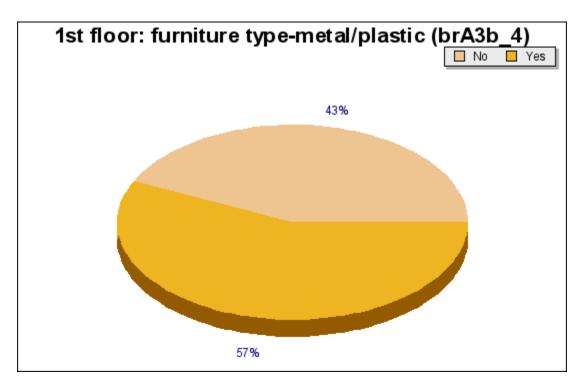
Question brA3b_1: 1st floor: furniture type-solid wood



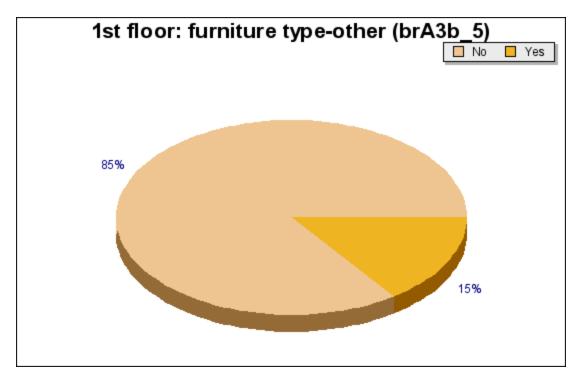
Question brA3b_2: 1st floor: furniture type-composite w/ veneer



Question brA3b_3: 1st floor: furniture type-ecapsulated composite



Question brA3b_4: 1st floor: furniture type-metal/plastic

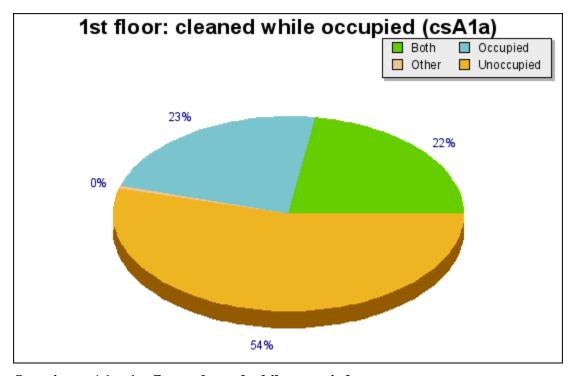


Question brA3b_5: 1st floor: furniture type-other

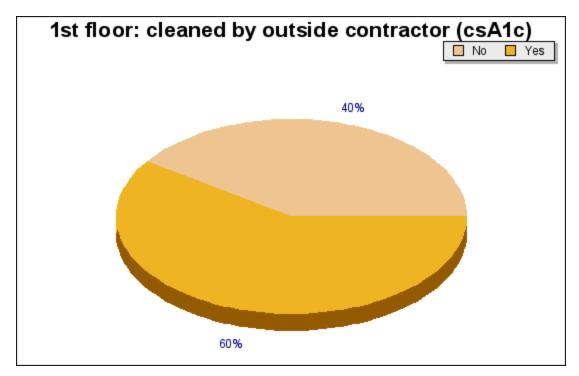
Cleaning Schedule: 1st Floor



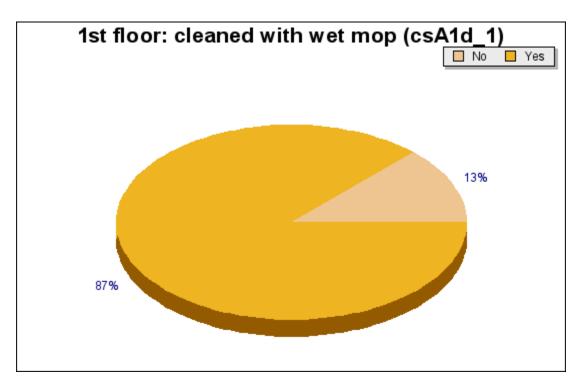
Question csA1: 1st floor: cleaned on regular schedule



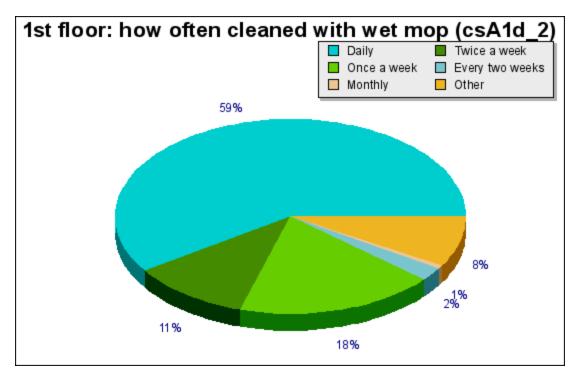
Question csA1a: 1st floor: cleaned while occupied



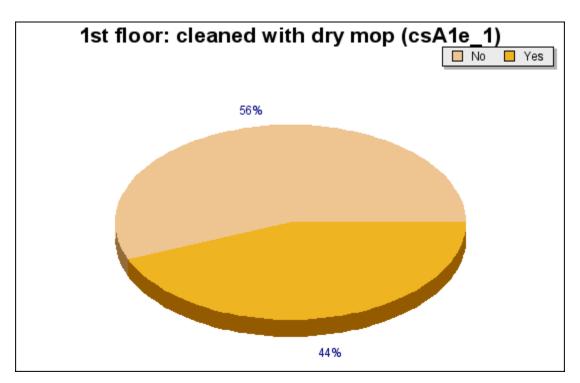
Question csA1c: 1st floor: cleaned by outside contractor



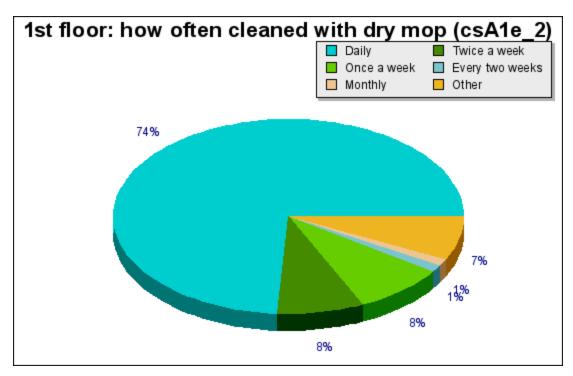
Question csA1d_1: 1st floor: cleaned with wet mop



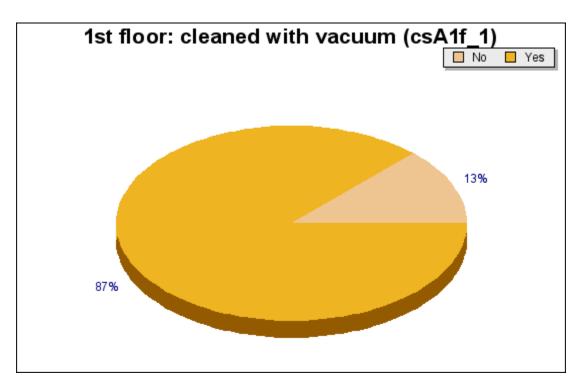
Question csA1d_2: 1st floor: how often cleaned with wet mop



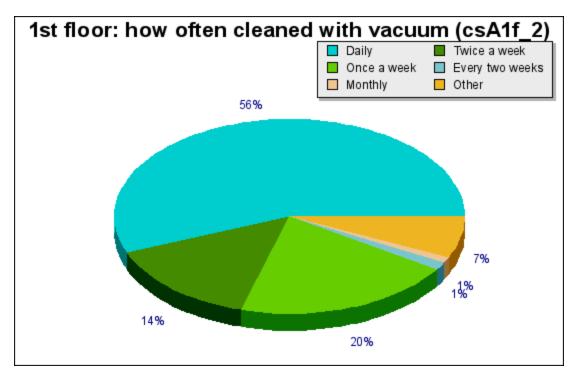
Question csA1e_1: 1st floor: cleaned with dry mop



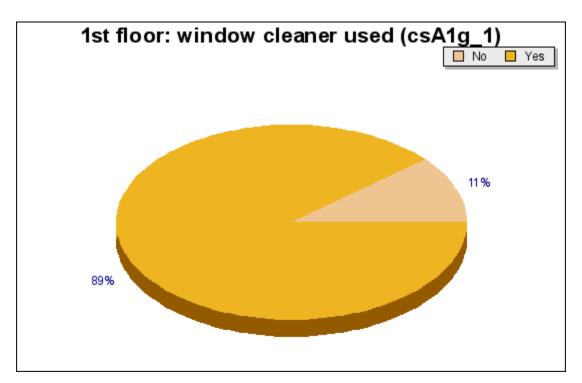
Question csA1e_2: 1st floor: how often cleaned with dry mop



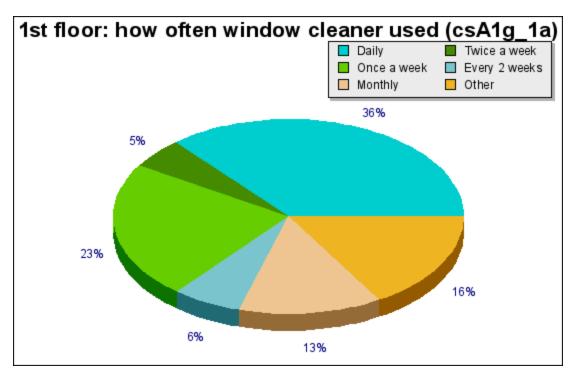
Question csA1f_1: 1st floor: cleaned with vacuum



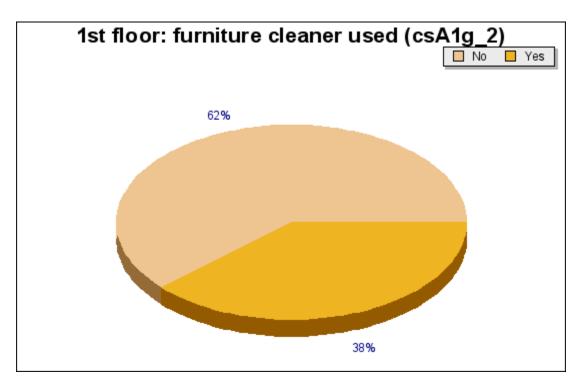
Question csA1f_2: 1st floor: how often cleaned with vacuum



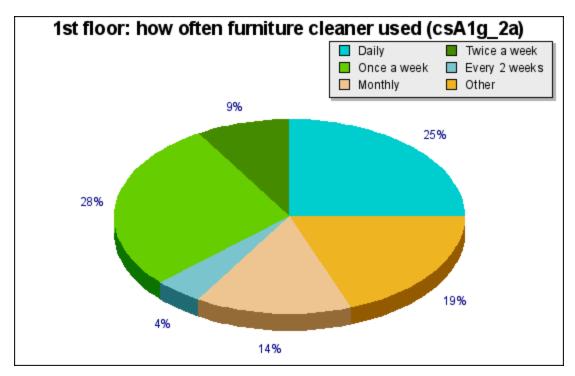
Question csA1g_1: 1st floor: window cleaner used



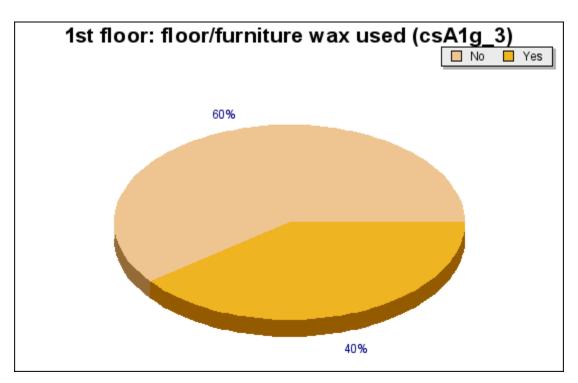
Question csA1g_1a: 1st floor: how often window cleaner used



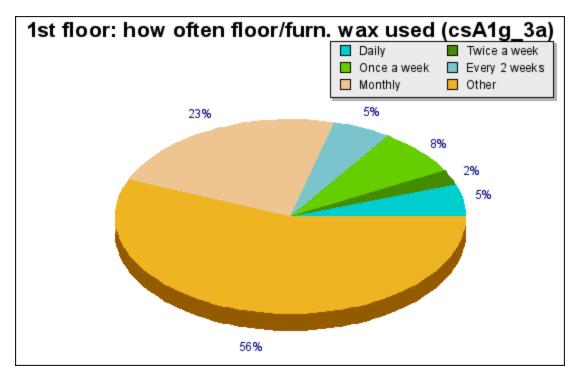
Question csA1g_2: 1st floor: furniture cleaner used



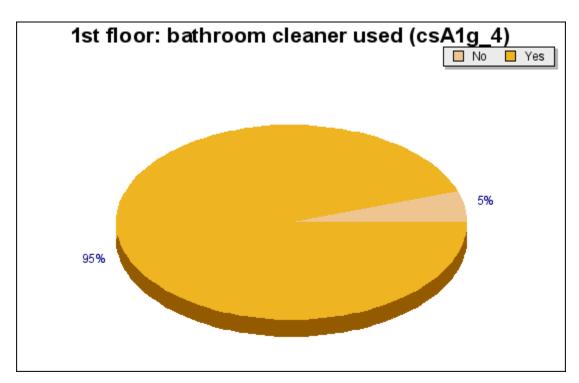
Question csA1g_2a: 1st floor: how often furniture cleaner used



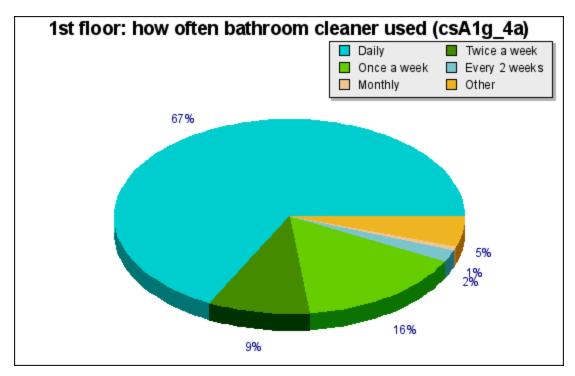
Question csA1g_3: 1st floor: floor/furniture wax used



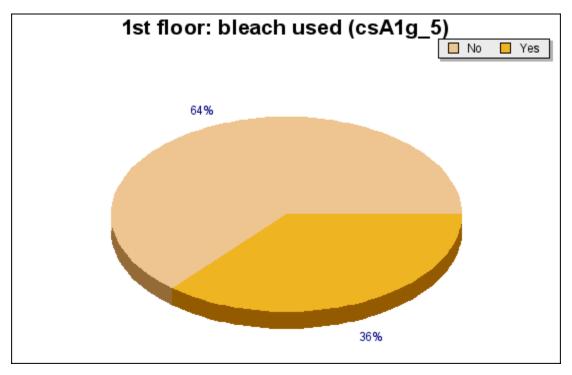
Question csA1g_3a: 1st floor: how often floor/furn. wax used



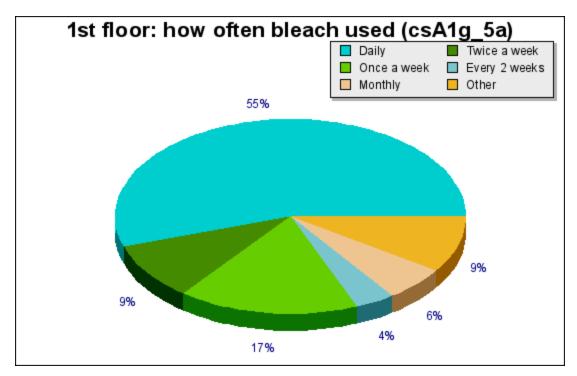
Question csA1g_4: 1st floor: bathroom cleaner used



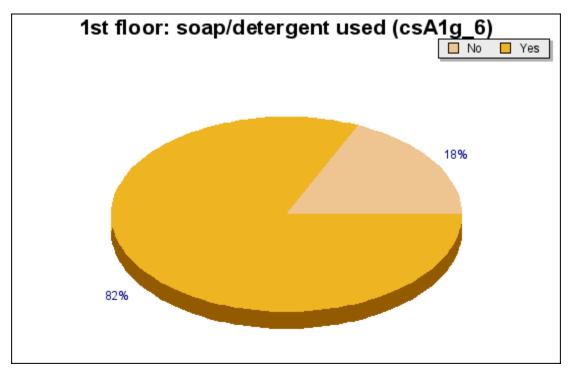
Question csA1g_4a: 1st floor: how often bathroom cleaner used



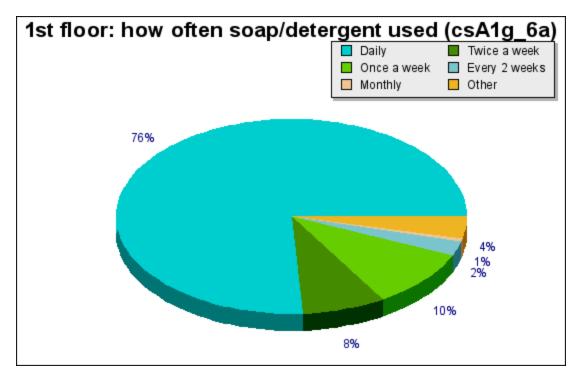
Question csA1g_5: 1st floor: bleach used



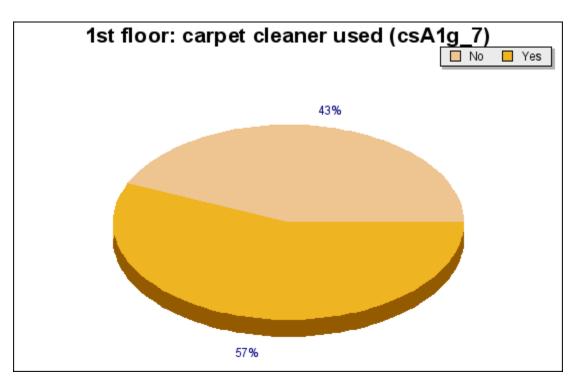
Question csA1g_5a: 1st floor: how often bleach used



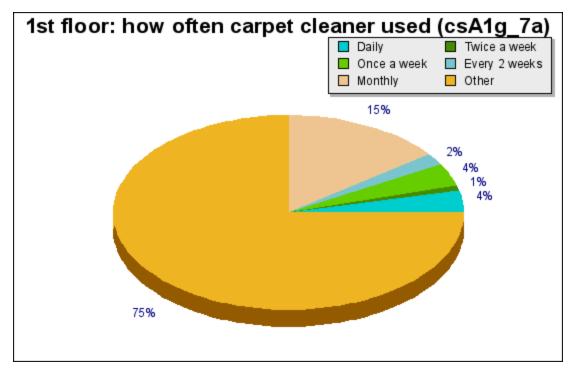
Question csA1g_6: 1st floor: soap/detergent used



Question csA1g_6a: 1st floor: how often soap/detergent used



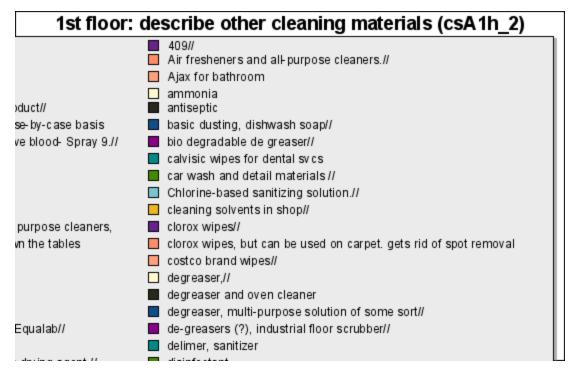
Question csA1g_7: 1st floor: carpet cleaner used



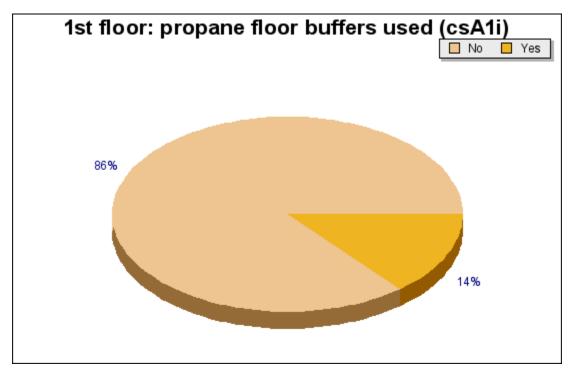
Question csA1g_7a: 1st floor: how often carpet cleaner used



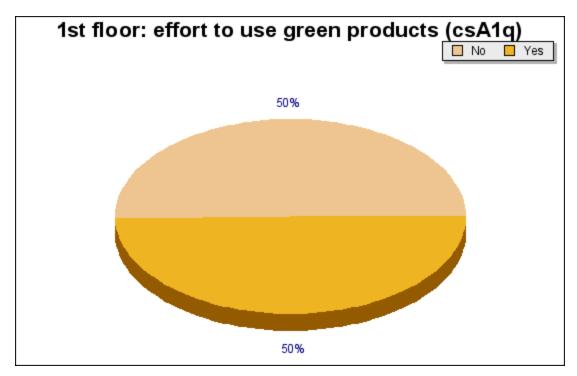
Question csA1h_1: 1st floor: other cleaning materials used



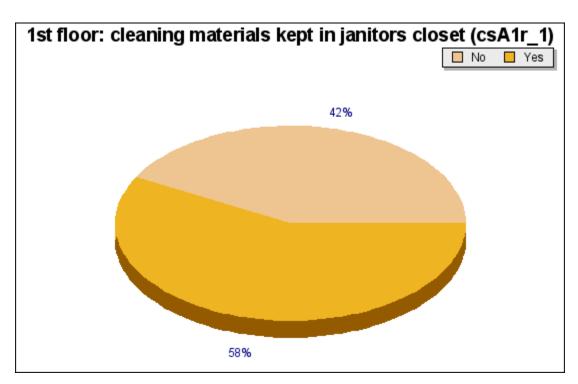
Question csA1h_2: 1st floor: describe other cleaning materials



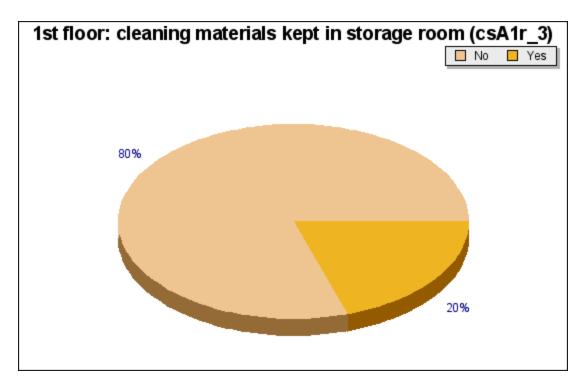
Question csA1i: 1st floor: propane floor buffers used



Question csA1q: 1st floor: effort to use green products

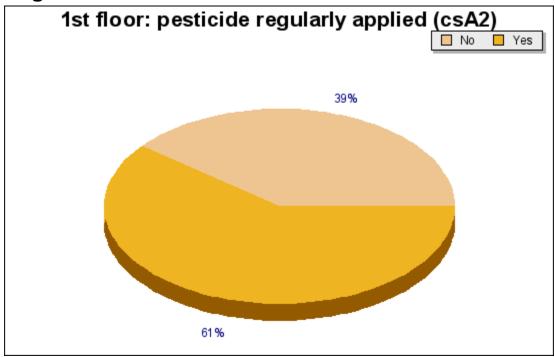


Question csA1r_1: 1st floor: cleaning materials kept in janitors closet

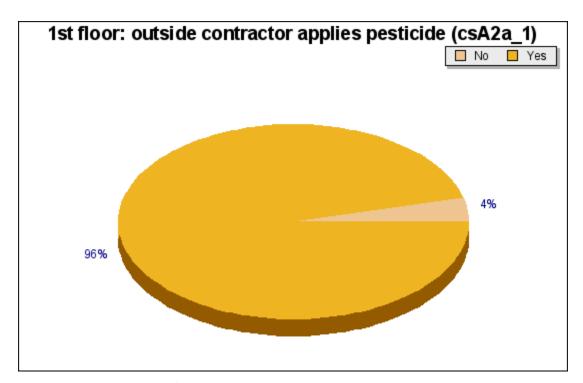


Question csA1r_3: 1st floor: cleaning materials kept in storage room

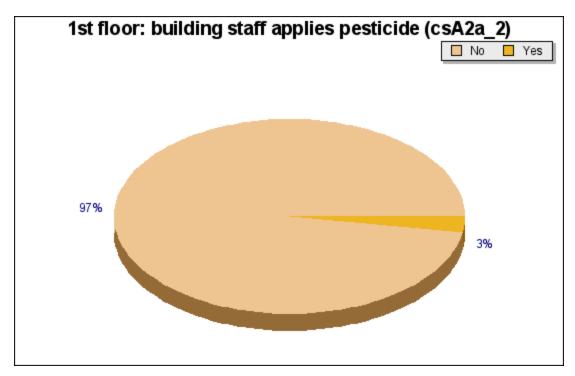
Regular Interior/exterior Pesticide: 1st Floor



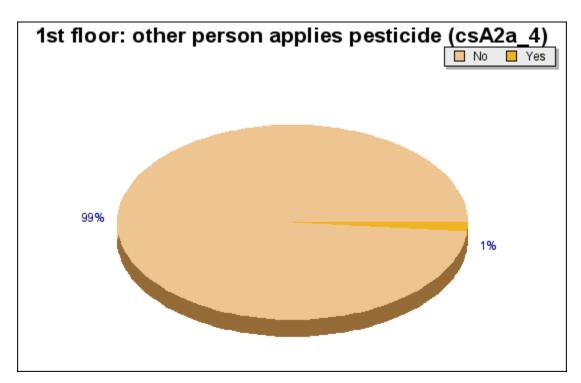
Question csA2: 1st floor: pesticide regularly applied



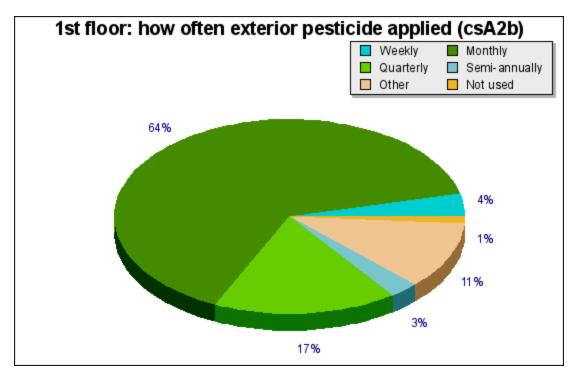
Question csA2a_1: 1st floor: outside contractor applies pesticide



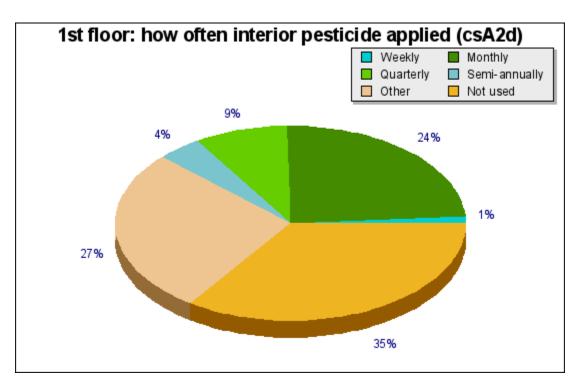
Question csA2a_2: 1st floor: building staff applies pesticide



Question csA2a_4: 1st floor: other person applies pesticide

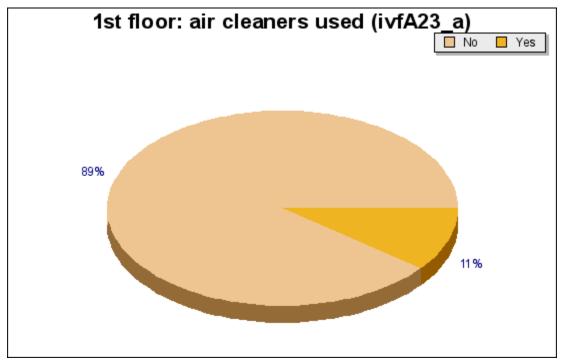


Question csA2b: 1st floor: how often exterior pesticide applied

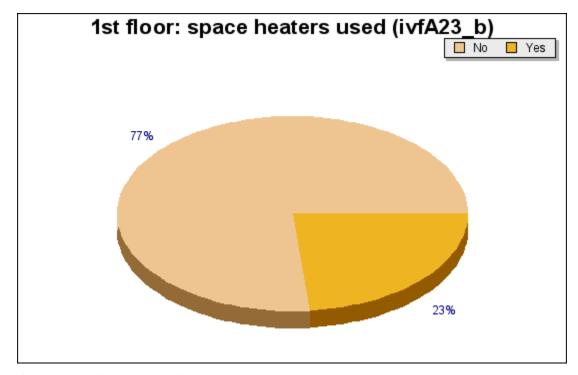


Question csA2d: 1st floor: how often interior pesticide applied

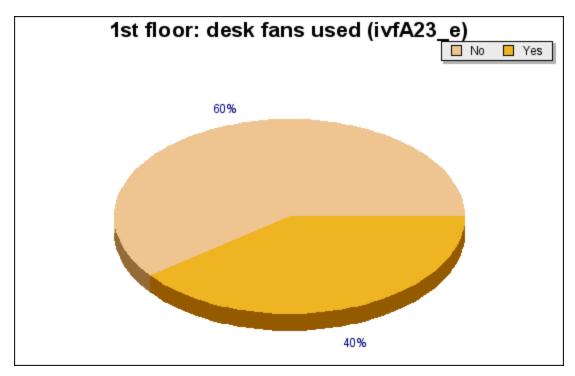
Indoor Ventilation Fixtures: 1st Floor



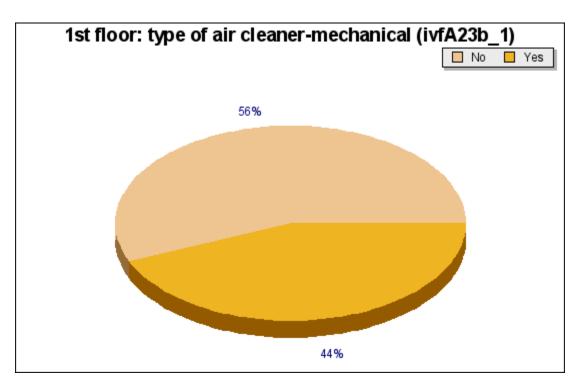
Question ivfA23_a: 1st floor: air cleaners used



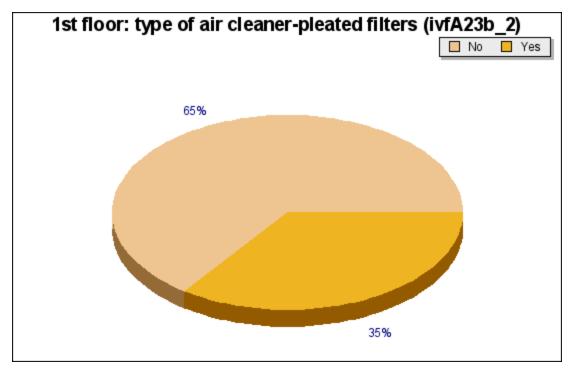
Question ivfA23_b: 1st floor: space heaters used



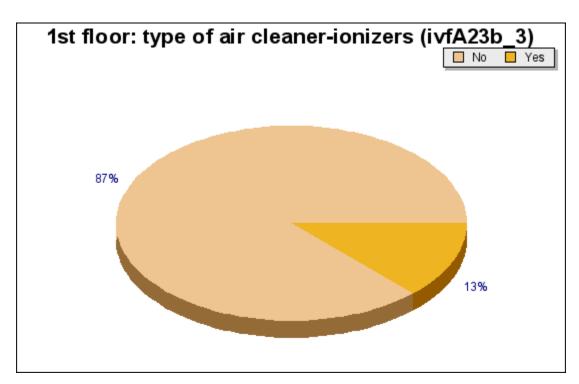
Question ivfA23_e: 1st floor: desk fans used



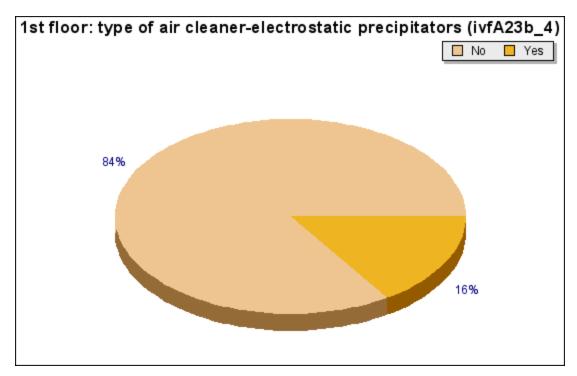
Question ivfA23b_1: 1st floor: type of air cleaner-mechanical



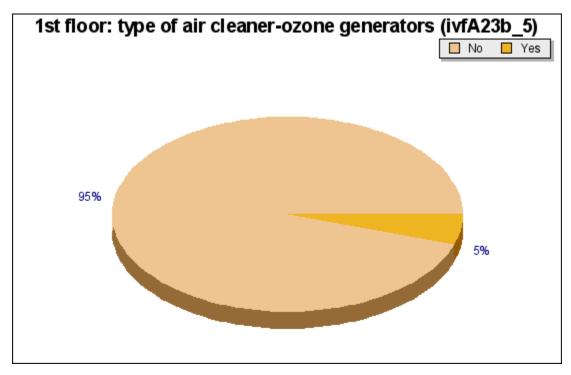
Question ivfA23b_2: 1st floor: type of air cleaner-pleated filters



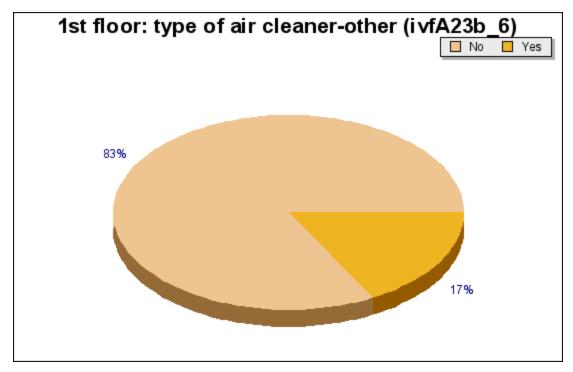
Question ivfA23b_3: 1st floor: type of air cleaner-ionizers



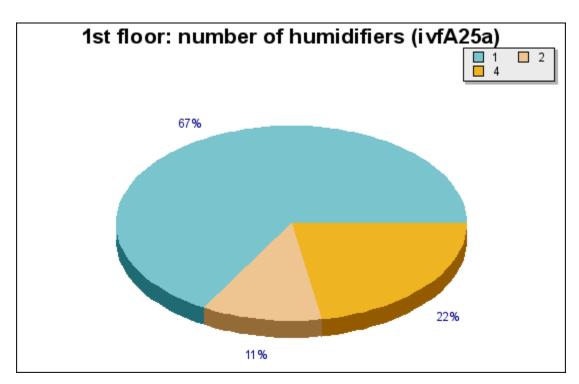
Question ivfA23b_4: 1st floor: type of air cleaner-electrostatic precipitators



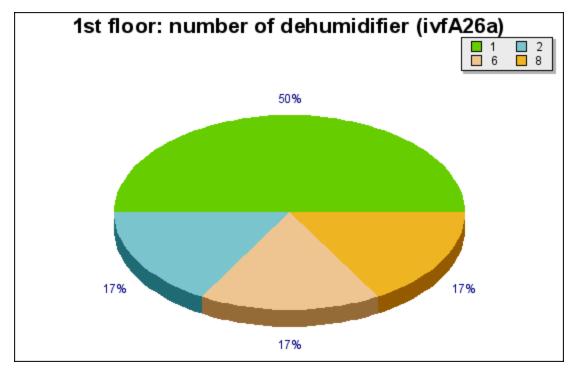
Question ivfA23b_5: 1st floor: type of air cleaner-ozone generators



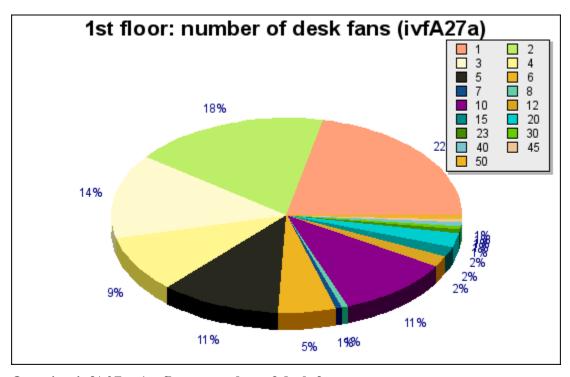
Question ivfA23b_6: 1st floor: type of air cleaner-other



Question ivfA25a: 1st floor: number of humidifiers

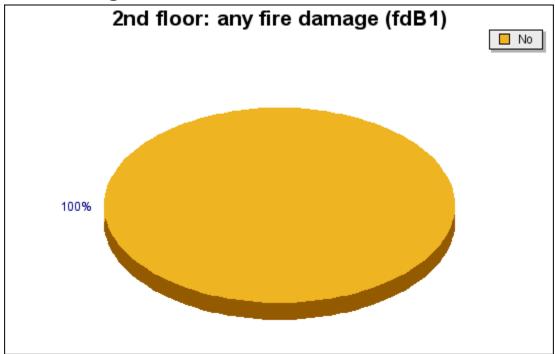


Question ivfA26a: 1st floor: number of dehumidifier



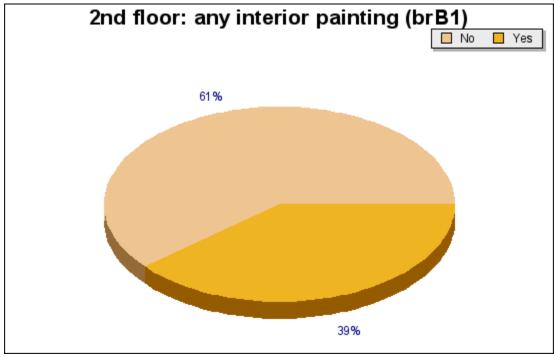
Question ivfA27a: 1st floor: number of desk fans

Fire Damage: 2nd Floor

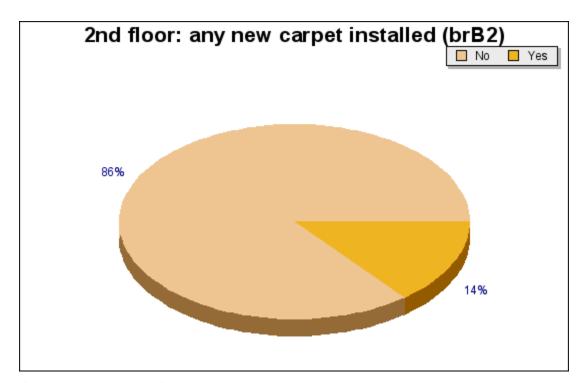


Question fdB1: 2nd floor: any fire damage

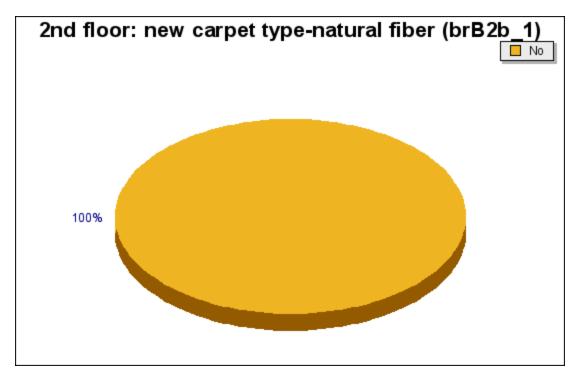
Building Renovations: 2nd Floor



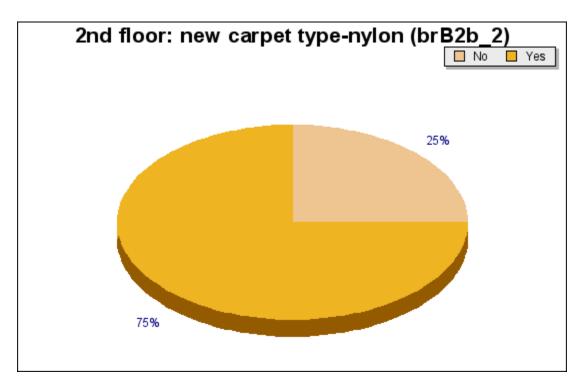
Question brB1: 2nd floor: any interior painting



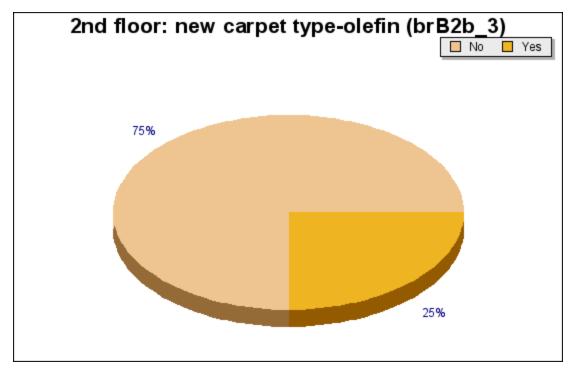
Question brB2: 2nd floor: any new carpet installed



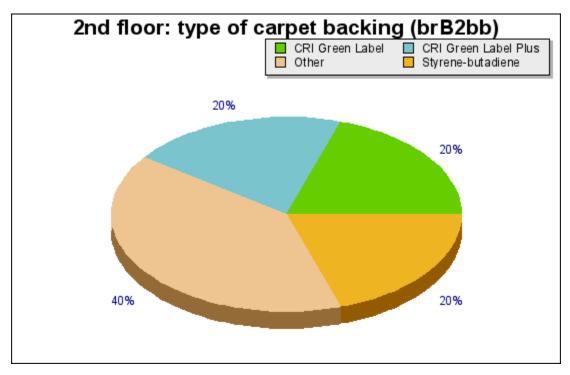
Question brB2b_1: 2nd floor: new carpet type-natural fiber



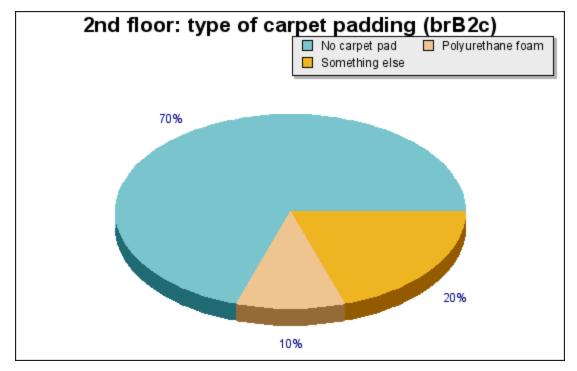
Question brB2b_2: 2nd floor: new carpet type-nylon



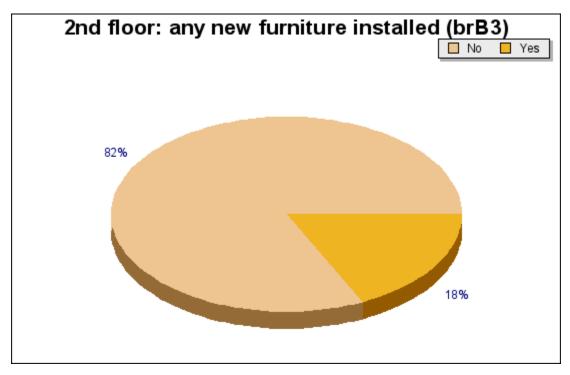
Question brB2b_3: 2nd floor: new carpet type-olefin



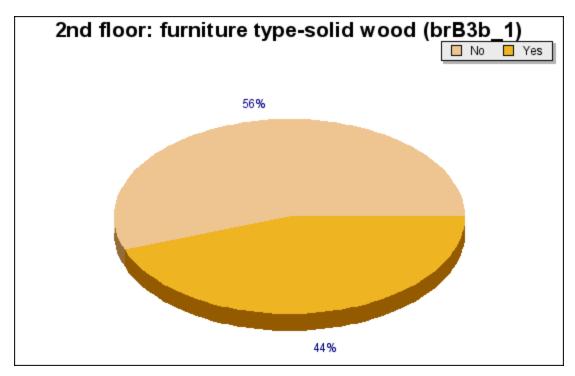
Question brB2bb: 2nd floor: type of carpet backing



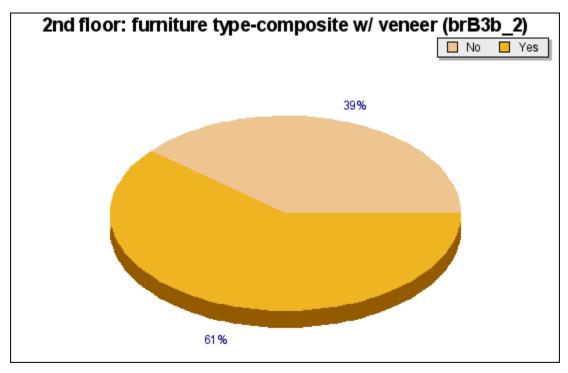
Question brB2c: 2nd floor: type of carpet padding



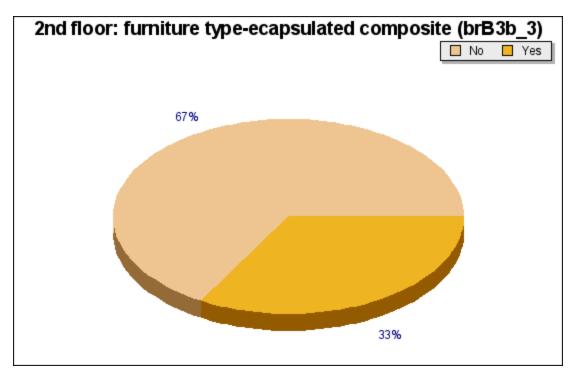
Question brB3: 2nd floor: any new furniture installed



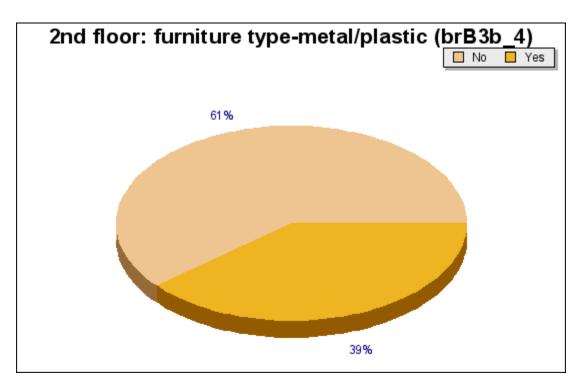
Question brB3b_1: 2nd floor: furniture type-solid wood



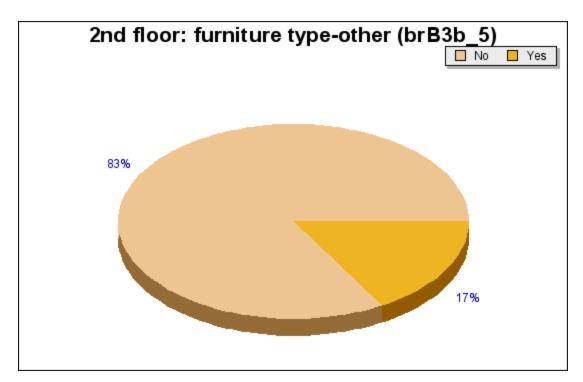
Question brB3b_2: 2nd floor: furniture type-composite w/ veneer



Question brB3b_3: 2nd floor: furniture type-ecapsulated composite

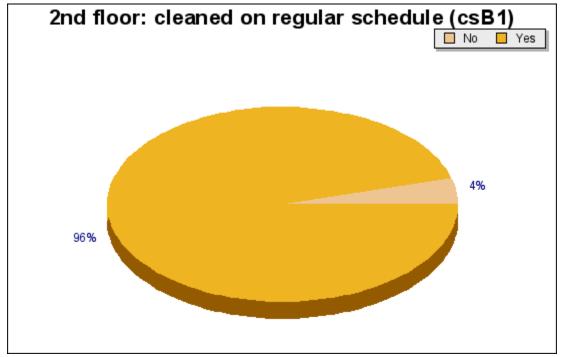


Question brB3b_4: 2nd floor: furniture type-metal/plastic

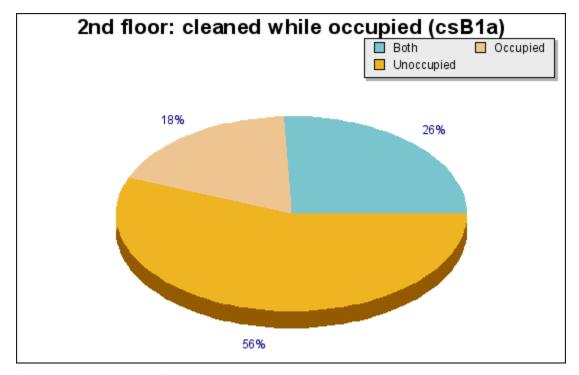


Question brB3b_5: 2nd floor: furniture type-other

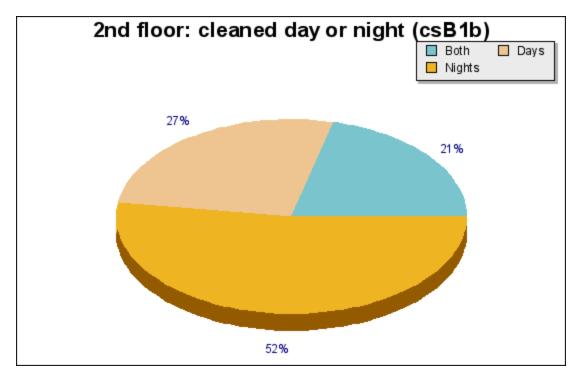
Cleaning Schedule: 2nd Floor



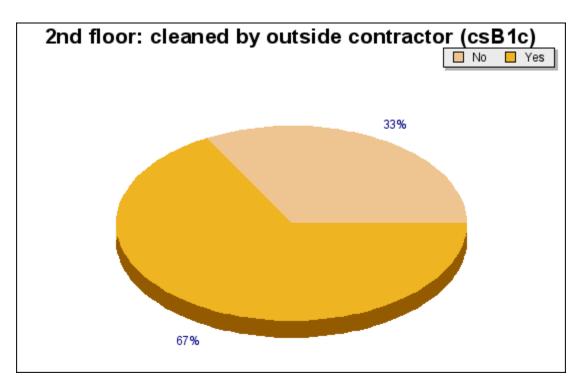
Question csB1: 2nd floor: cleaned on regular schedule



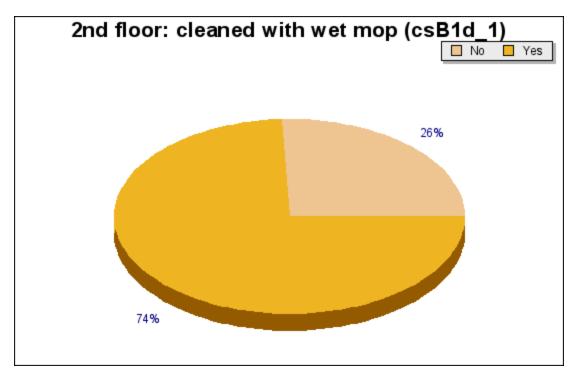
Question csB1a: 2nd floor: cleaned while occupied



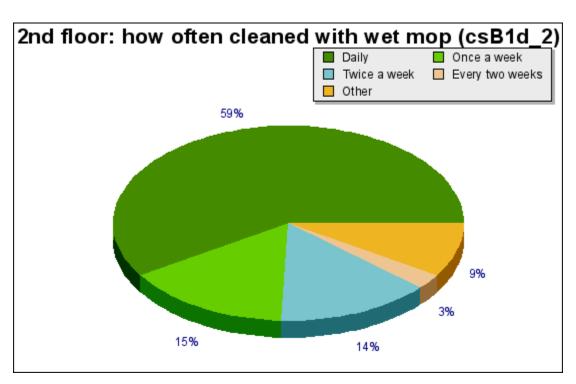
Question csB1b: 2nd floor: cleaned day or night



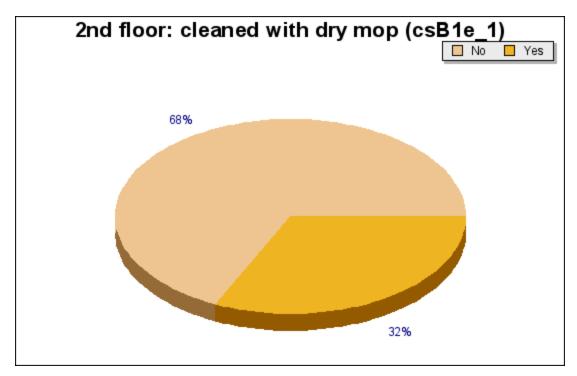
Question csB1c: 2nd floor: cleaned by outside contractor



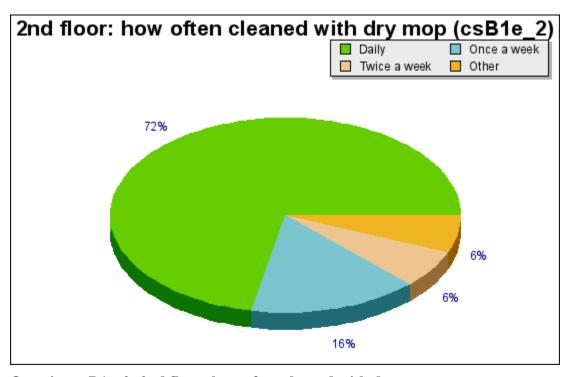
Question csB1d_1: 2nd floor: cleaned with wet mop



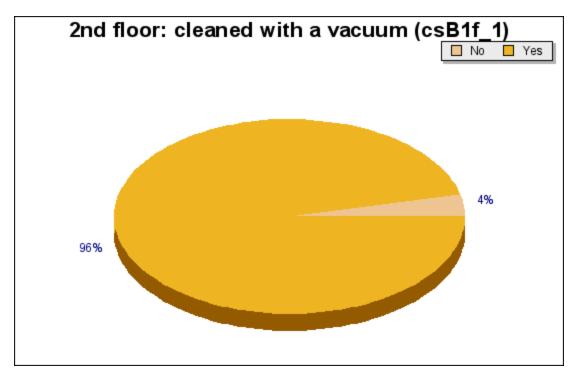
Question csB1d_2: 2nd floor: how often cleaned with wet mop



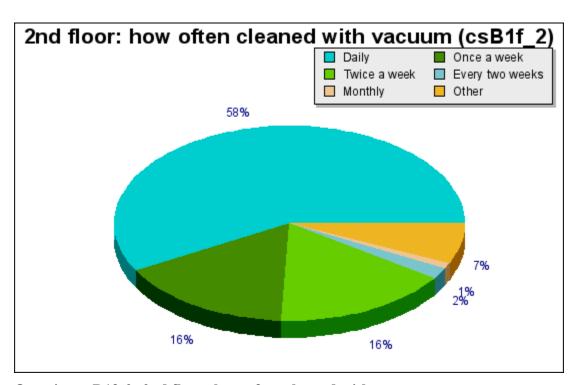
Question csB1e_1: 2nd floor: cleaned with dry mop



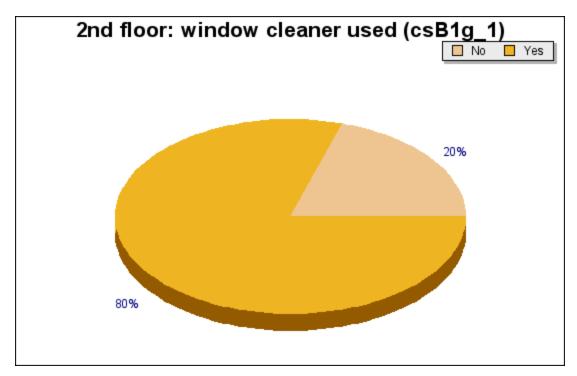
Question csB1e_2: 2nd floor: how often cleaned with dry mop



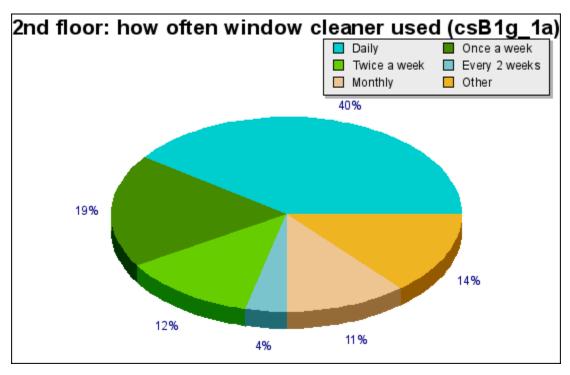
Question csB1f_1: 2nd floor: cleaned with a vacuum



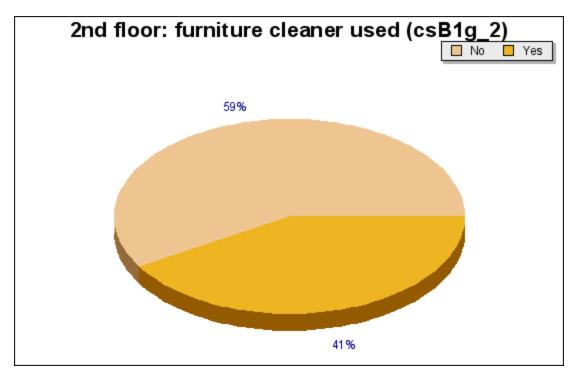
Question csB1f_2: 2nd floor: how often cleaned with vacuum



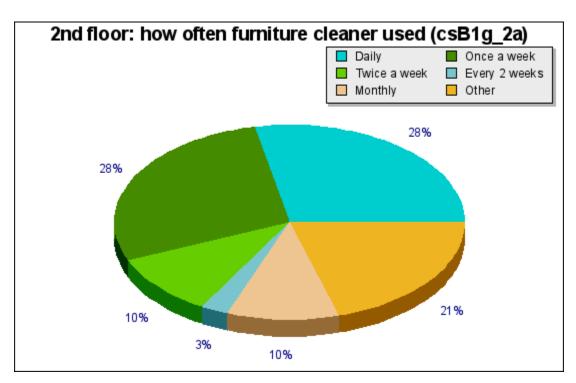
Question csB1g_1: 2nd floor: window cleaner used



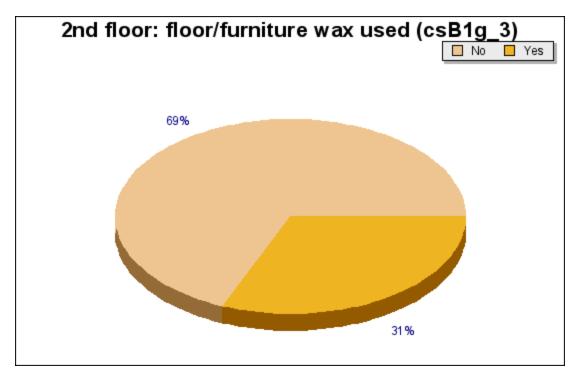
Question csB1g_1a: 2nd floor: how often window cleaner used



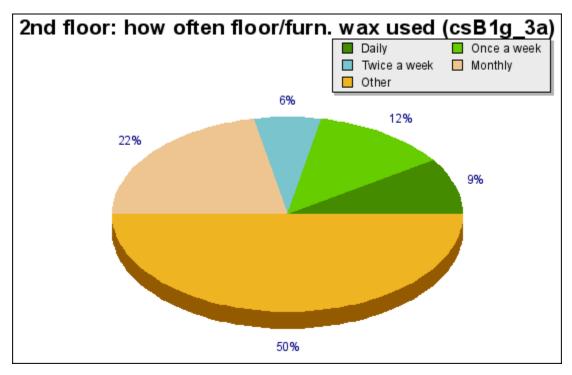
Question csB1g_2: 2nd floor: furniture cleaner used



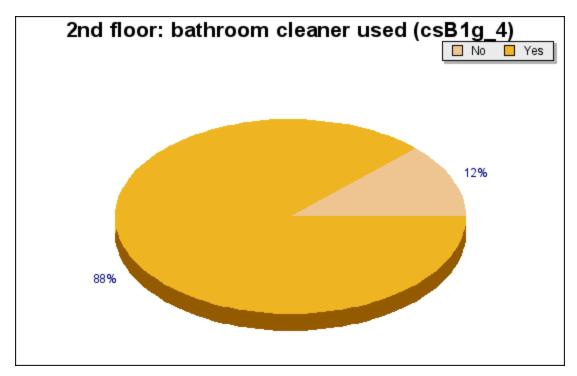
Question csB1g_2a: 2nd floor: how often furniture cleaner used



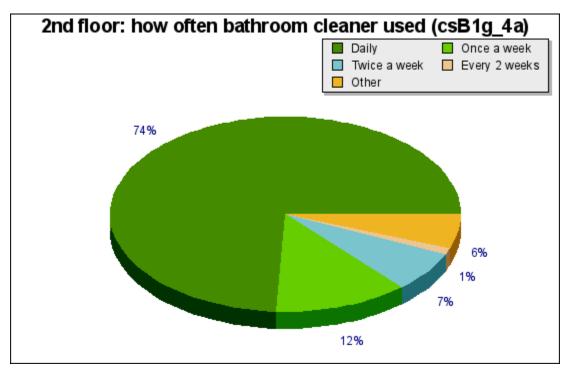
Question csB1g_3: 2nd floor: floor/furniture wax used



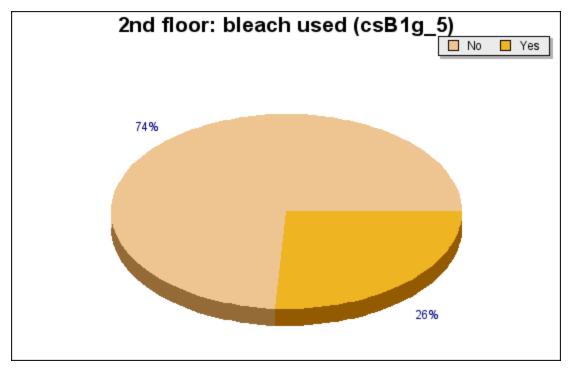
Question csB1g_3a: 2nd floor: how often floor/furn. wax used



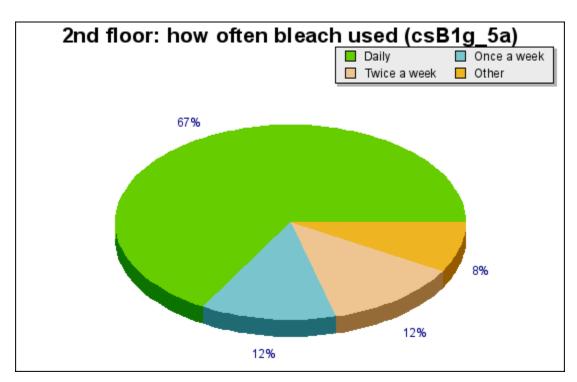
Question csB1g_4: 2nd floor: bathroom cleaner used



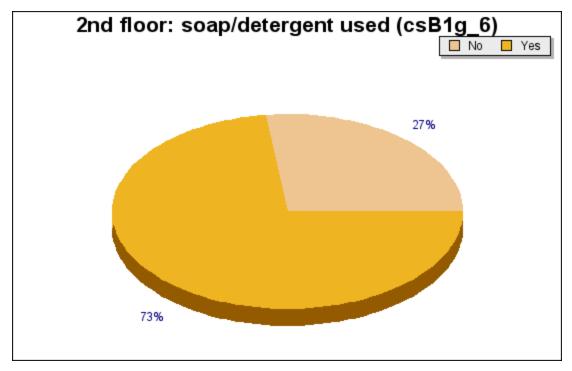
Question csB1g_4a: 2nd floor: how often bathroom cleaner used



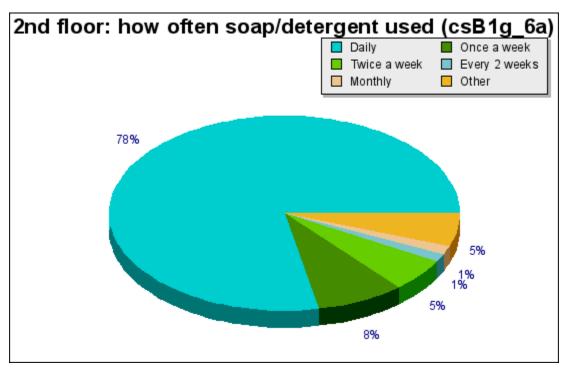
Question csB1g_5: 2nd floor: bleach used



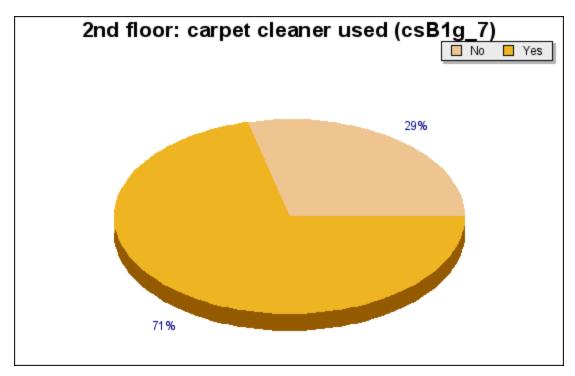
Question csB1g_5a: 2nd floor: how often bleach used



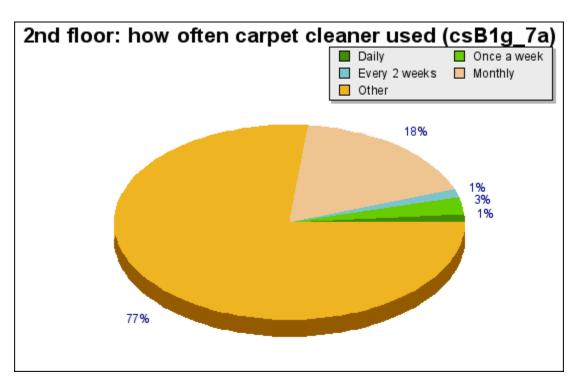
Question csB1g_6: 2nd floor: soap/detergent used



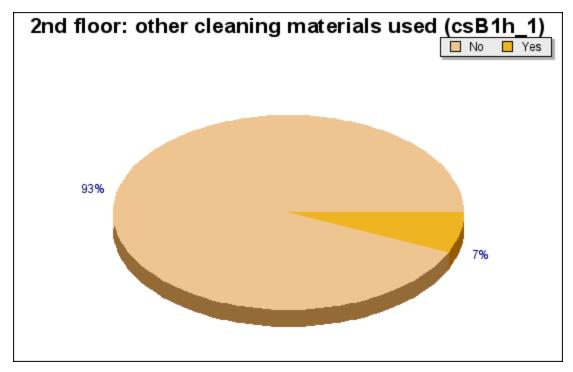
Question csB1g_6a: 2nd floor: how often soap/detergent used



Question csB1g_7: 2nd floor: carpet cleaner used



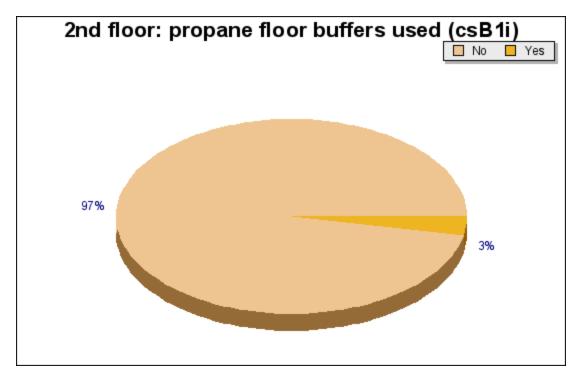
Question csB1g_7a: 2nd floor: how often carpet cleaner used



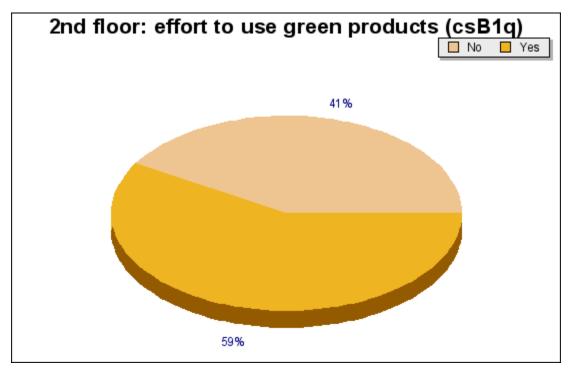
Question csB1h_1: 2nd floor: other cleaning materials used



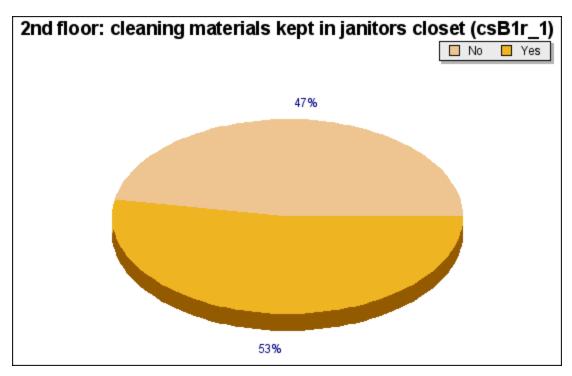
Question csB1h_2: 2nd floor: describe other cleaning materials



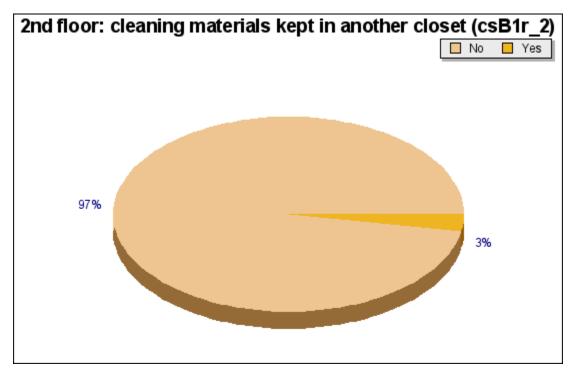
Question csB1i: 2nd floor: propane floor buffers used



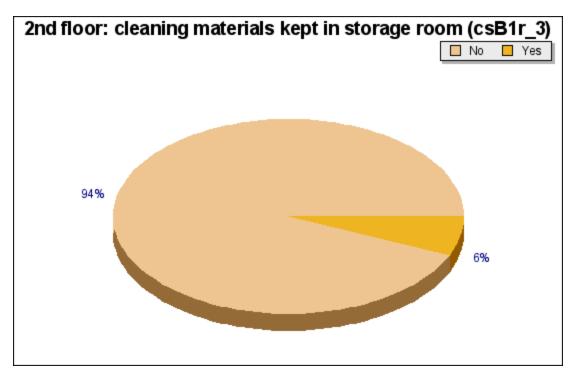
Question csB1q: 2nd floor: effort to use green products



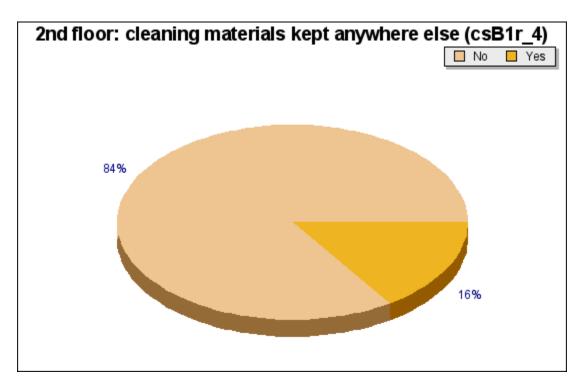
Question csB1r_1: 2nd floor: cleaning materials kept in janitors closet



Question csB1r_2: 2nd floor: cleaning materials kept in another closet

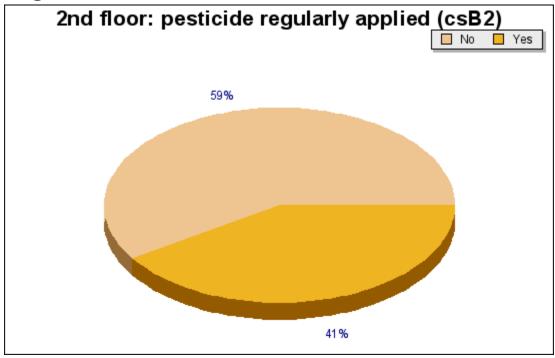


Question csB1r_3: 2nd floor: cleaning materials kept in storage room

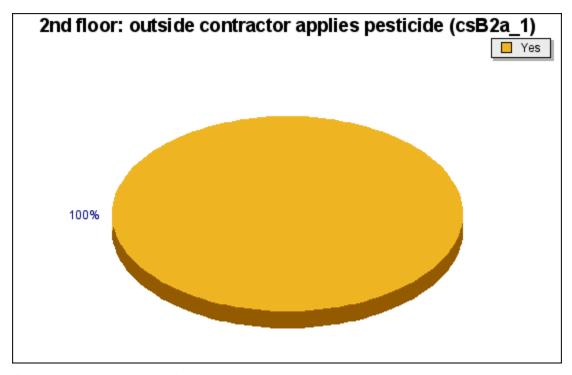


Question csB1r_4: 2nd floor: cleaning materials kept anywhere else

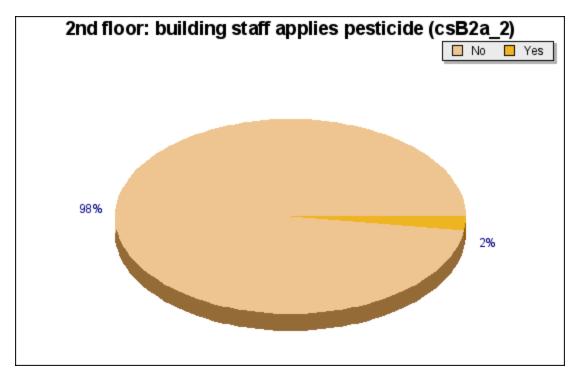
Regular Interior/exterior Pesticide: 2nd Floor



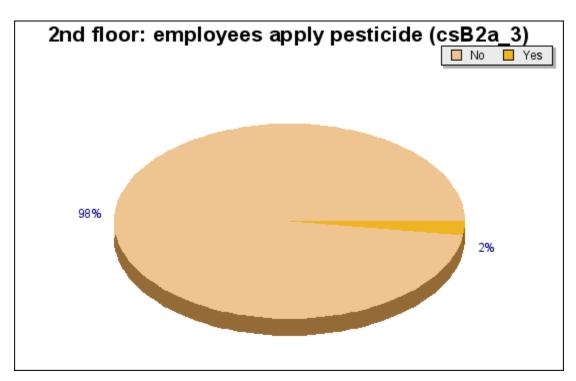
Question csB2: 2nd floor: pesticide regularly applied



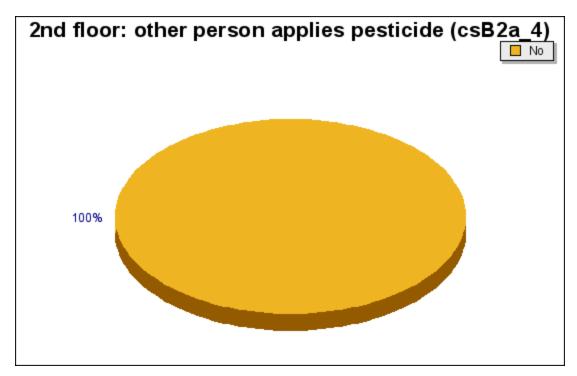
Question csB2a_1: 2nd floor: outside contractor applies pesticide



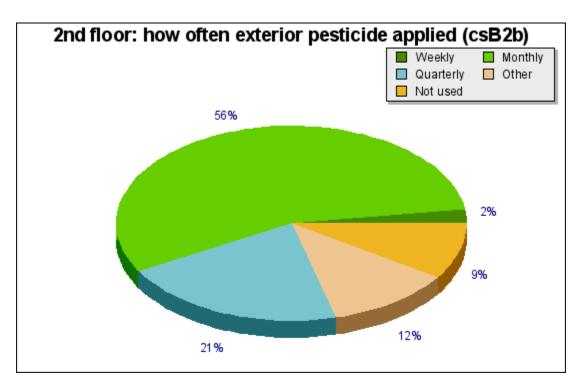
Question csB2a_2: 2nd floor: building staff applies pesticide



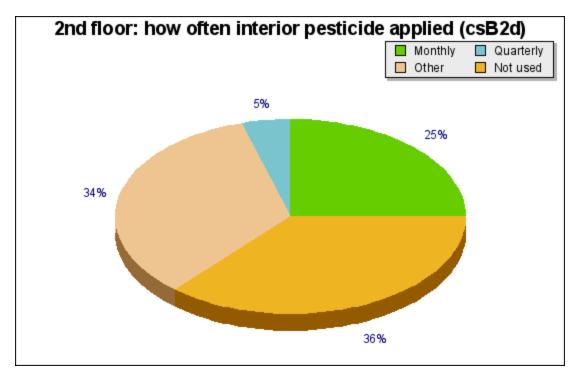
Question csB2a_3: 2nd floor: employees apply pesticide



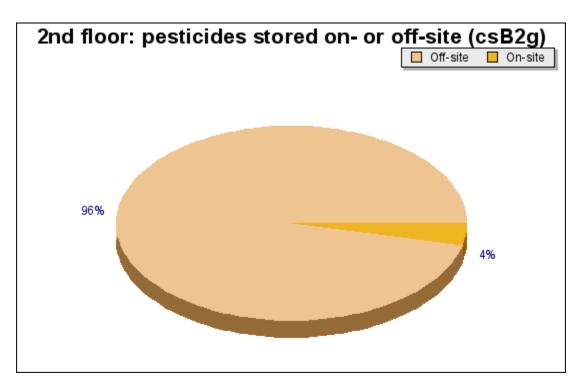
Question csB2a_4: 2nd floor: other person applies pesticide



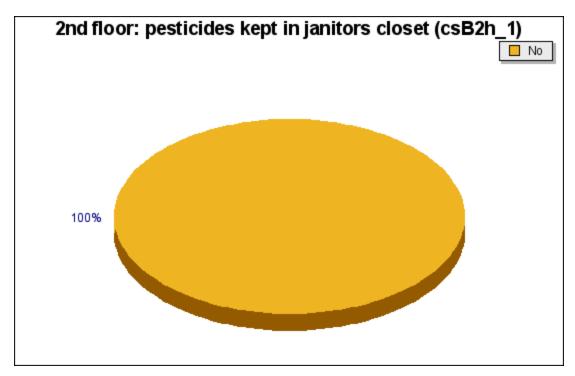
Question csB2b: 2nd floor: how often exterior pesticide applied



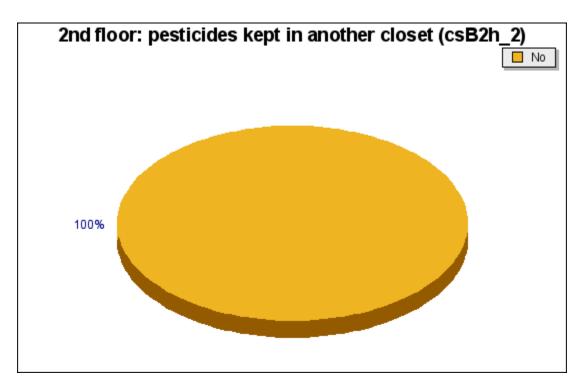
Question csB2d: 2nd floor: how often interior pesticide applied



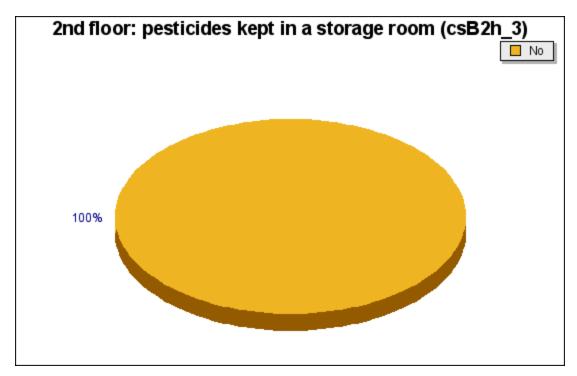
Question csB2g: 2nd floor: pesticides stored on- or off-site



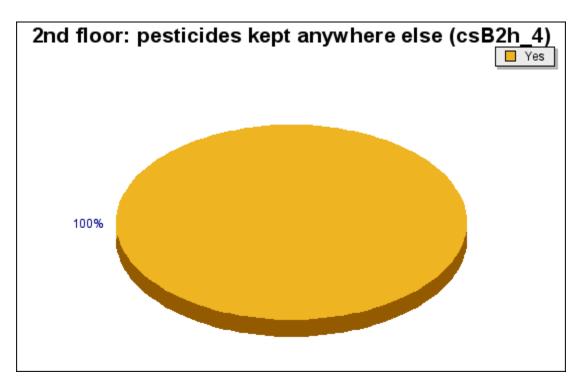
Question csB2h_1: 2nd floor: pesticides kept in janitors closet



Question csB2h_2: 2nd floor: pesticides kept in another closet

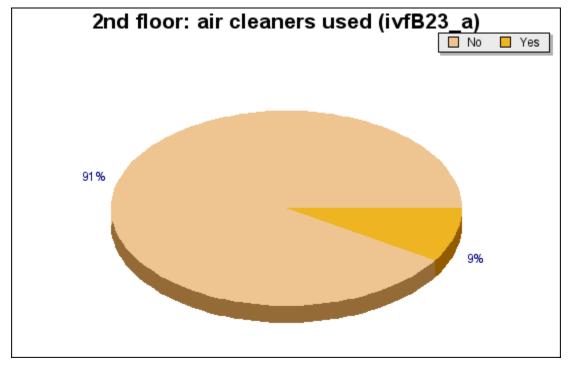


Question csB2h_3: 2nd floor: pesticides kept in a storage room

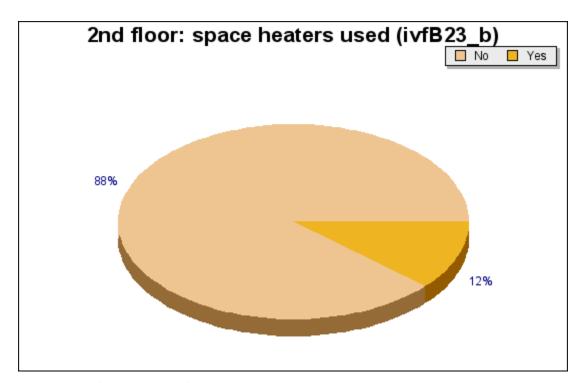


Question csB2h_4: 2nd floor: pesticides kept anywhere else

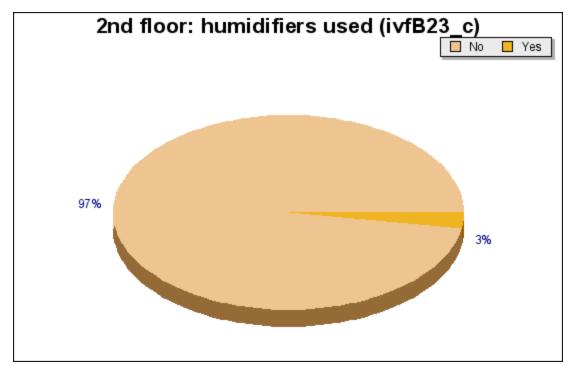
Indoor Ventilation Fixtures: 2nd Floor



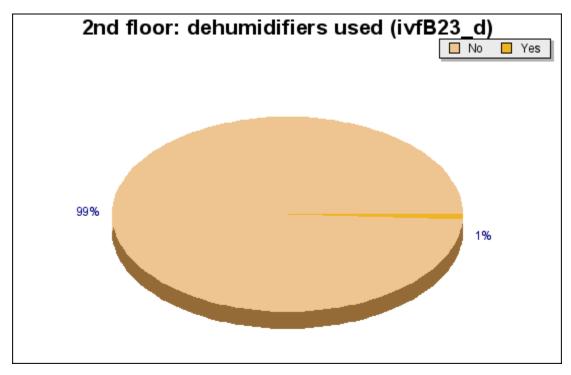
Question ivfB23_a: 2nd floor: air cleaners used



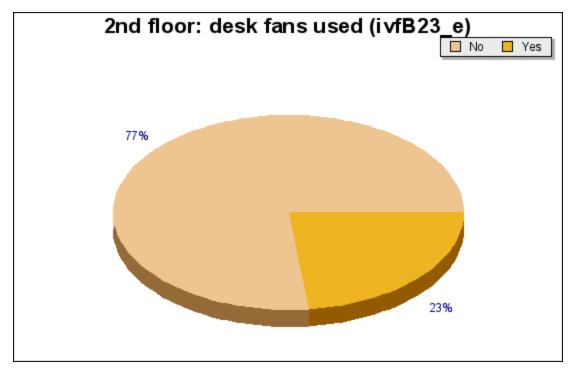
Question ivfB23_b: 2nd floor: space heaters used



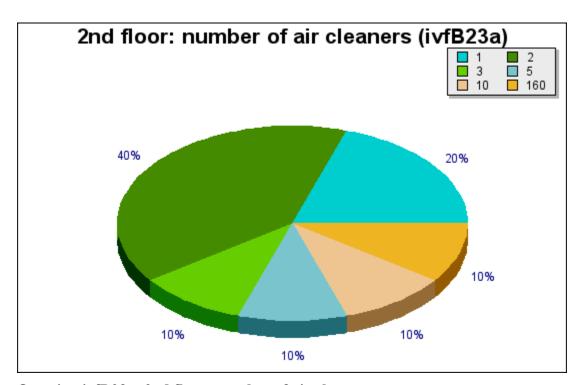
Question ivfB23_c: 2nd floor: humidifiers used



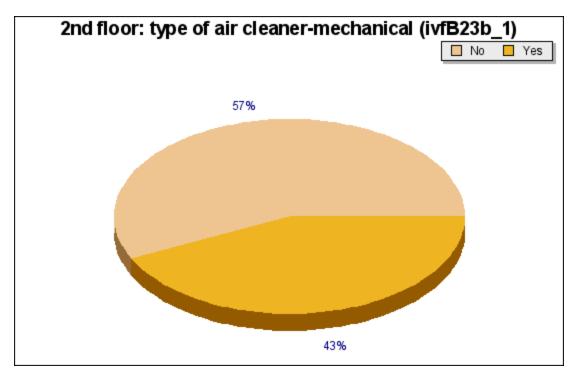
Question ivfB23_d: 2nd floor: dehumidifiers used



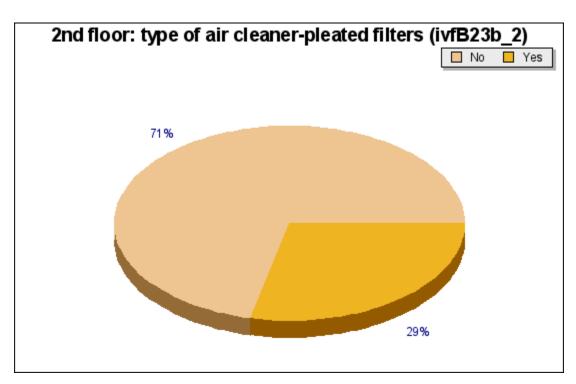
Question ivfB23_e: 2nd floor: desk fans used



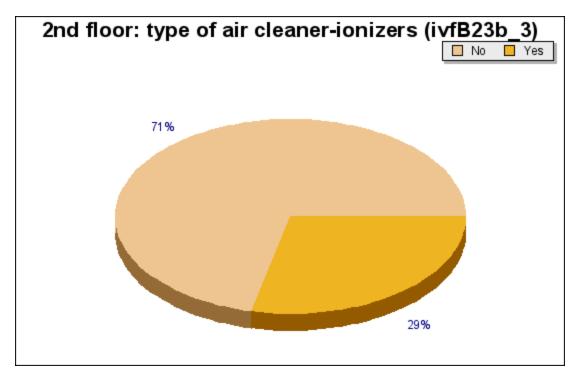
Question ivfB23a: 2nd floor: number of air cleaners



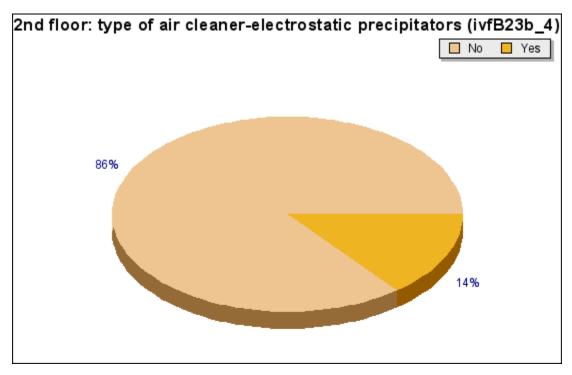
Question ivfB23b_1: 2nd floor: type of air cleaner-mechanical



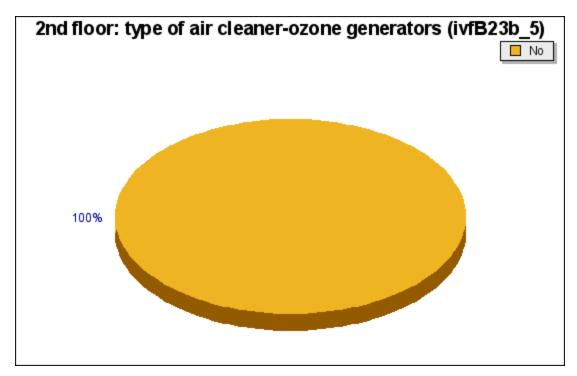
Question ivfB23b_2: 2nd floor: type of air cleaner-pleated filters



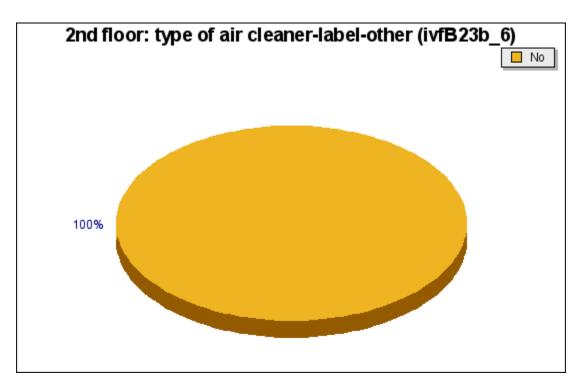
Question ivfB23b_3: 2nd floor: type of air cleaner-ionizers



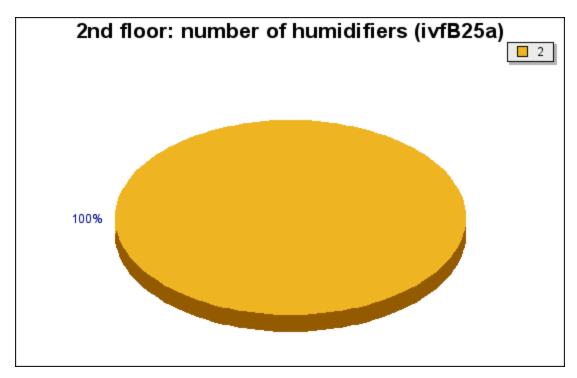
Question ivfB23b_4: 2nd floor: type of air cleaner-electrostatic precipitators



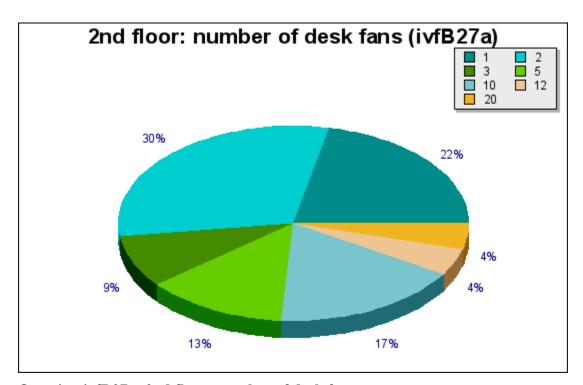
Question ivfB23b_5: 2nd floor: type of air cleaner-ozone generators



Question ivfB23b_6: 2nd floor: type of air cleaner-label-other

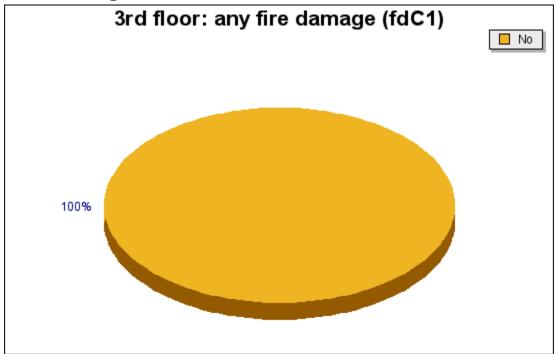


Question ivfB25a: 2nd floor: number of humidifiers



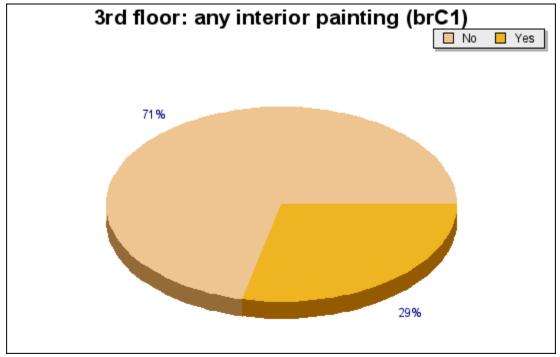
Question ivfB27a: 2nd floor: number of desk fans

Fire Damage: 3rd Floor

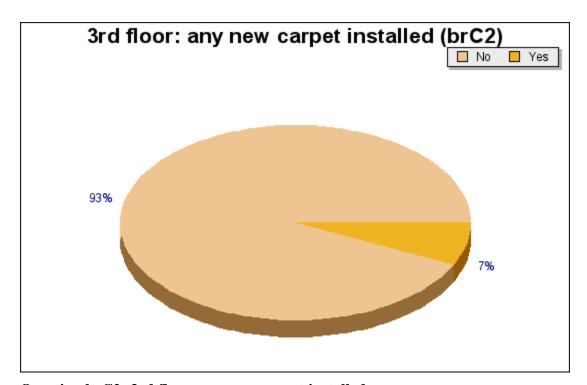


Question fdC1: 3rd floor: any fire damage

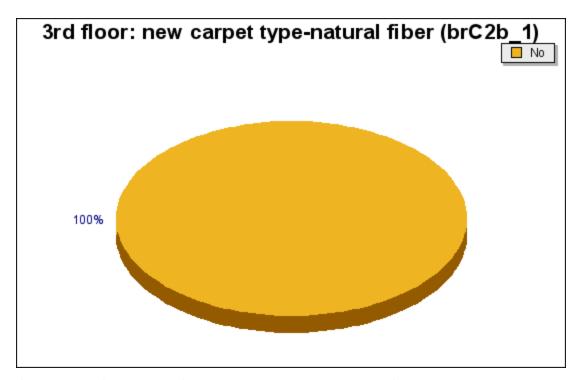
Building Renovations: 3rd Floor



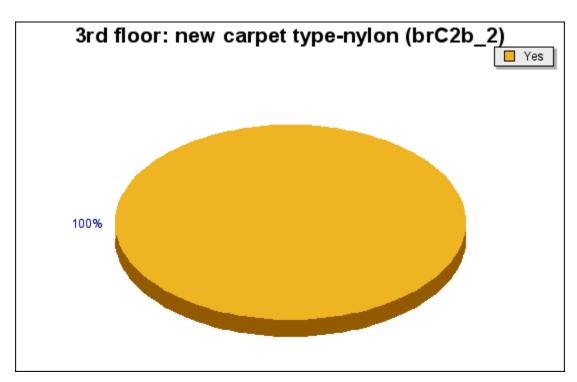
Question brC1: 3rd floor: any interior painting



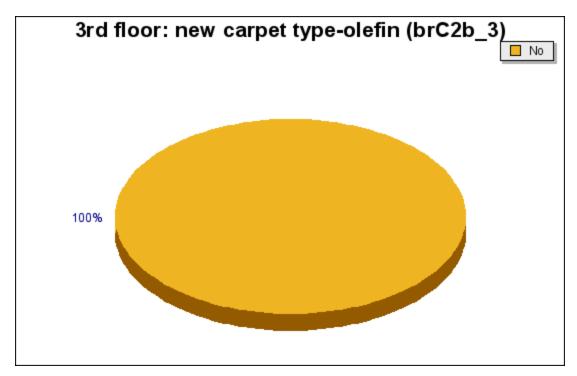
Question brC2: 3rd floor: any new carpet installed



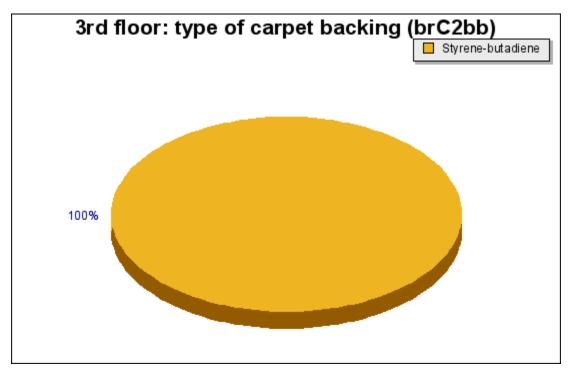
Question brC2b_1: 3rd floor: new carpet type-natural fiber



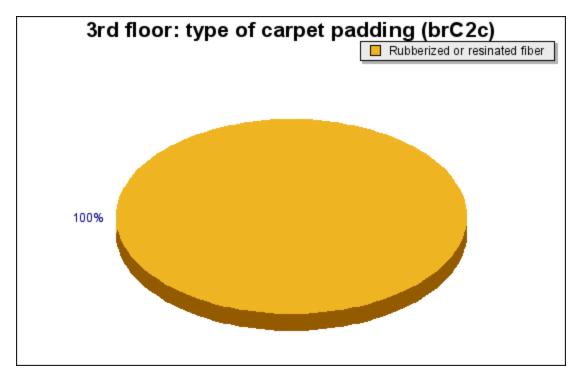
Question brC2b_2: 3rd floor: new carpet type-nylon



Question brC2b_3: 3rd floor: new carpet type-olefin



Question brC2bb: 3rd floor: type of carpet backing

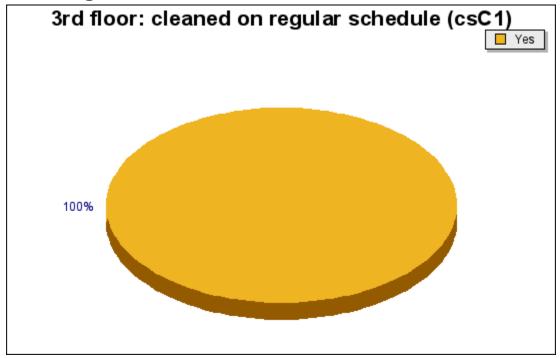


Question brC2c: 3rd floor: type of carpet padding

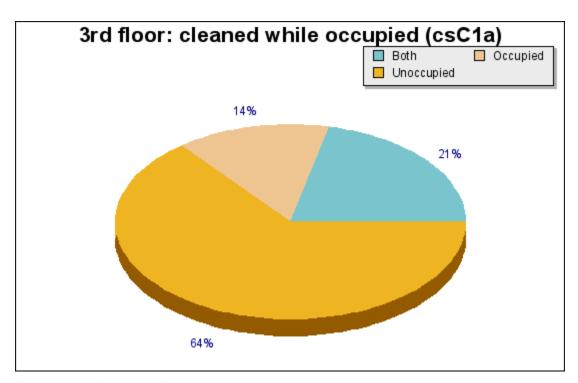


Question brC3: 3rd floor: any new furniture installed

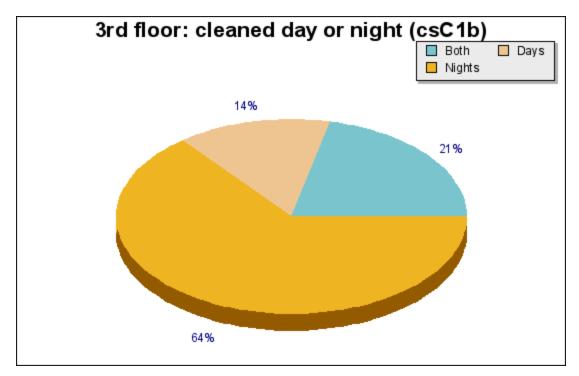
Cleaning Schedules: 3rd Floor



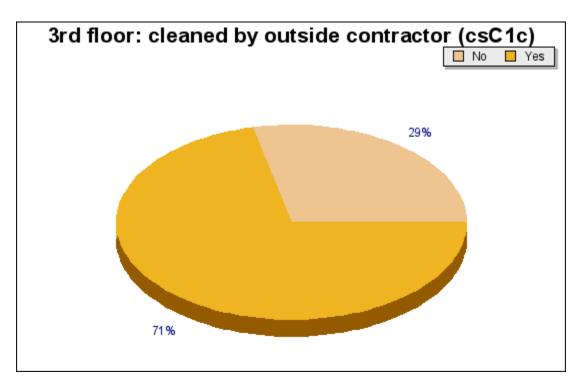
Question csC1: 3rd floor: cleaned on regular schedule



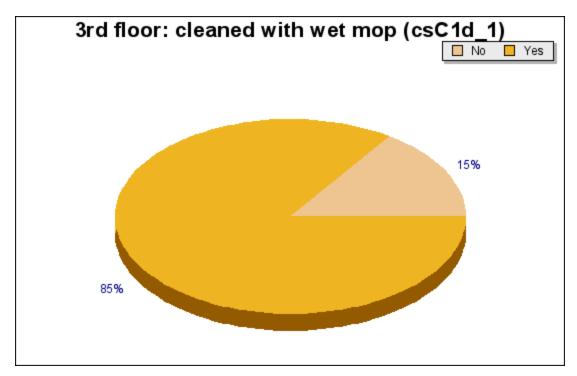
Question csC1a: 3rd floor: cleaned while occupied



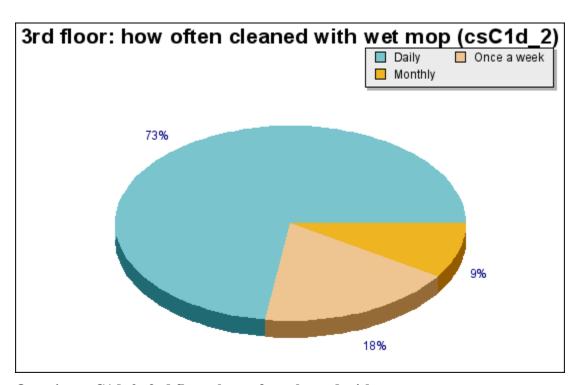
Question csC1b: 3rd floor: cleaned day or night



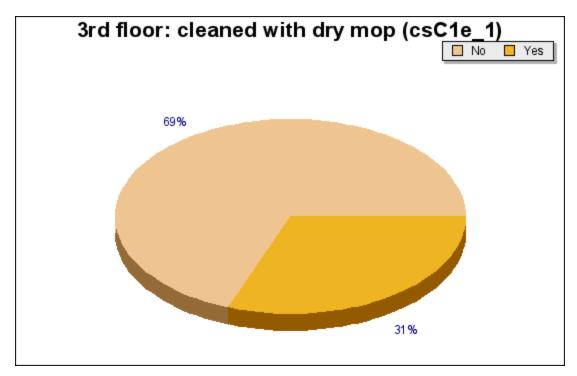
Question csC1c: 3rd floor: cleaned by outside contractor



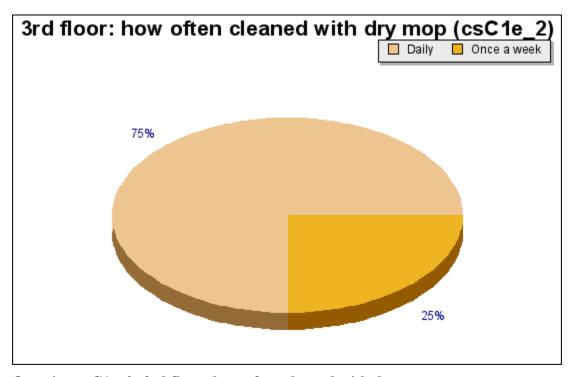
Question csC1d_1: 3rd floor: cleaned with wet mop



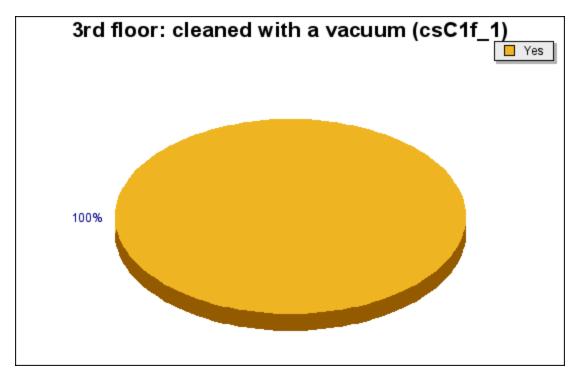
Question csC1d_2: 3rd floor: how often cleaned with wet mop



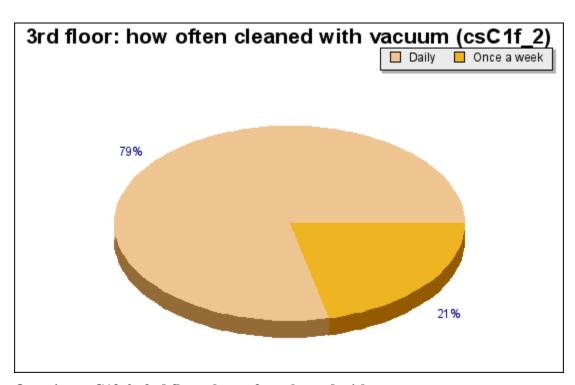
Question csC1e_1: 3rd floor: cleaned with dry mop



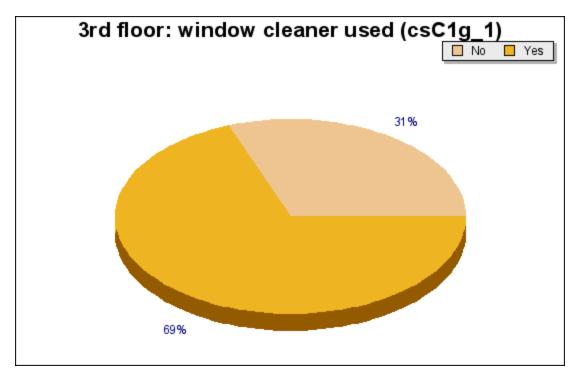
Question csC1e_2: 3rd floor: how often cleaned with dry mop



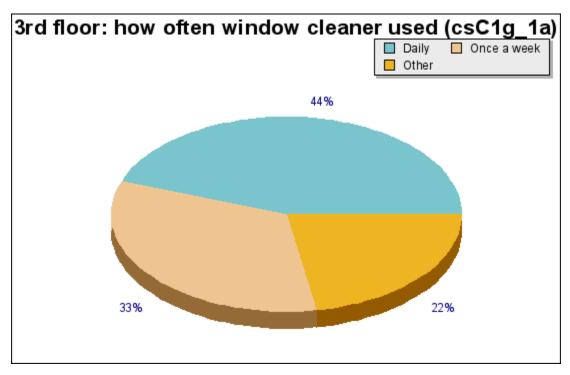
Question csC1f_1: 3rd floor: cleaned with a vacuum



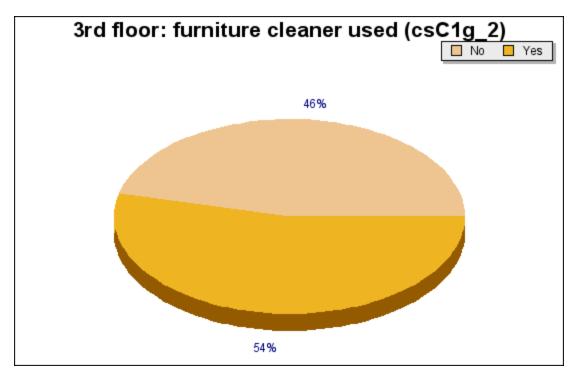
Question csC1f_2: 3rd floor: how often cleaned with vacuum



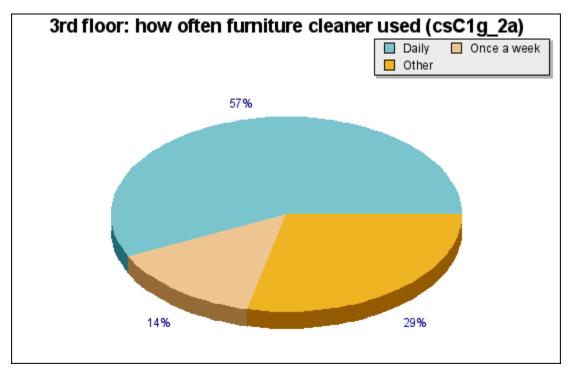
Question csC1g_1: 3rd floor: window cleaner used



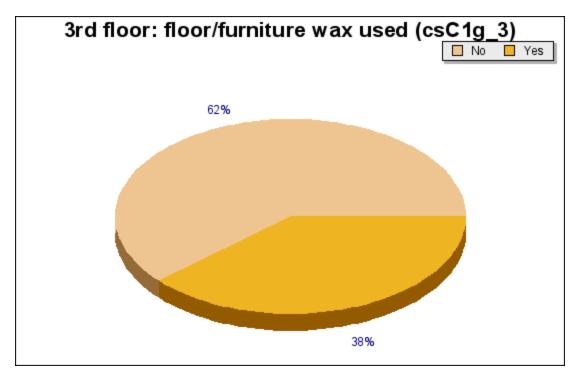
Question csC1g_1a: 3rd floor: how often window cleaner used



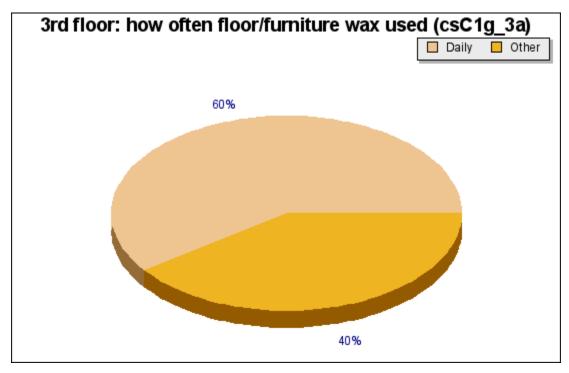
Question csC1g_2: 3rd floor: furniture cleaner used



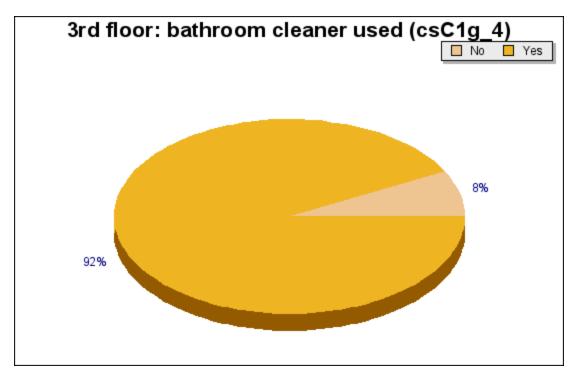
Question csC1g_2a: 3rd floor: how often furniture cleaner used



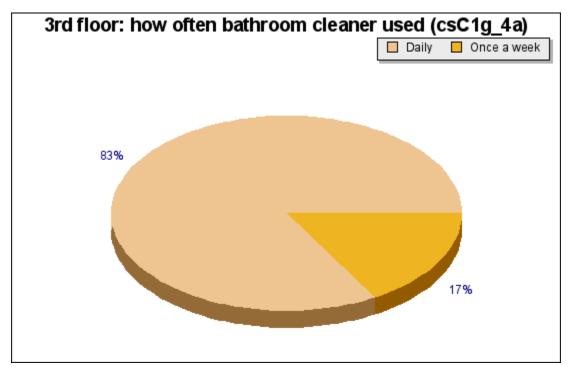
Question csC1g_3: 3rd floor: floor/furniture wax used



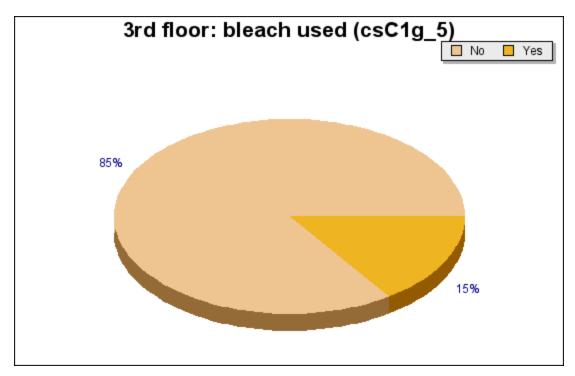
Question csC1g_3a: 3rd floor: how often floor/furniture wax used



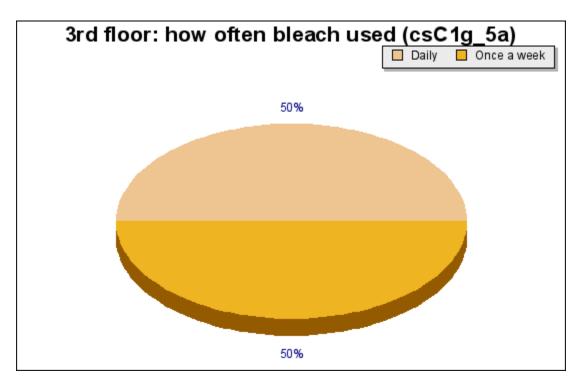
Question csC1g_4: 3rd floor: bathroom cleaner used



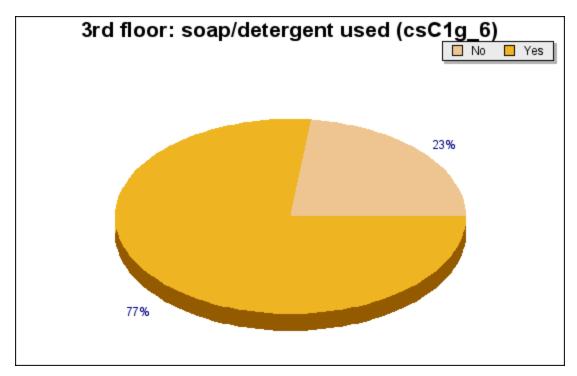
Question csC1g_4a: 3rd floor: how often bathroom cleaner used



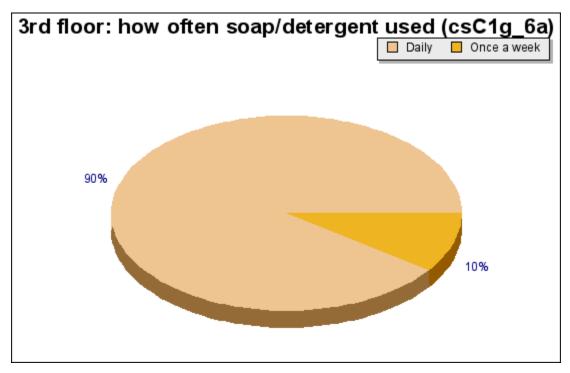
Question csC1g_5: 3rd floor: bleach used



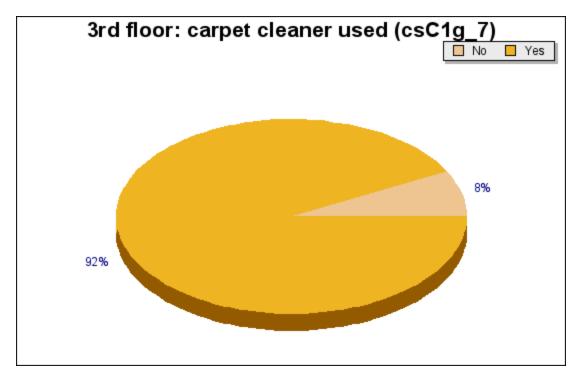
Question csC1g_5a: 3rd floor: how often bleach used



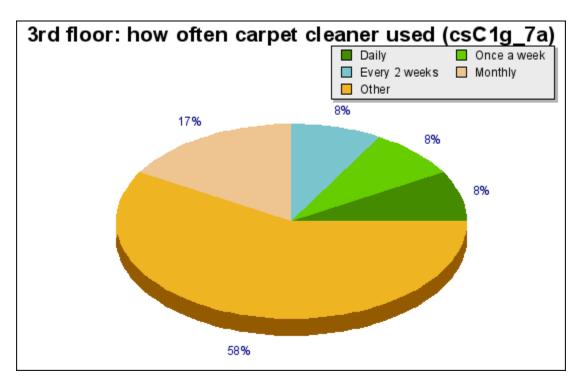
Question csC1g_6: 3rd floor: soap/detergent used



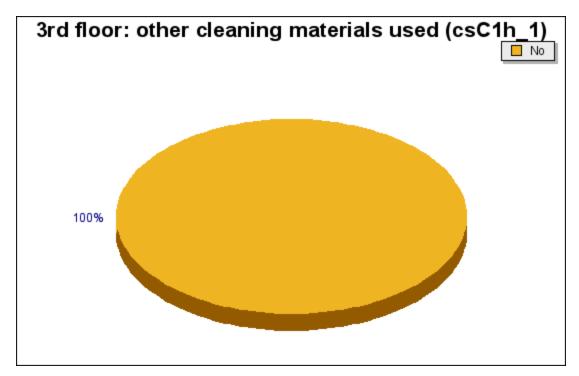
Question csC1g_6a: 3rd floor: how often soap/detergent used



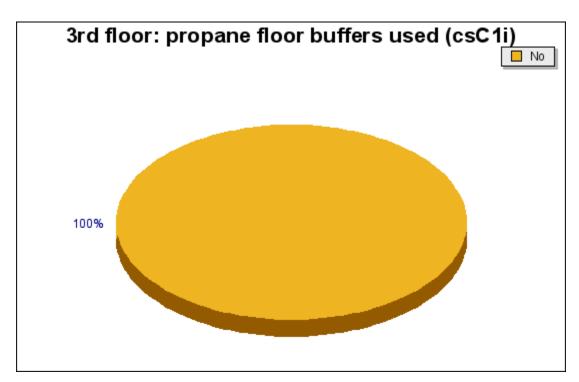
Question csC1g_7: 3rd floor: carpet cleaner used



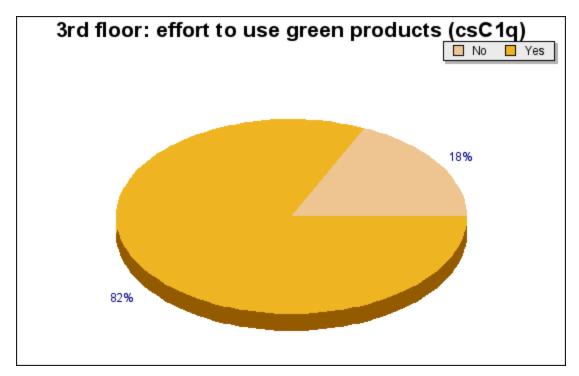
Question csC1g_7a: 3rd floor: how often carpet cleaner used



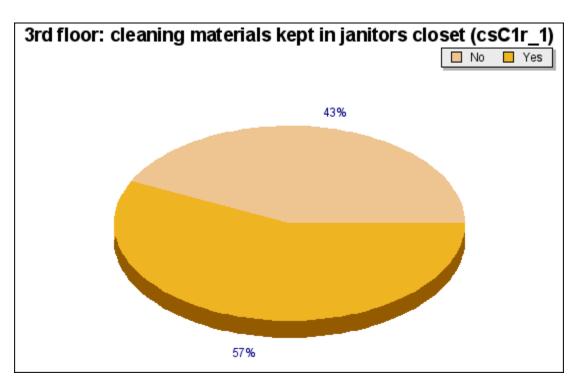
Question csC1h_1: 3rd floor: other cleaning materials used



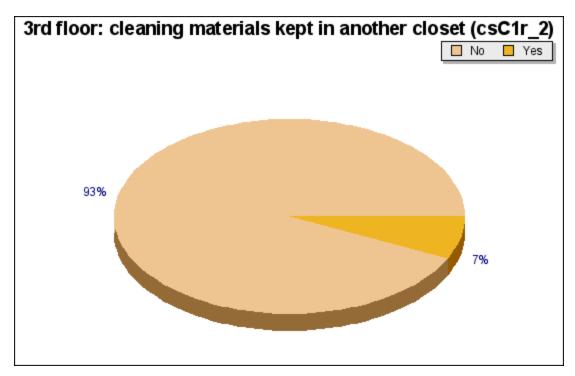
Question csC1i: 3rd floor: propane floor buffers used



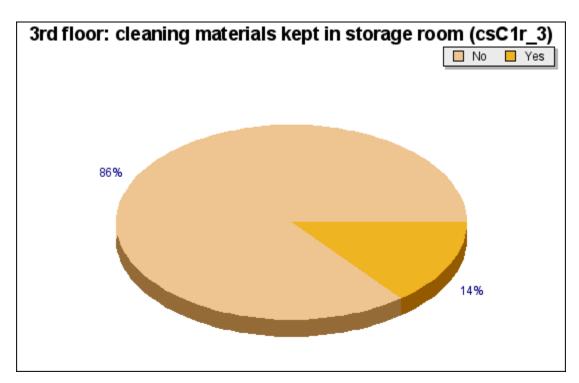
Question csC1q: 3rd floor: effort to use green products



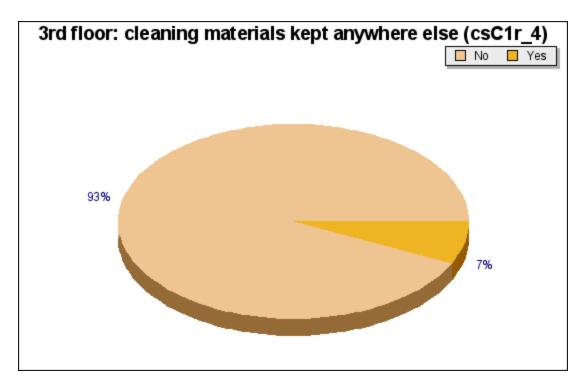
Question csC1r_1: 3rd floor: cleaning materials kept in janitors closet



Question csC1r_2: 3rd floor: cleaning materials kept in another closet

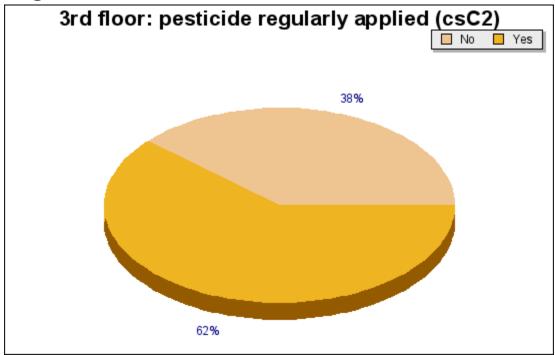


Question csC1r_3: 3rd floor: cleaning materials kept in storage room

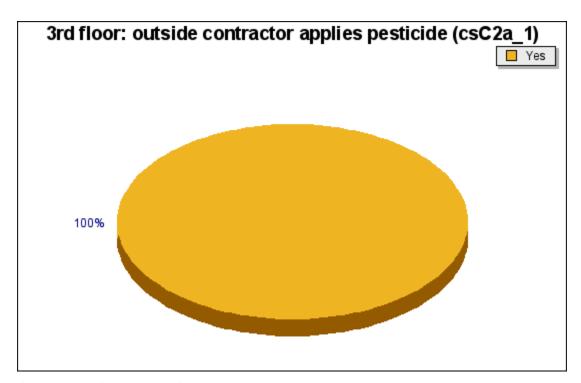


Question csC1r_4: 3rd floor: cleaning materials kept anywhere else

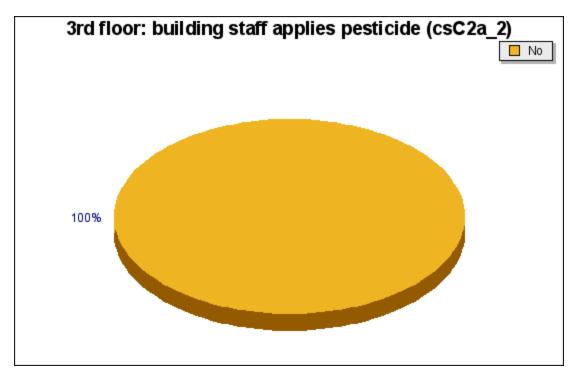
Regular Interior/exterior Pesticide: 3rd Floor



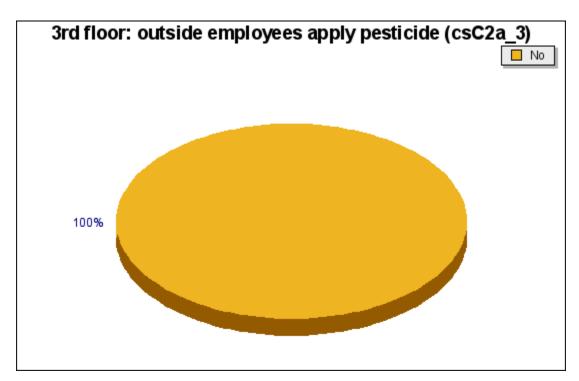
Question csC2: 3rd floor: pesticide regularly applied



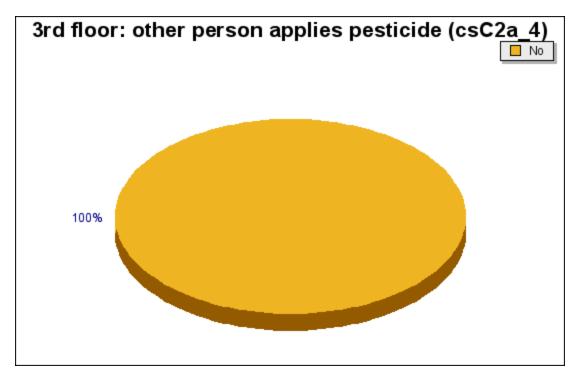
Question csC2a_1: 3rd floor: outside contractor applies pesticide



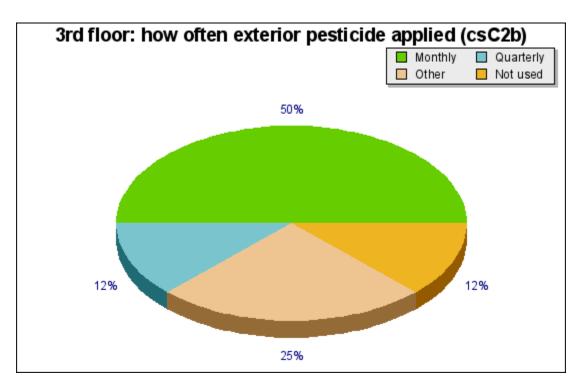
Question csC2a_2: 3rd floor: building staff applies pesticide



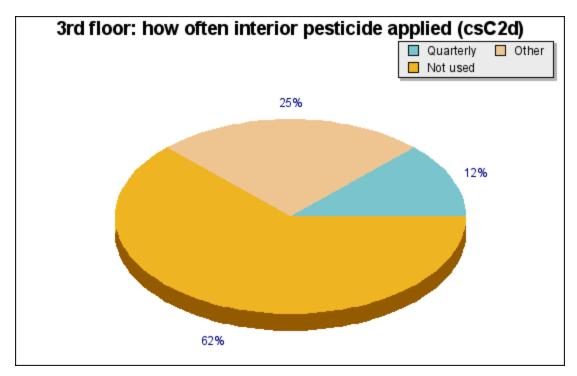
Question csC2a_3: 3rd floor: outside employees apply pesticide



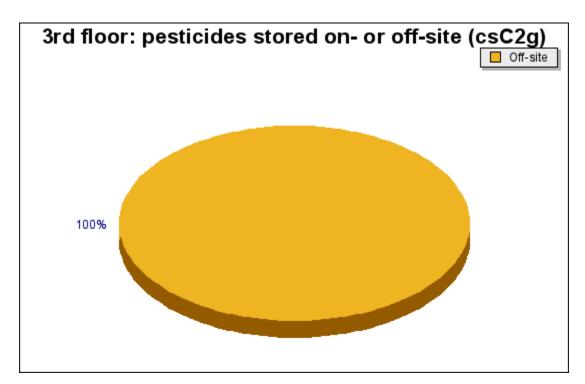
Question csC2a_4: 3rd floor: other person applies pesticide



Question csC2b: 3rd floor: how often exterior pesticide applied

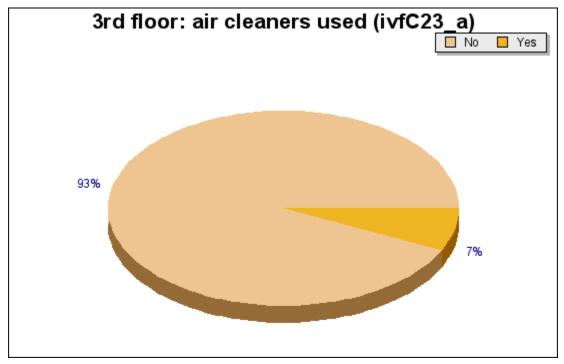


Question csC2d: 3rd floor: how often interior pesticide applied

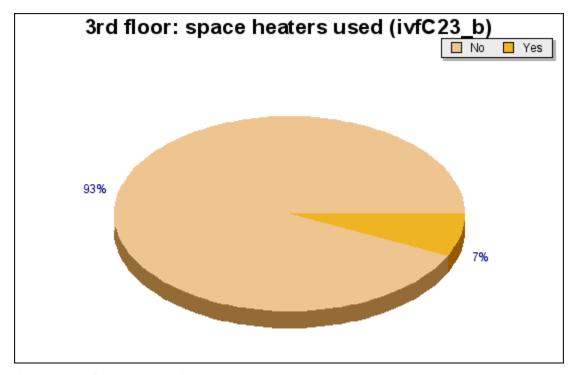


Question csC2g: 3rd floor: pesticides stored on- or off-site

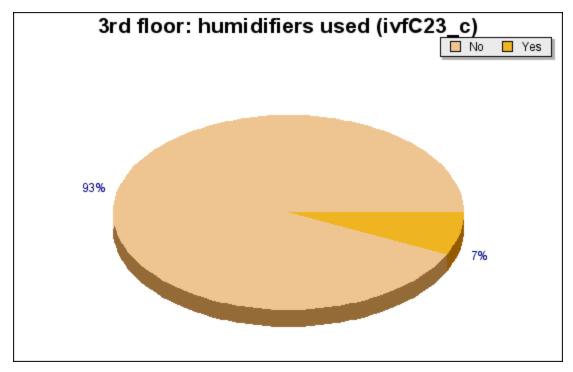
Indoor Ventilation Fixtures: 3rd Floor



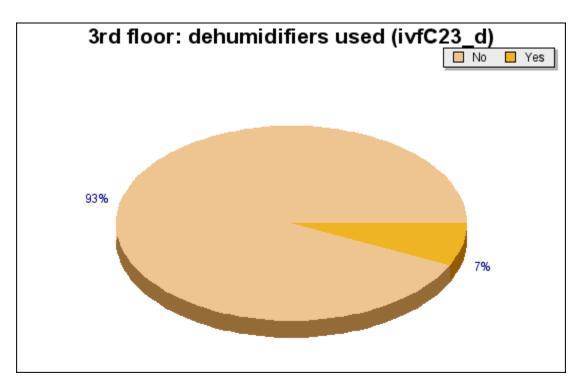
Question ivfC23_a: 3rd floor: air cleaners used



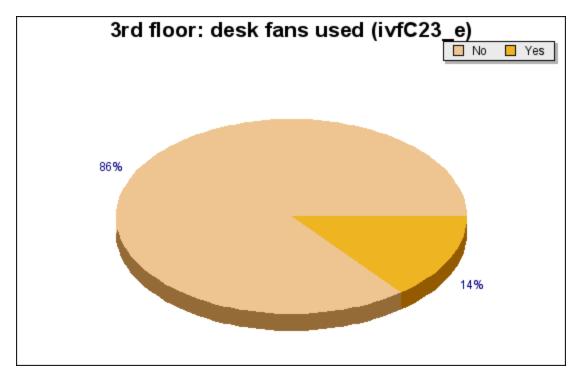
Question ivfC23_b: 3rd floor: space heaters used



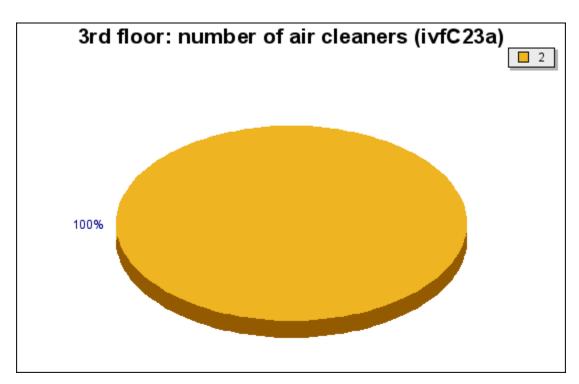
Question ivfC23_c: 3rd floor: humidifiers used



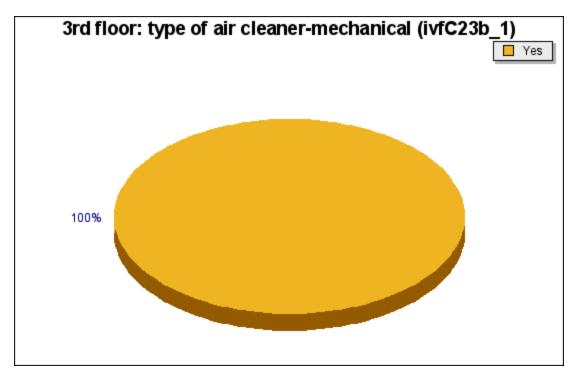
Question ivfC23_d: 3rd floor: dehumidifiers used



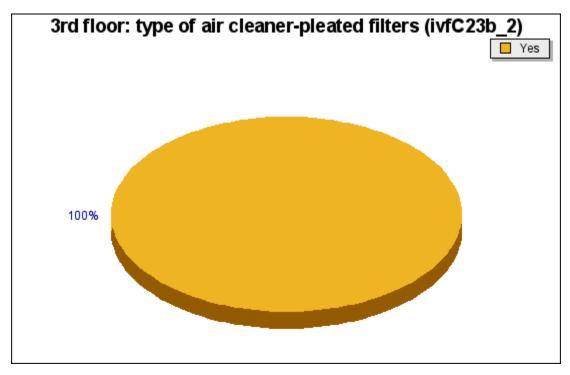
Question ivfC23_e: 3rd floor: desk fans used



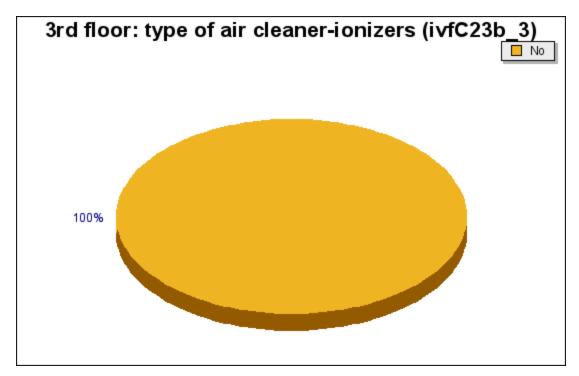
Question ivfC23a: 3rd floor: number of air cleaners



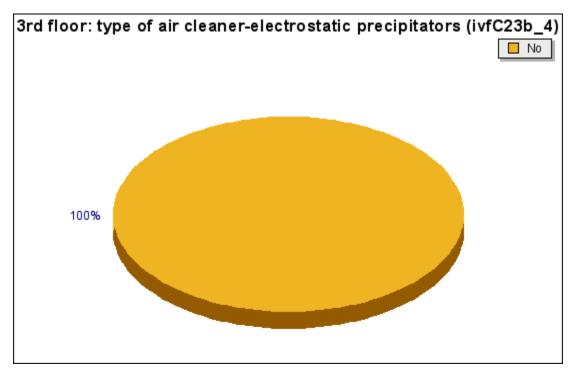
Question ivfC23b_1: 3rd floor: type of air cleaner-mechanical



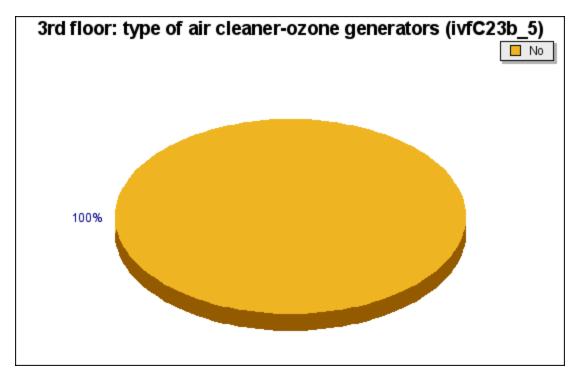
Question ivfC23b_2: 3rd floor: type of air cleaner-pleated filters



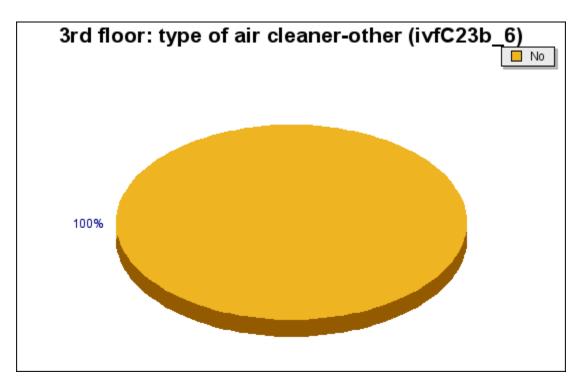
Question ivfC23b_3: 3rd floor: type of air cleaner-ionizers



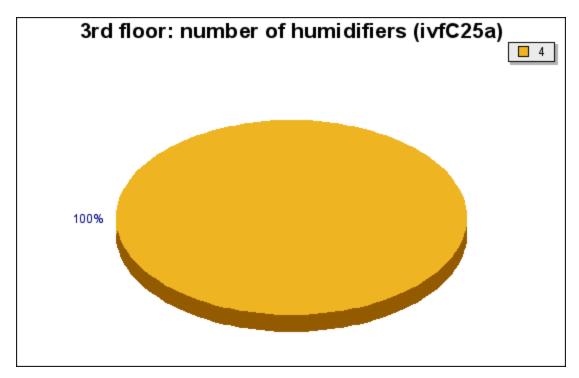
Question ivfC23b_4: 3rd floor: type of air cleaner-electrostatic precipitators



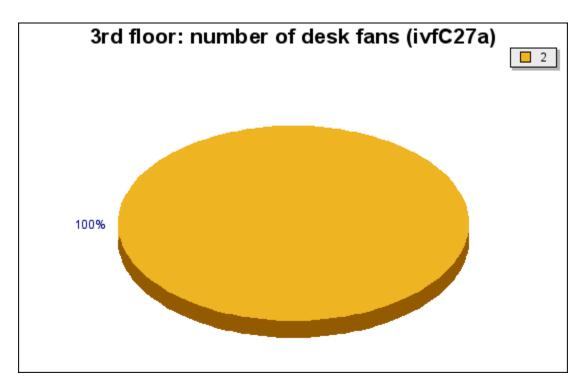
Question ivfC23b_5: 3rd floor: type of air cleaner-ozone generators



Question ivfC23b_6: 3rd floor: type of air cleaner-other

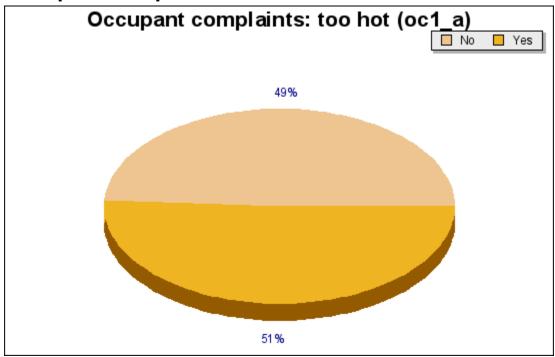


Question ivfC25a: 3rd floor: number of humidifiers

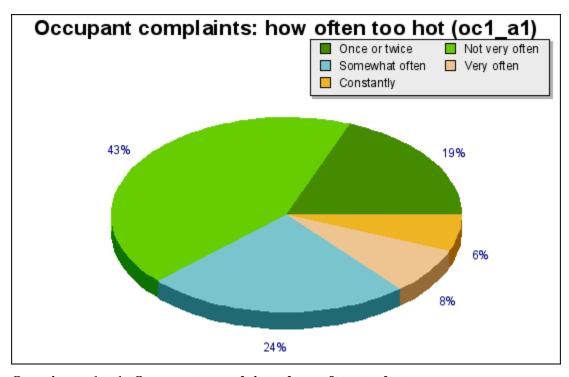


Question ivfC27a: 3rd floor: number of desk fans

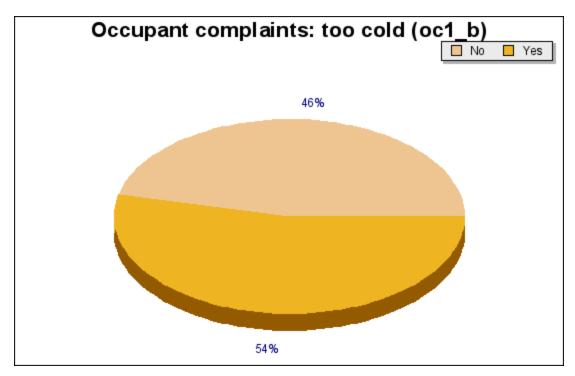
Occupant Complaints



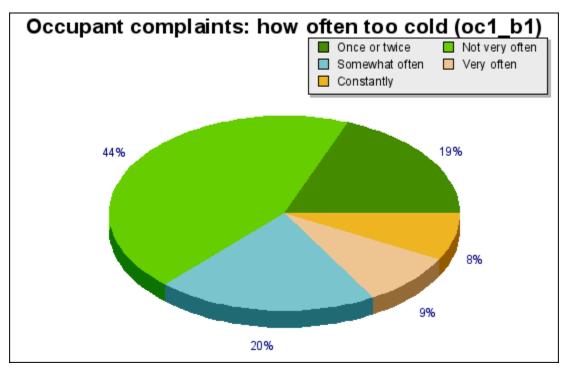
Question oc1_a: Occupant complaints: too hot



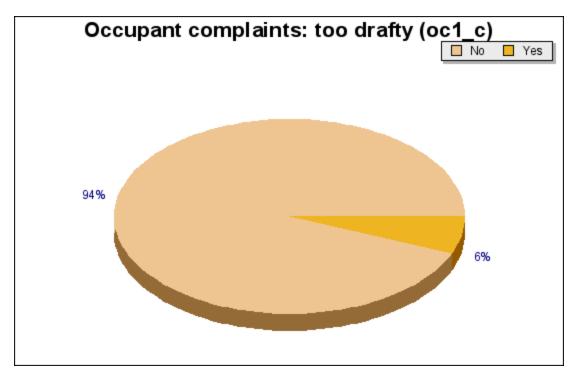
Question oc1_a1: Occupant complaints: how often too hot



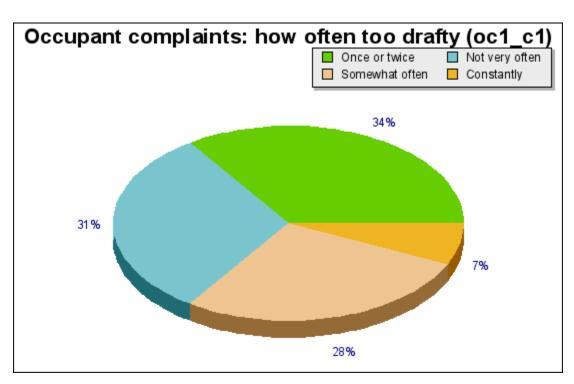
Question oc1_b: Occupant complaints: too cold



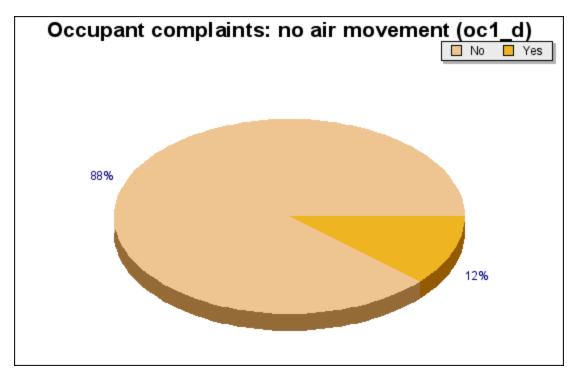
Question oc1_b1: Occupant complaints: how often too cold



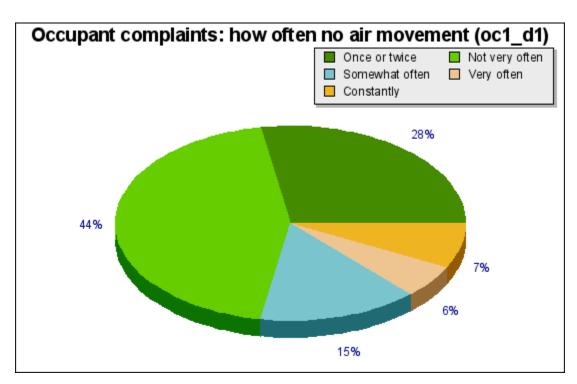
Question oc1_c: Occupant complaints: too drafty



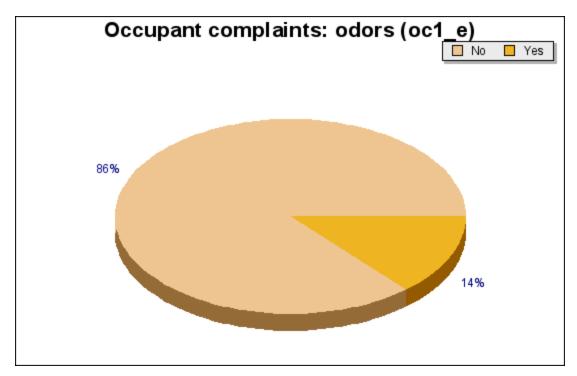
Question oc1_c1: Occupant complaints: how often too drafty



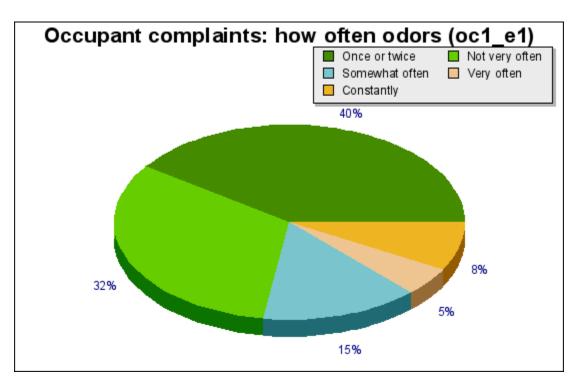
Question oc1_d: Occupant complaints: no air movement



Question oc1_d1: Occupant complaints: how often no air movement



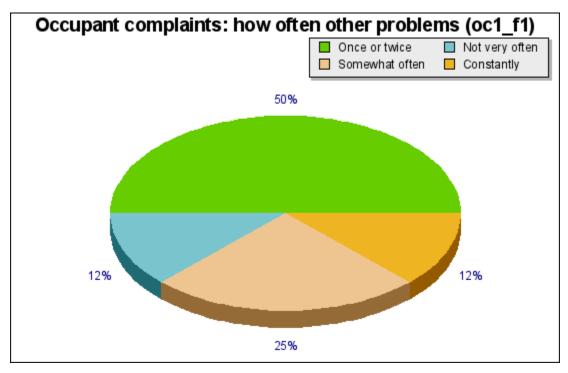
Question oc1_e: Occupant complaints: odors



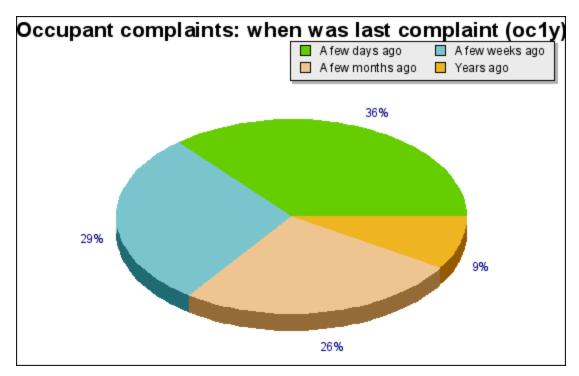
Question oc1_e1: Occupant complaints: how often odors



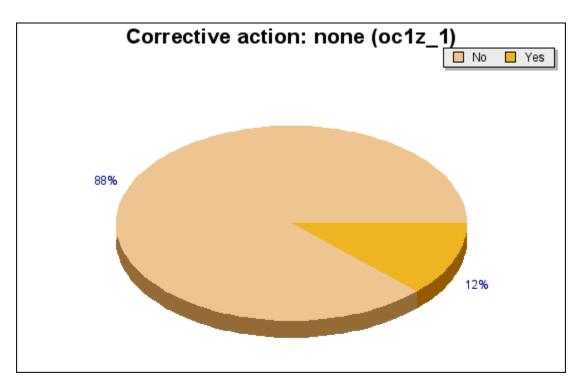
Question oc1_f: Occupant complaints: something else



Question oc1_f1: Occupant complaints: how often other problems



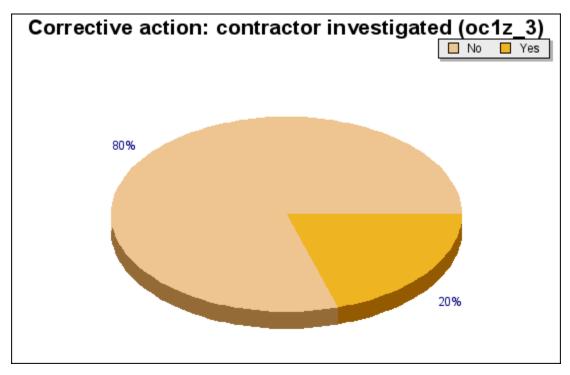
Question oc1y: Occupant complaints: when was last complaint



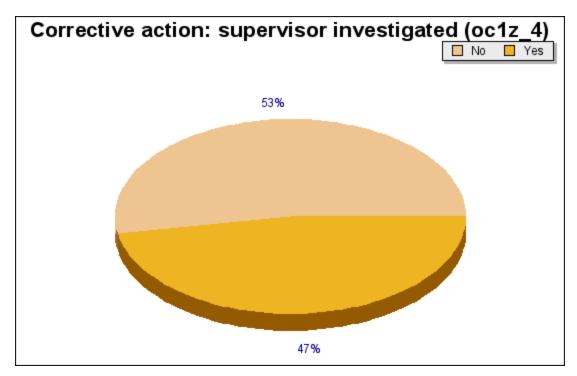
Question oc1z_1: Corrective action: none



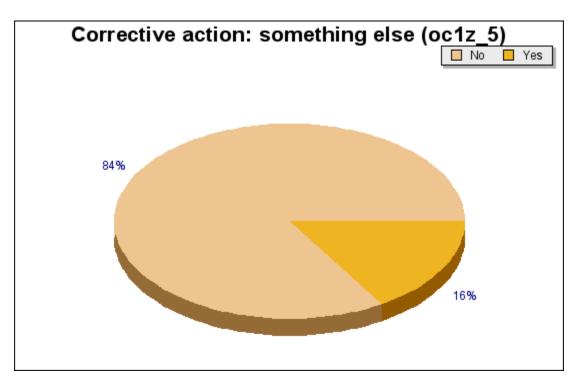
Question oc1z_2: Corrective action: manager investigated



Question oc1z_3: Corrective action: contractor investigated

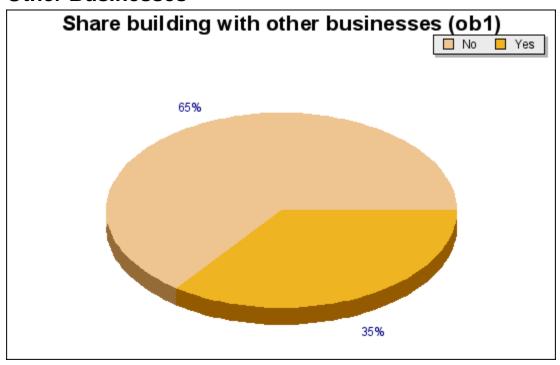


Question oc1z_4: Corrective action: supervisor investigated



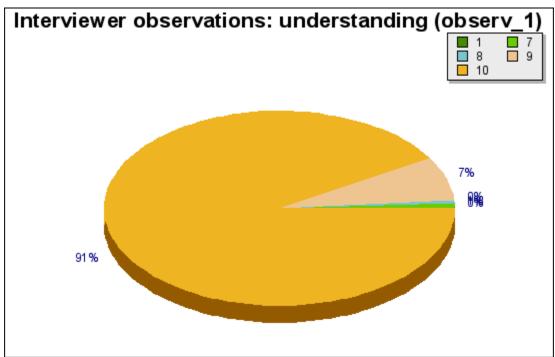
Question oc1z_5: Corrective action: something else

Other Businesses

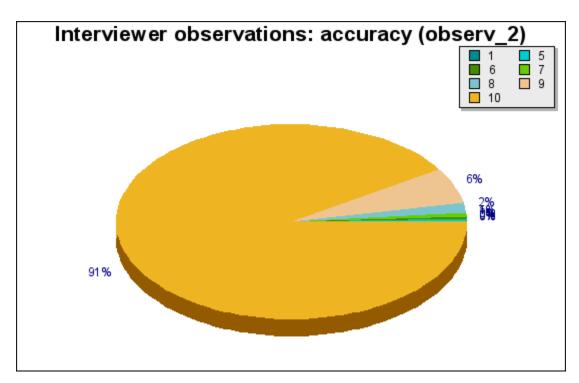


Question ob1: Share building with other businesses

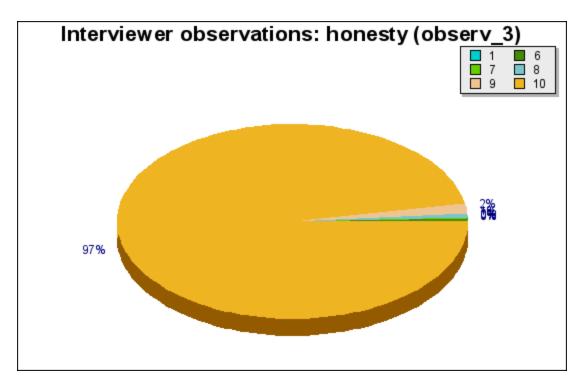
Interviewer Observations



Question observ_1: Interviewer observations: understanding

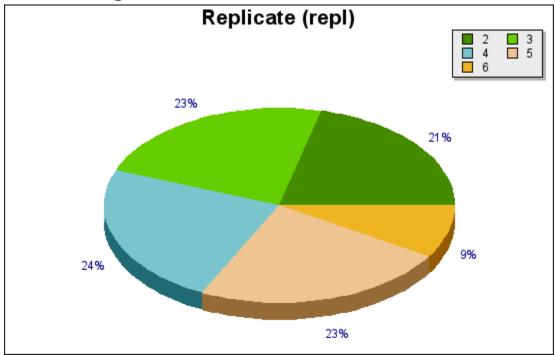


Question observ_2: Interviewer observations: accuracy

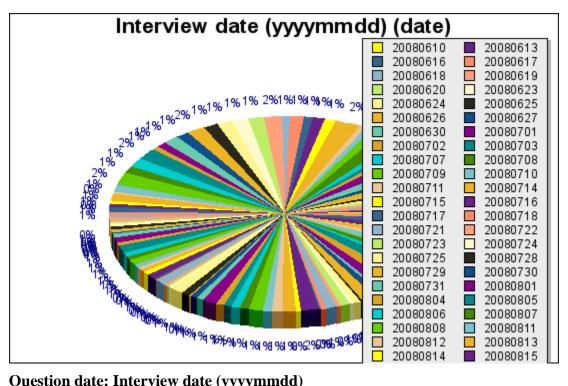


Question observ_3: Interviewer observations: honesty

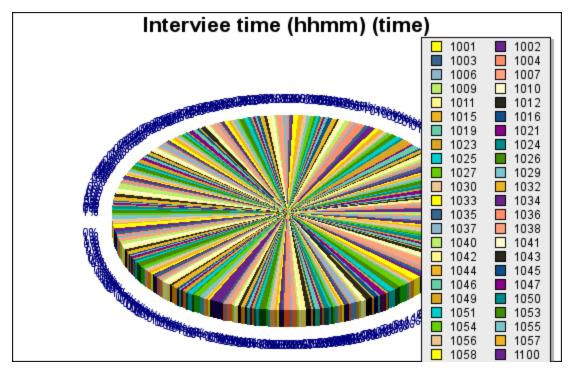
Methodological Variables



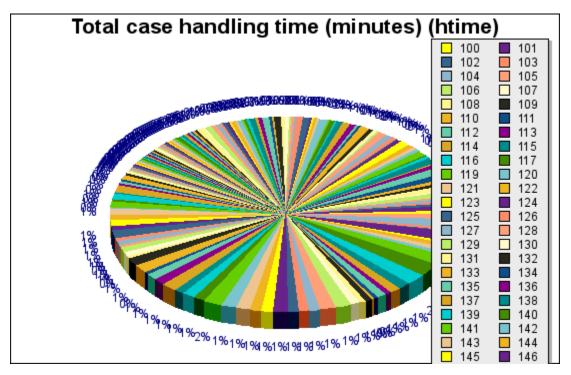
Question repl: Replicate



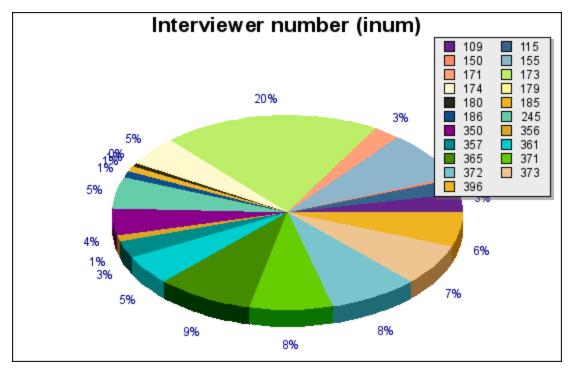
Question date: Interview date (yyyymmdd)



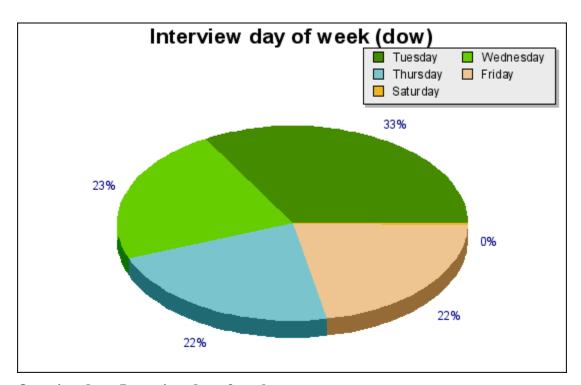
Question time: Interviee time (hhmm)



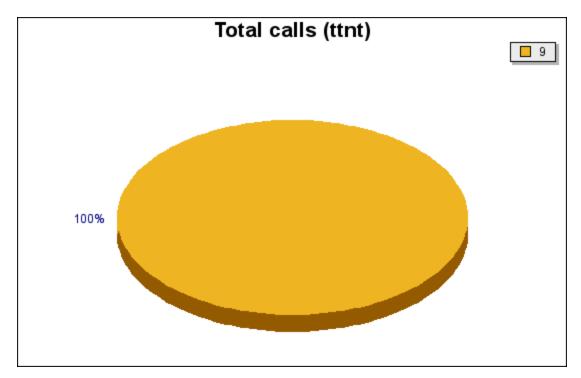
Question htime: Total case handling time (minutes)



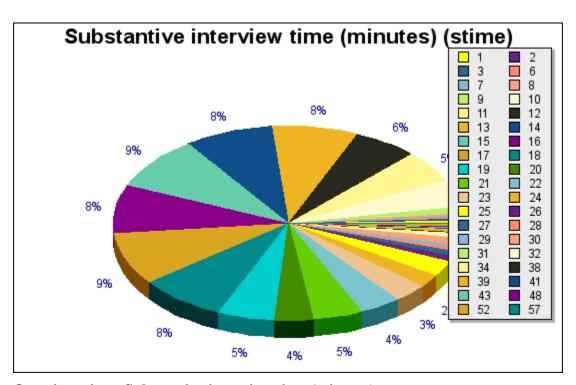
Question inum: Interviewer number



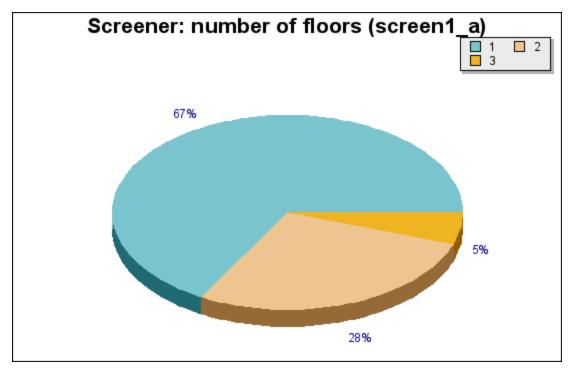
Question dow: Interview day of week



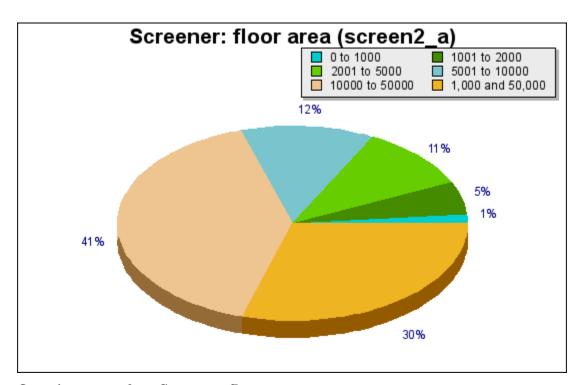
Question ttnt: Total calls



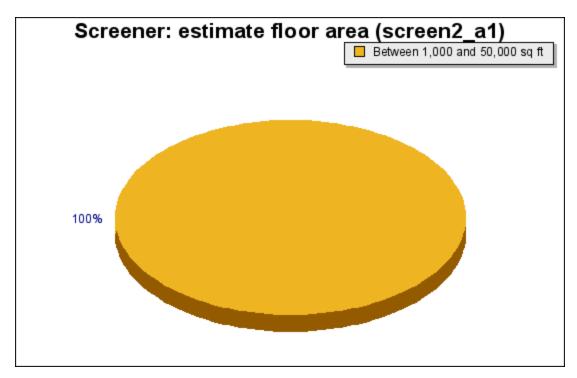
Question stime: Substantive interview time (minutes)



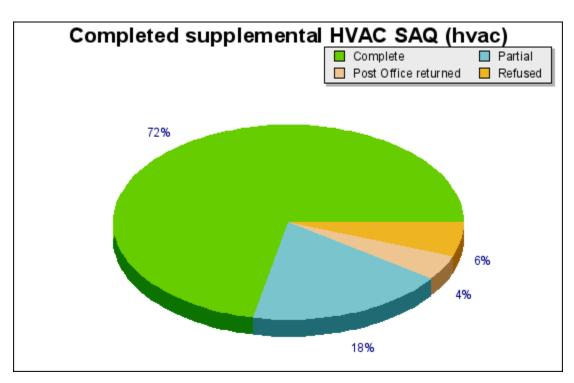
Question screen1_a: Screener: number of floors



Question screen2_a: Screener: floor area

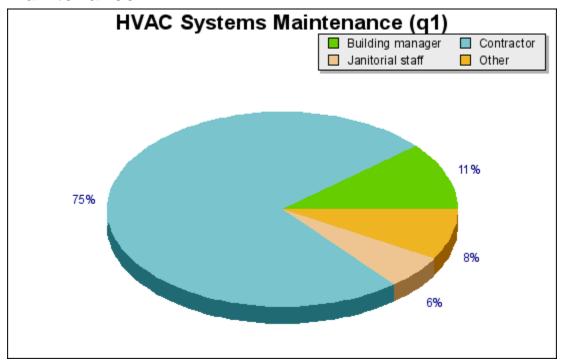


Question screen2_a1: Screener: estimate floor area

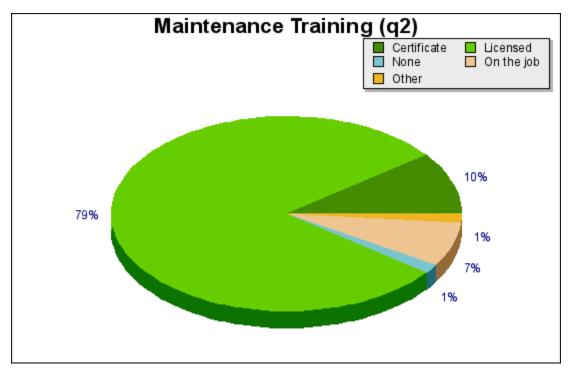


Question HVAC: Completed supplemental HVAC SAQ

Maintenance

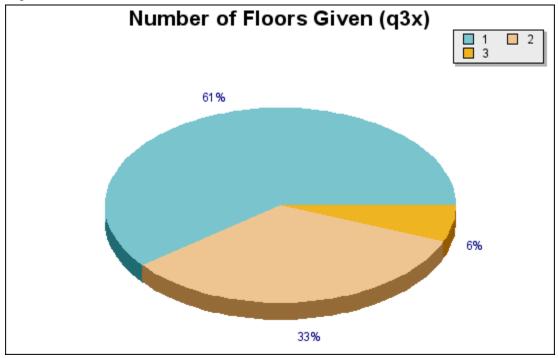


Question q1: HVAC Systems Maintenance

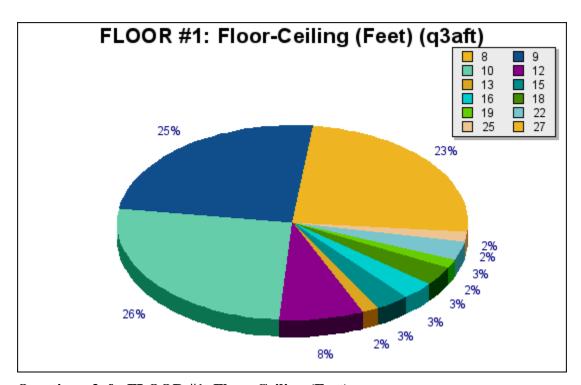


Question q2: Maintenance Training

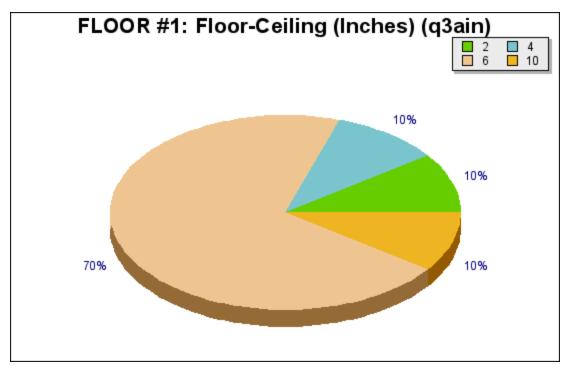
Space Interior Finishes



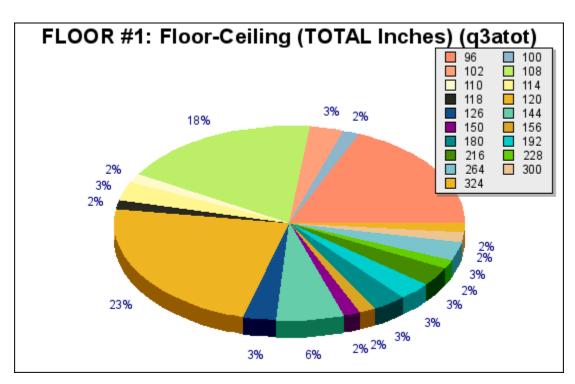
Question q3x: Number of Floors Given



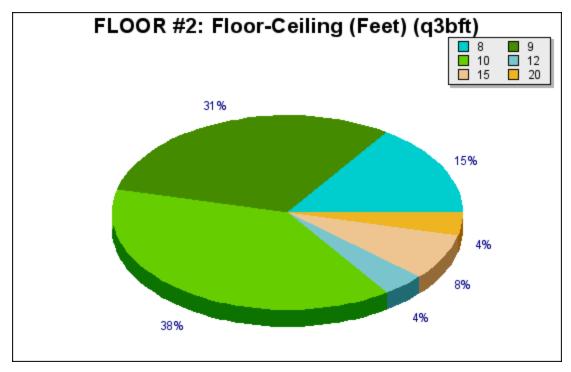
Question q3aft: FLOOR #1: Floor-Ceiling (Feet)



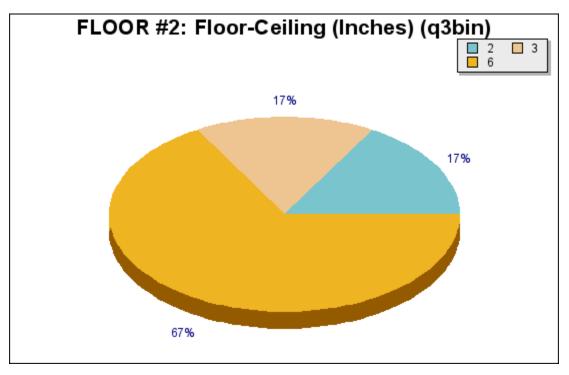
Question q3ain: FLOOR #1: Floor-Ceiling (Inches)



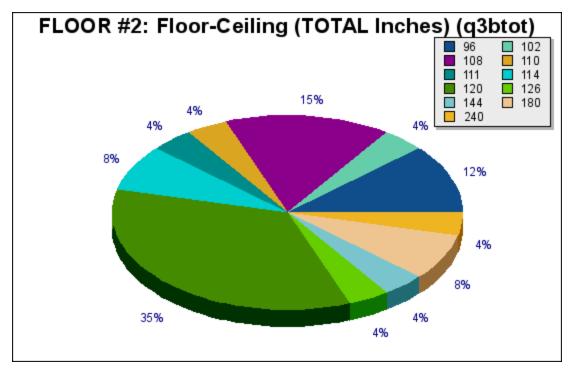
Question q3atot: FLOOR #1: Floor-Ceiling (TOTAL Inches)



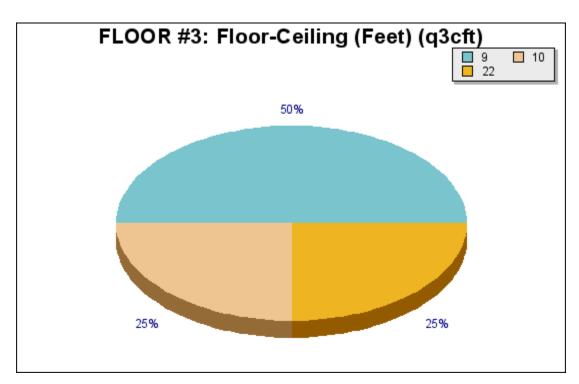
Question q3bft: FLOOR #2: Floor-Ceiling (Feet)



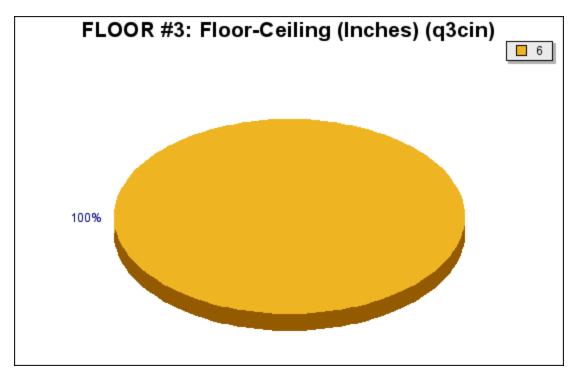
Question q3bin: FLOOR #2: Floor-Ceiling (Inches)



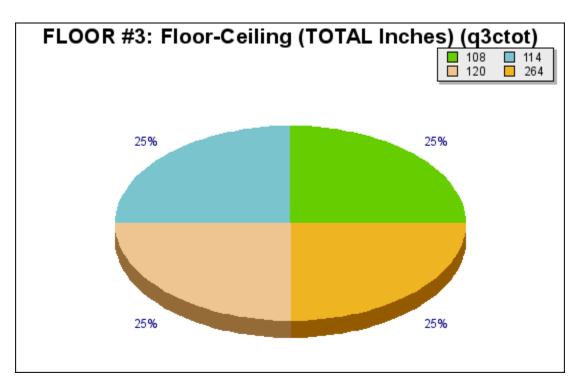
Question q3btot: FLOOR #2: Floor-Ceiling (TOTAL Inches)



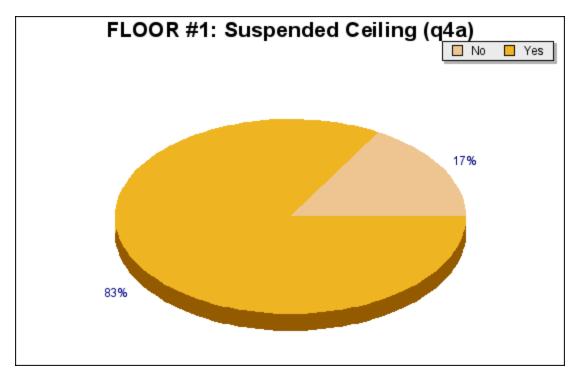
Question q3cft: FLOOR #3: Floor-Ceiling (Feet)



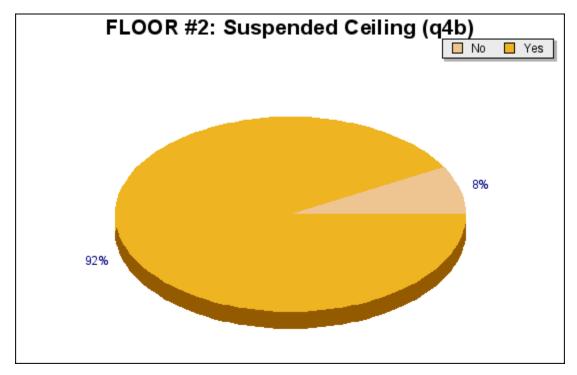
Question q3cin: FLOOR #3: Floor-Ceiling (Inches)



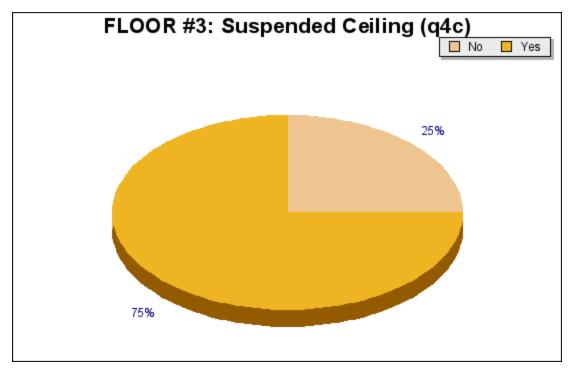
Question q3ctot: FLOOR #3: Floor-Ceiling (TOTAL Inches)



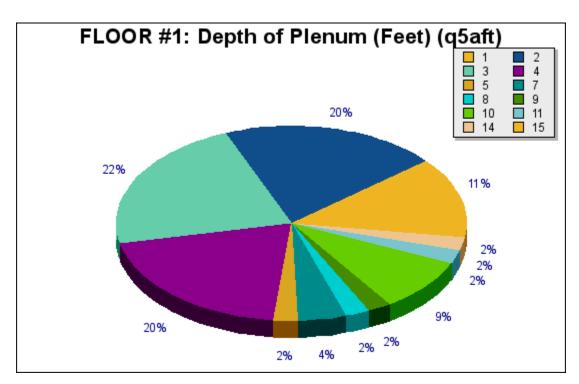
Question q4a: FLOOR #1: Suspended Ceiling



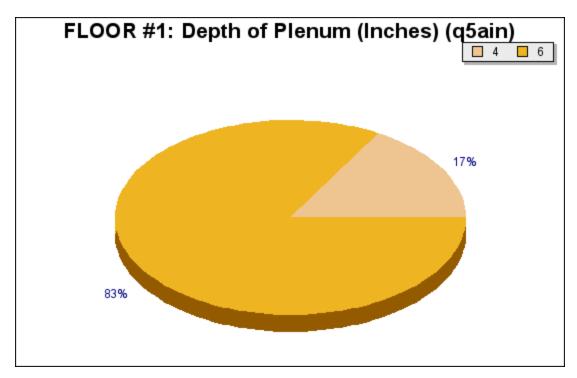
Question q4b: FLOOR #2: Suspended Ceiling



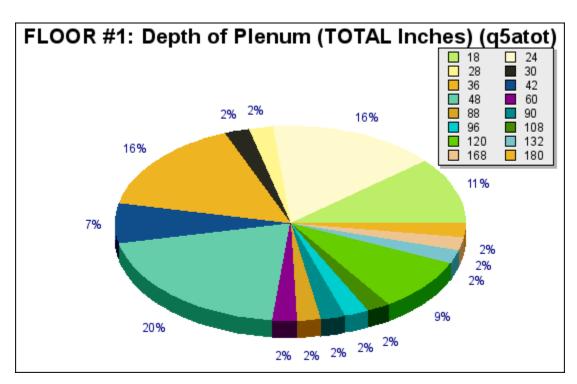
Question q4c: FLOOR #3: Suspended Ceiling



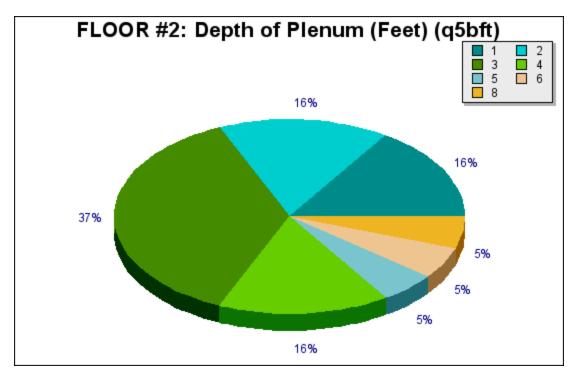
Question q5aft: FLOOR #1: Depth of Plenum (Feet)



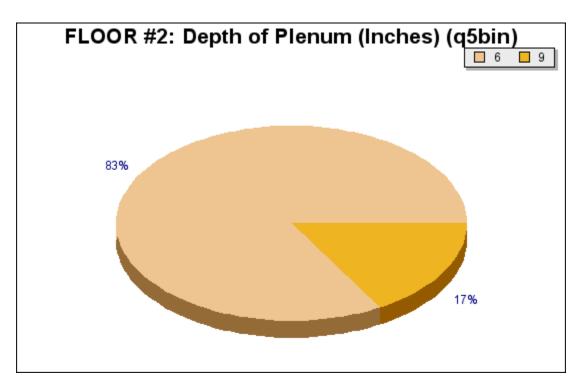
Question q5ain: FLOOR #1: Depth of Plenum (Inches)



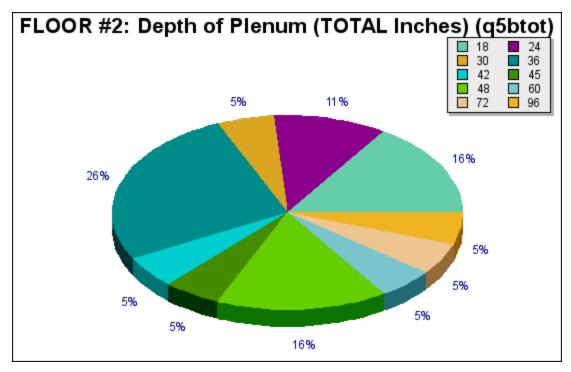
Question q5atot: FLOOR #1: Depth of Plenum (TOTAL Inches)



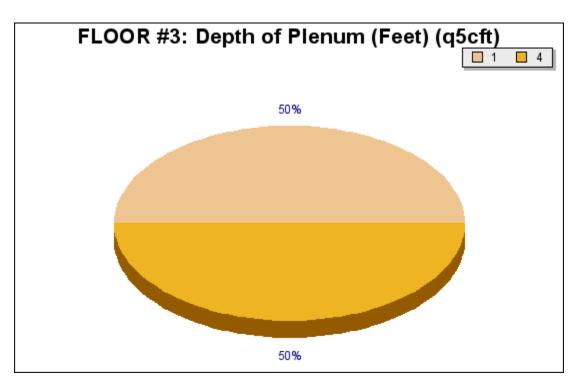
Question q5bft: FLOOR #2: Depth of Plenum (Feet)



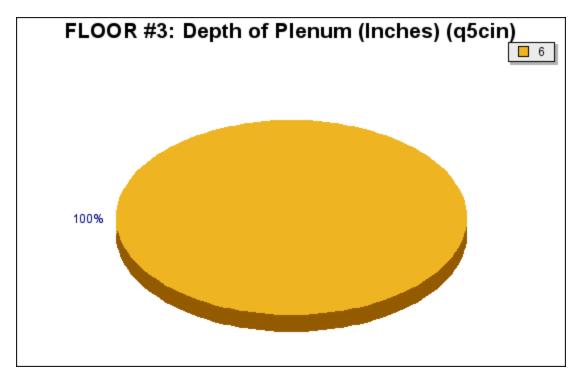
Question q5bin: FLOOR #2: Depth of Plenum (Inches)



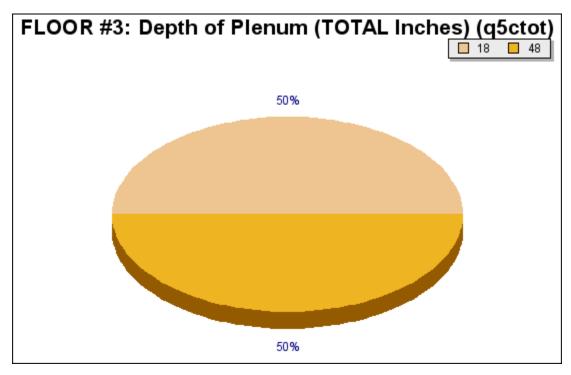
Question q5btot: FLOOR #2: Depth of Plenum (TOTAL Inches)



Question q5cft: FLOOR #3: Depth of Plenum (Feet)

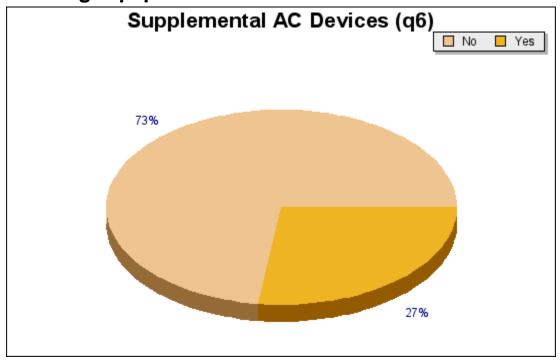


Question q5cin: FLOOR #3: Depth of Plenum (Inches)

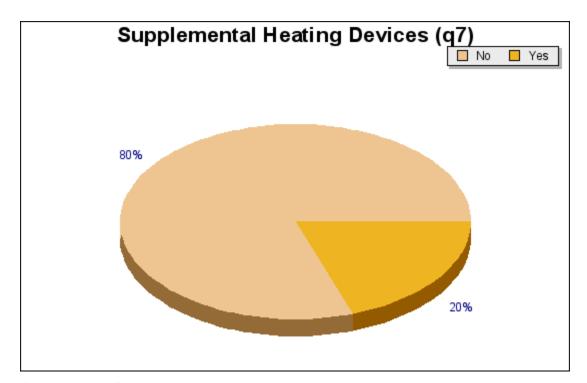


Question q5ctot: FLOOR #3: Depth of Plenum (TOTAL Inches)

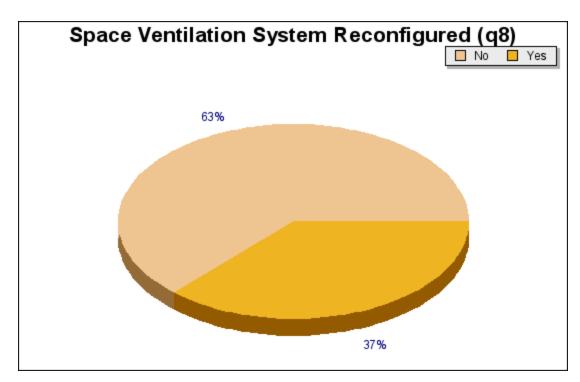
Building Equipment



Question q6: Supplemental AC Devices

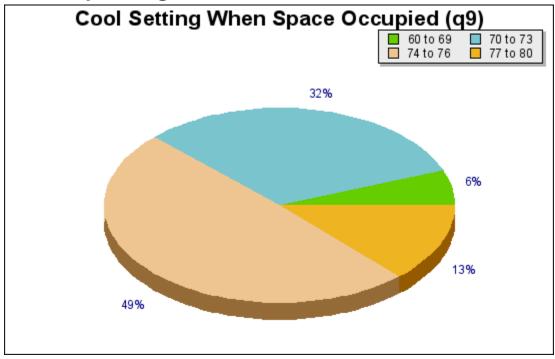


Question q7: Supplemental Heating Devices

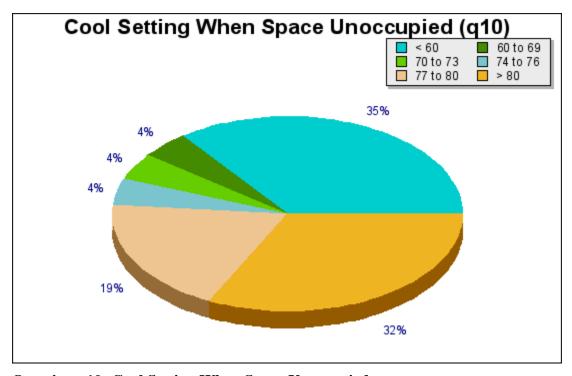


Question q8: Space Ventilation System Reconfigured

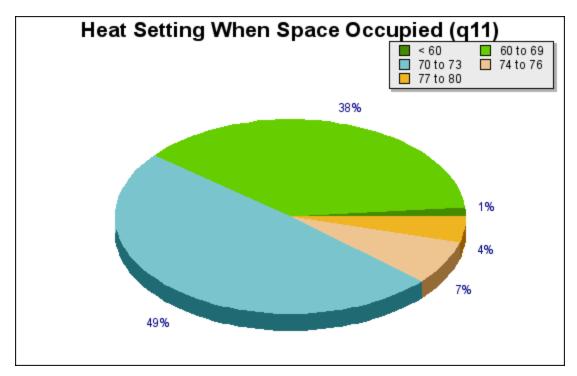
HVAC Operating Schedule



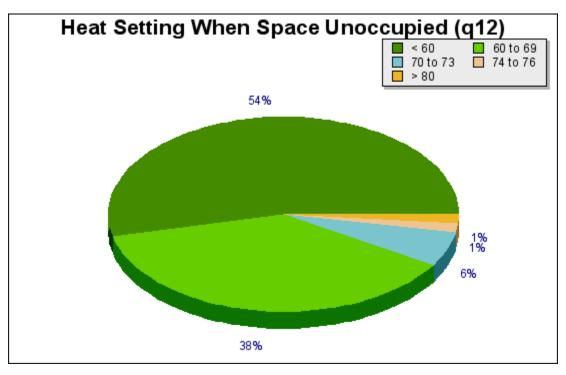
Question q9: Cool Setting When Space Occupied



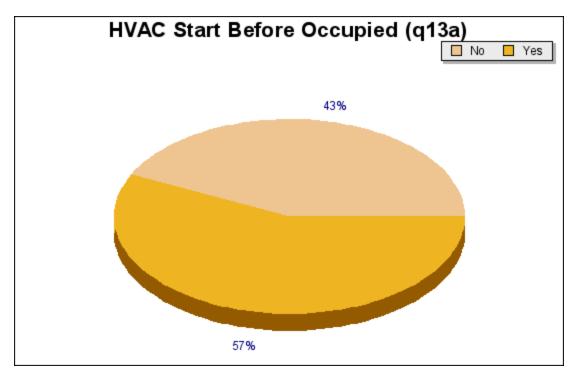
Question q10: Cool Setting When Space Unoccupied



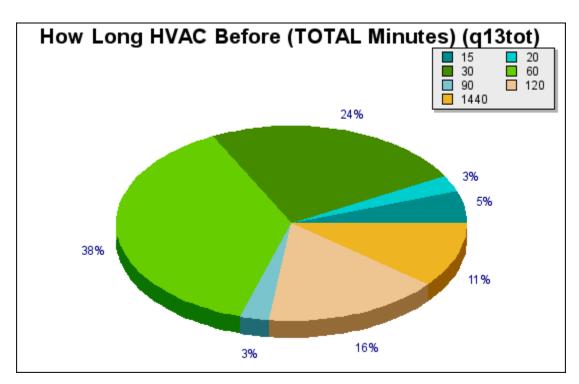
Question q11: Heat Setting When Space Occupied



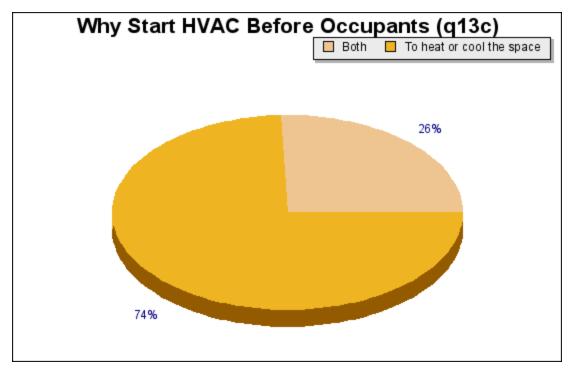
Question q12: Heat Setting When Space Unoccupied



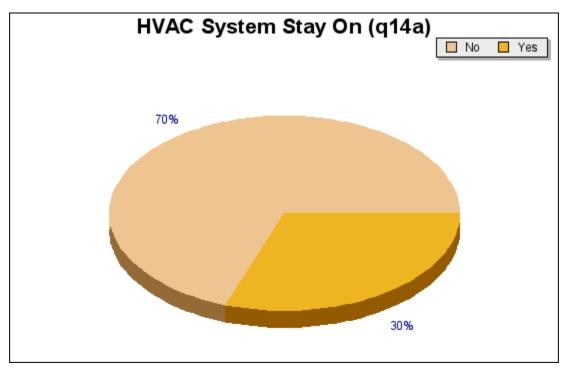
Question q13a: HVAC Start Before Occupied



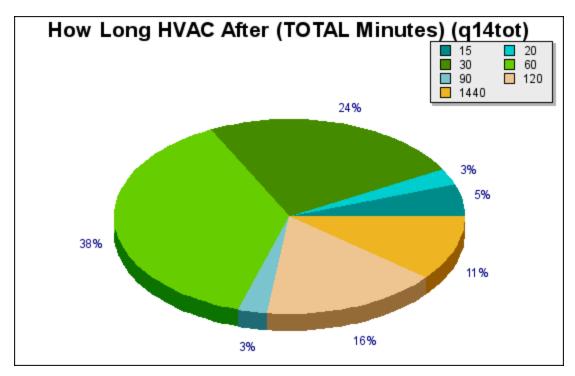
Question q13tot: How Long HVAC Before (TOTAL Minutes)



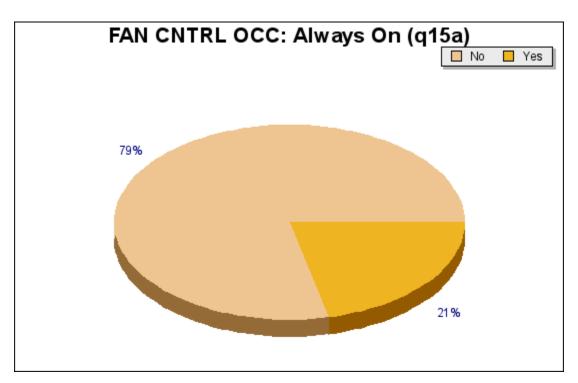
Question q13c: Why Start HVAC Before Occupants



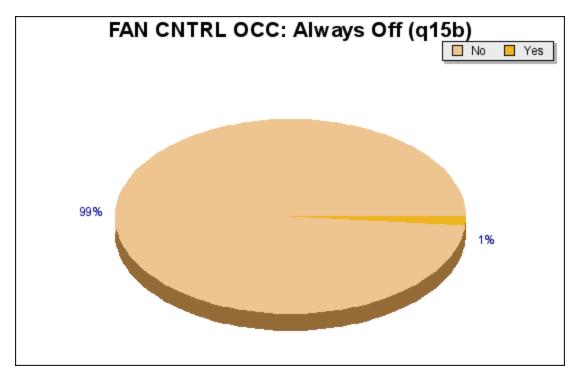
Question q14a: HVAC System Stay On



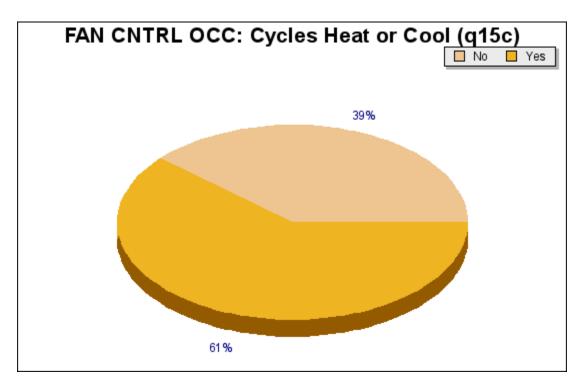
Question q14tot: How Long HVAC After (TOTAL Minutes)



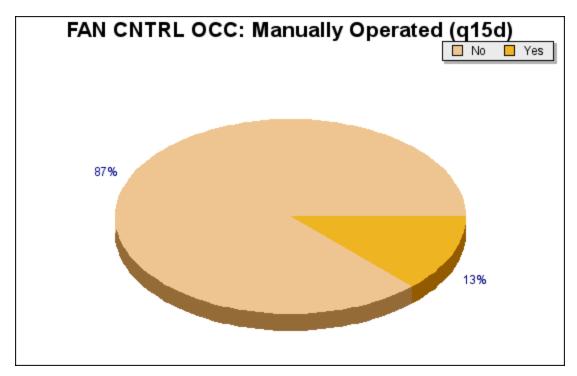
Question q15a: FAN CNTRL OCC: Always On



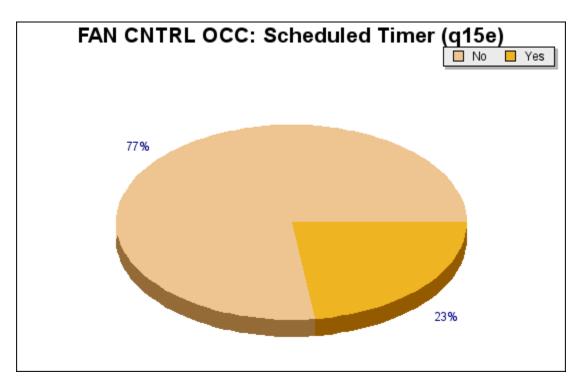
Question q15b: FAN CNTRL OCC: Always Off



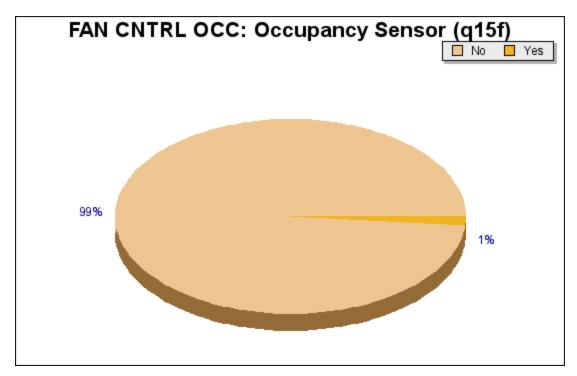
Question q15c: FAN CNTRL OCC: Cycles Heat or Cool



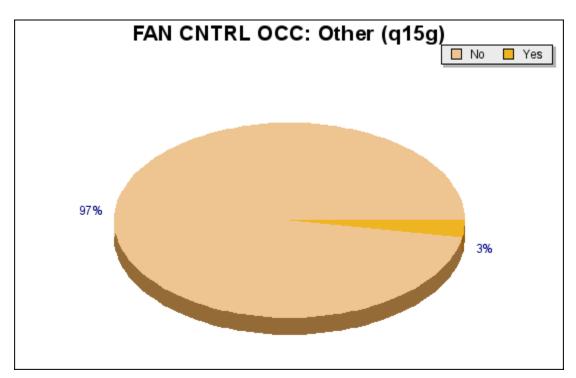
Question q15d: FAN CNTRL OCC: Manually Operated



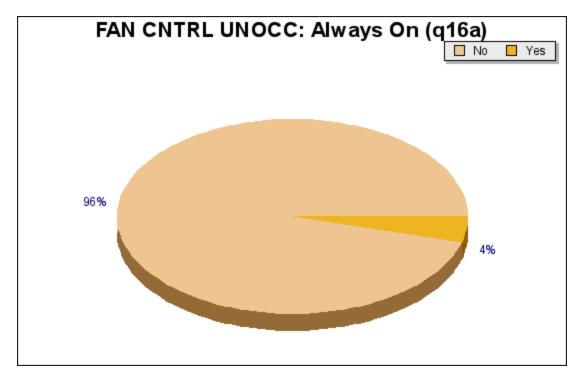
Question q15e: FAN CNTRL OCC: Scheduled Timer



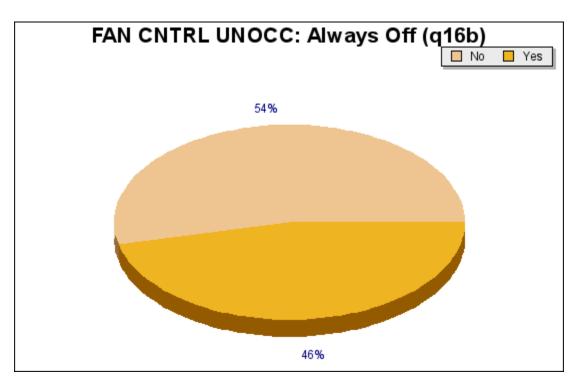
Question q15f: FAN CNTRL OCC: Occupancy Sensor



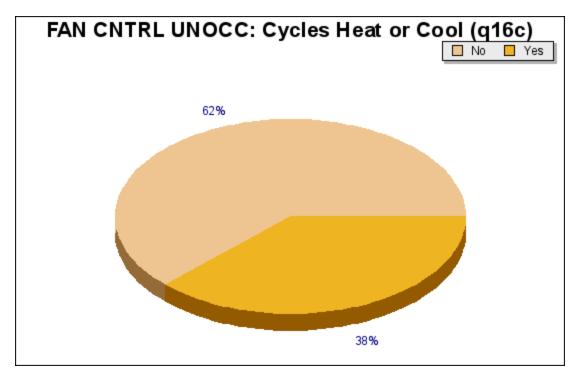
Question q15g: FAN CNTRL OCC: Other



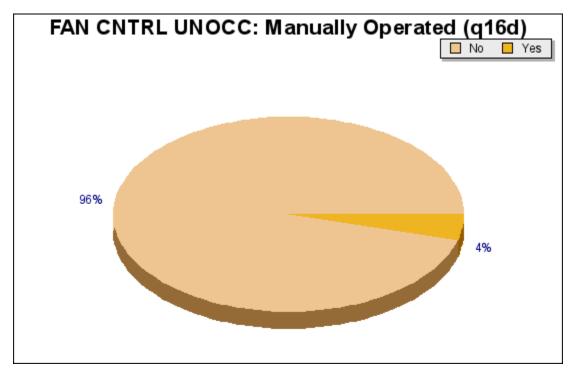
Question q16a: FAN CNTRL UNOCC: Always On



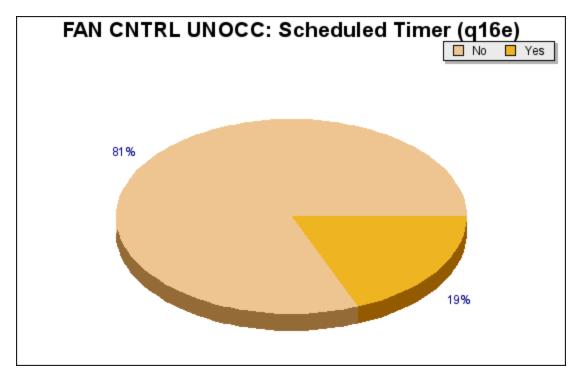
Question q16b: FAN CNTRL UNOCC: Always Off



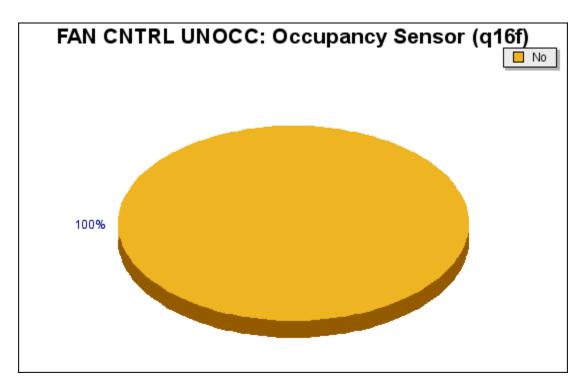
Question q16c: FAN CNTRL UNOCC: Cycles Heat or Cool



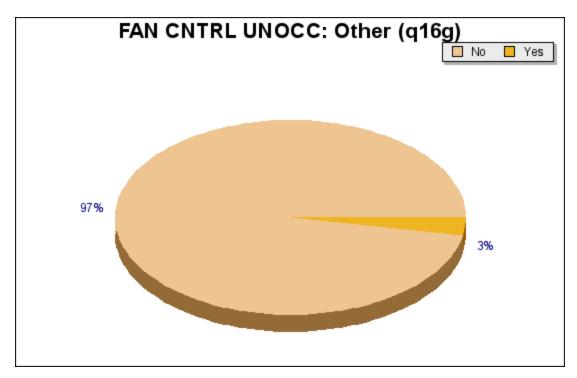
Question q16d: FAN CNTRL UNOCC: Manually Operated



Question q16e: FAN CNTRL UNOCC: Scheduled Timer

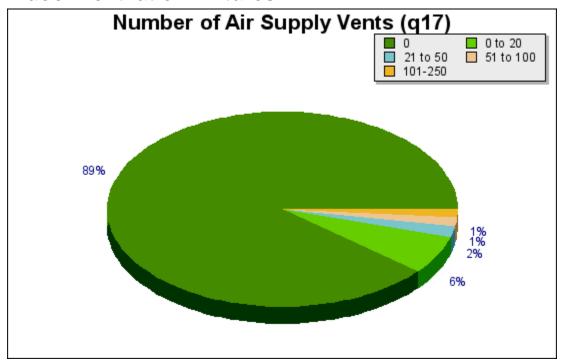


Question q16f: FAN CNTRL UNOCC: Occupancy Sensor

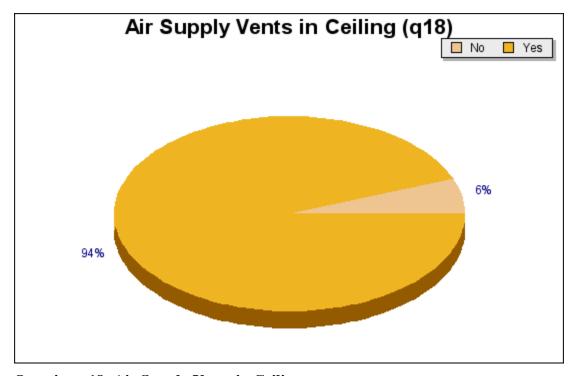


Question q16g: FAN CNTRL UNOCC: Other

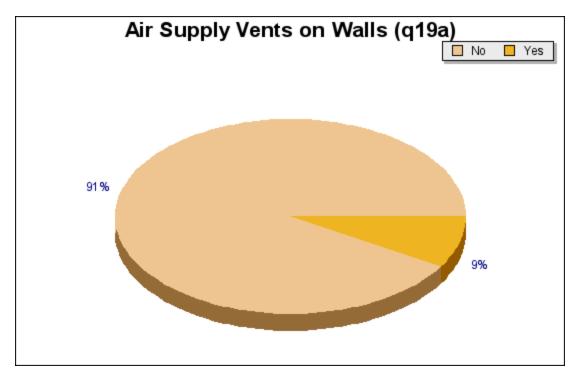
Indoor Ventilation Fixtures



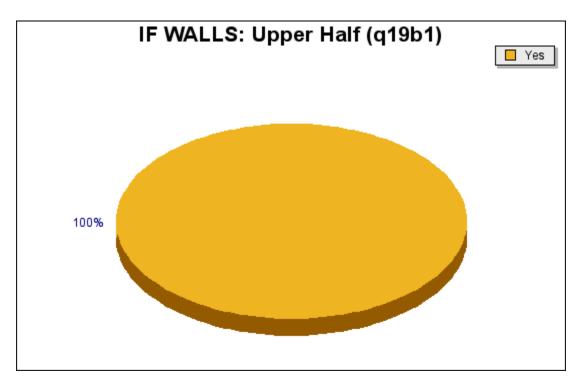
Question q17: Number of Air Supply Vents



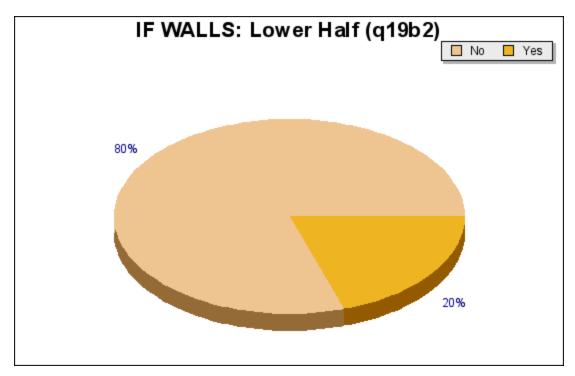
Question q18: Air Supply Vents in Ceiling



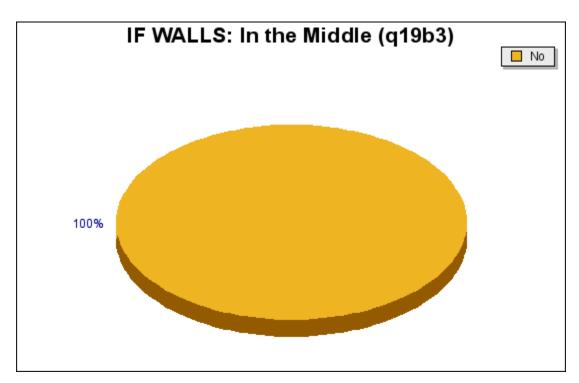
Question q19a: Air Supply Vents on Walls



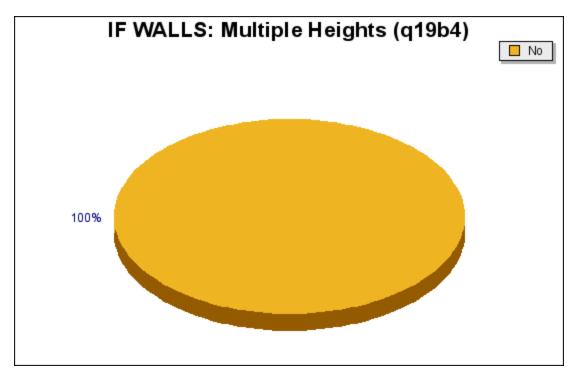
Question q19b1: IF WALLS: Upper Half



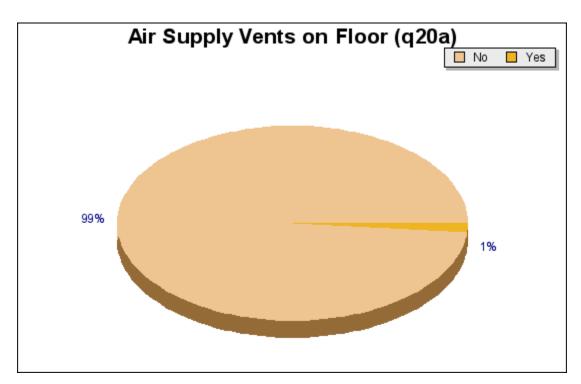
Question q19b2: IF WALLS: Lower Half



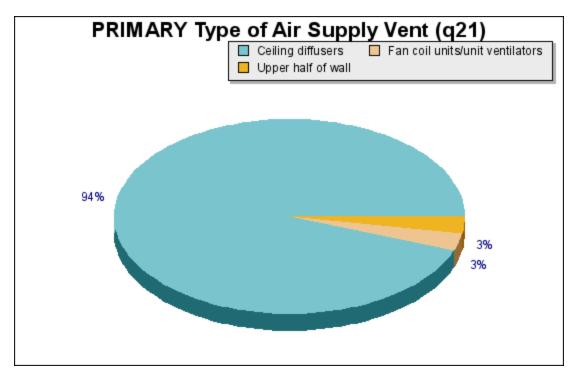
Question q19b3: IF WALLS: In the Middle



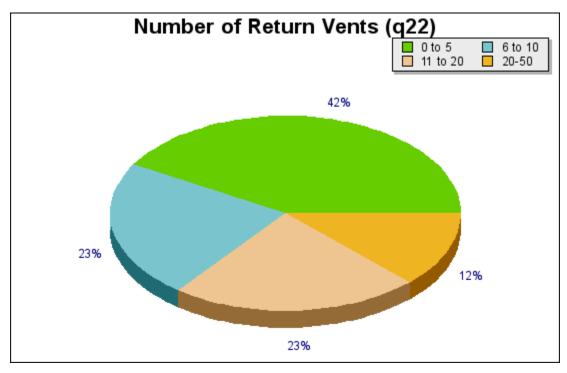
Question q19b4: IF WALLS: Multiple Heights



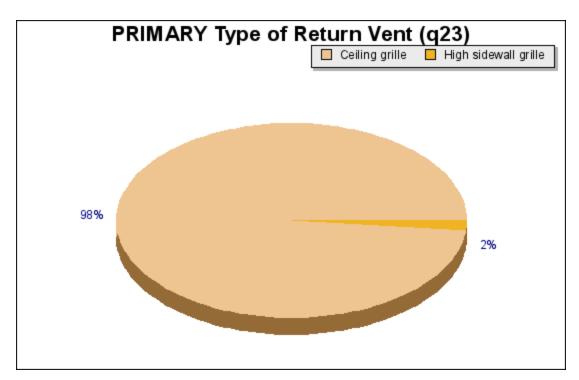
Question q20a: Air Supply Vents on Floor



Question q21: PRIMARY Type of Air Supply Vent

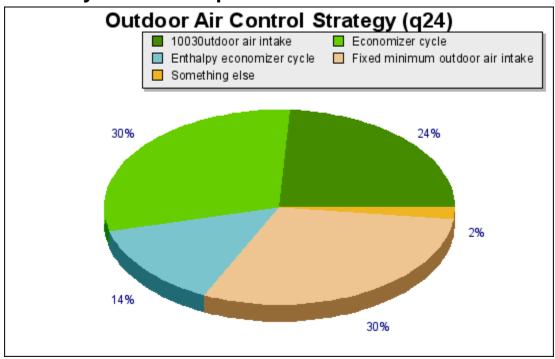


Question q22: Number of Return Vents

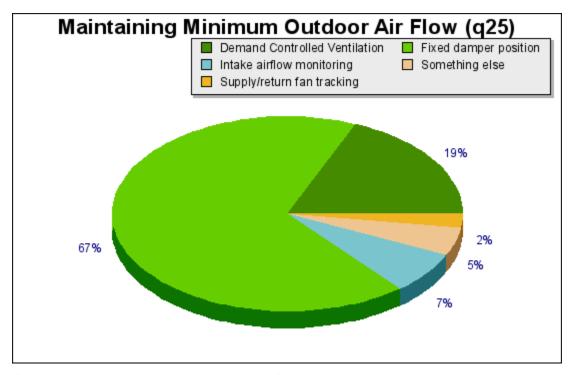


Question q23: PRIMARY Type of Return Vent

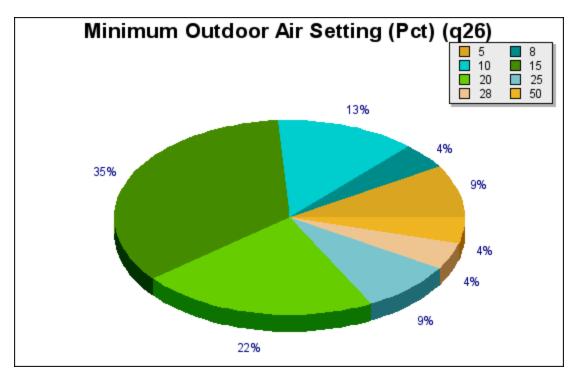
HVAC System Description - Outdoor Air Intake Control



Question q24: Outdoor Air Control Strategy

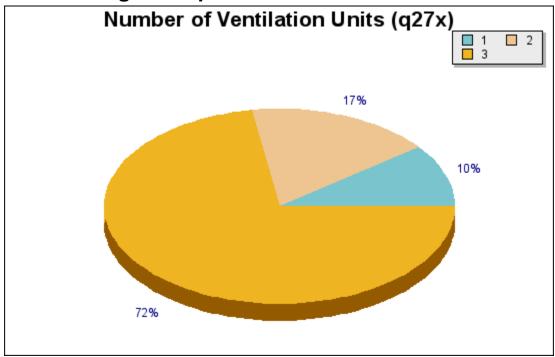


Question q25: Maintaining Minimum Outdoor Air Flow



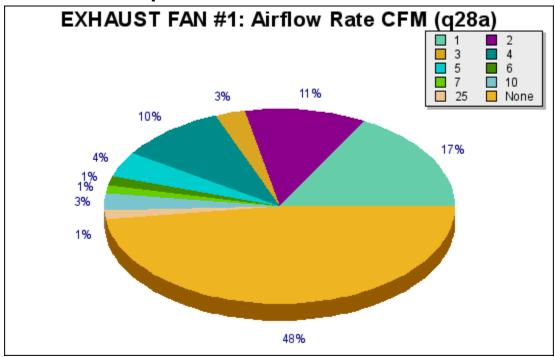
Question q26: Minimum Outdoor Air Setting (Pct)

Air Handling Unit Specifications

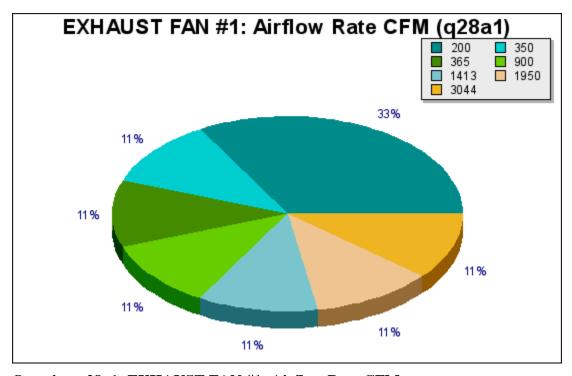


Question q27x: Number of Ventilation Units

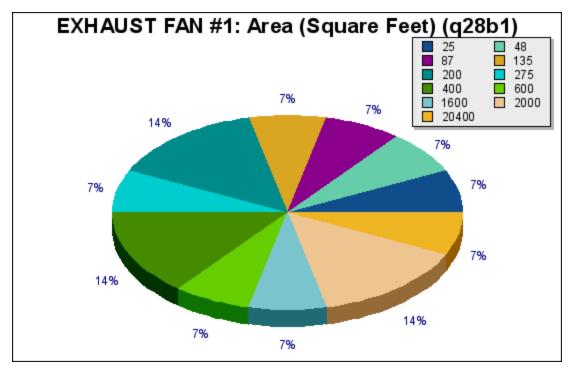
Exhaust Fan Specifications



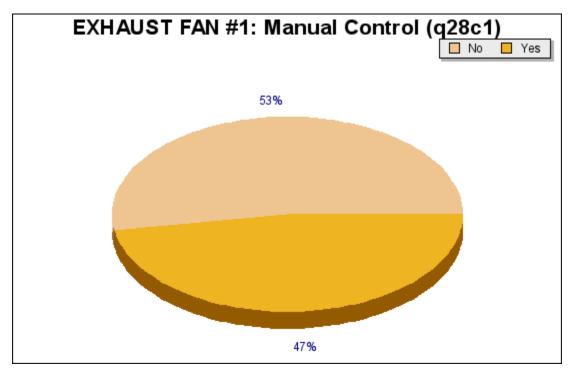
Question q28a: EXHAUST FAN #1: Airflow Rate CFM



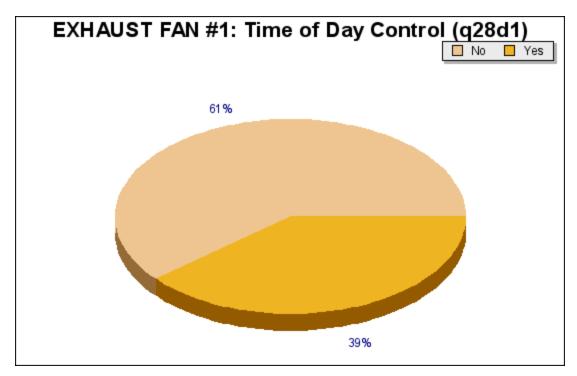
Question q28a1: EXHAUST FAN #1: Airflow Rate CFM



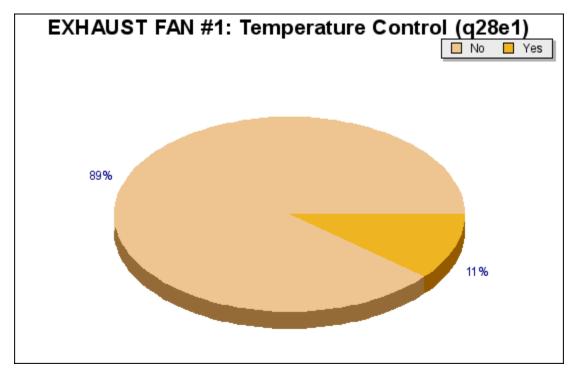
Question q28b1: EXHAUST FAN #1: Area (Square Feet)



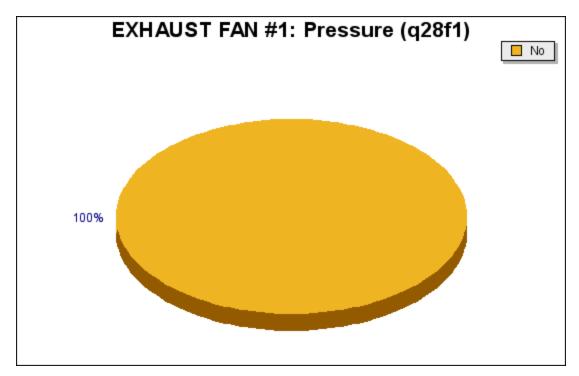
Question q28c1: EXHAUST FAN #1: Manual Control



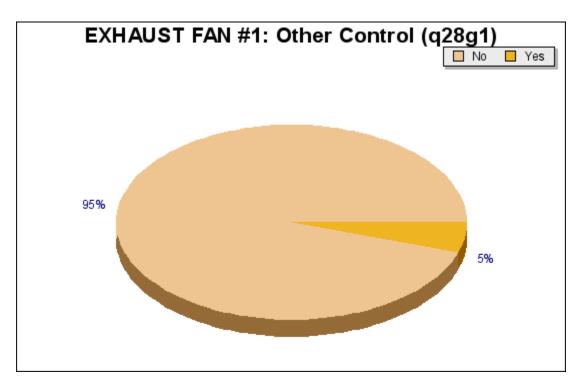
Question q28d1: EXHAUST FAN #1: Time of Day Control



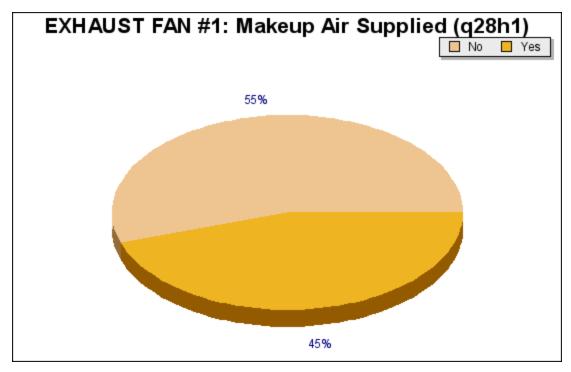
Question q28e1: EXHAUST FAN #1: Temperature Control



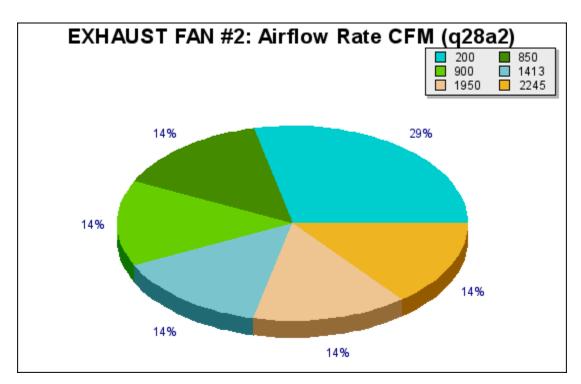
Question q28f1: EXHAUST FAN #1: Pressure



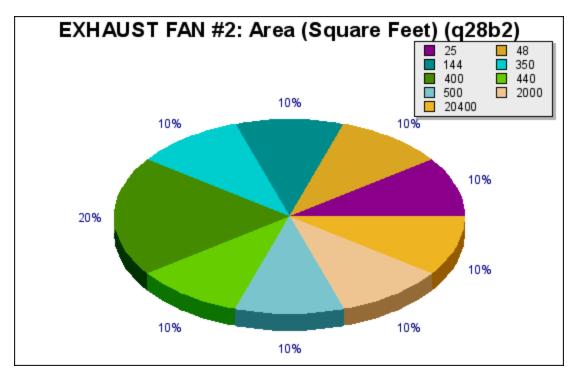
Question q28g1: EXHAUST FAN #1: Other Control



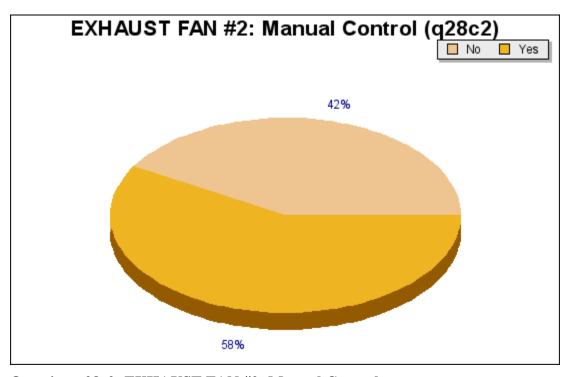
Question q28h1: EXHAUST FAN #1: Makeup Air Supplied



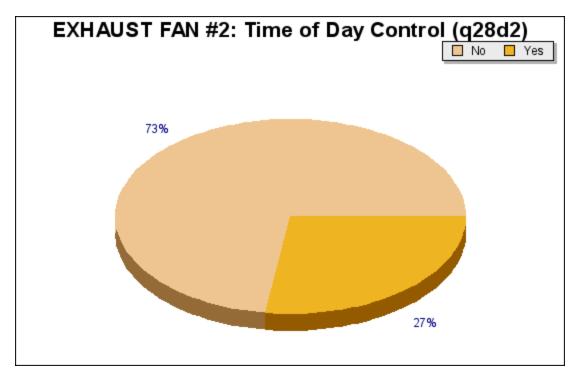
Question q28a2: EXHAUST FAN #2: Airflow Rate CFM



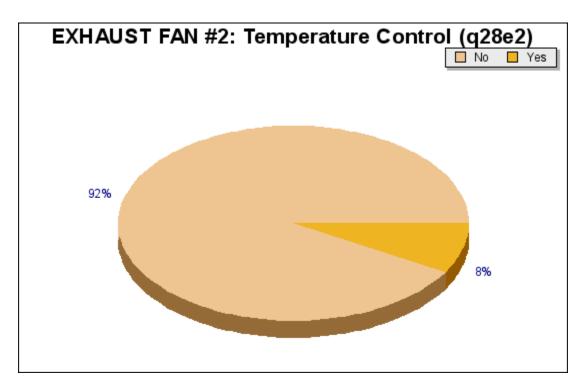
Question q28b2: EXHAUST FAN #2: Area (Square Feet)



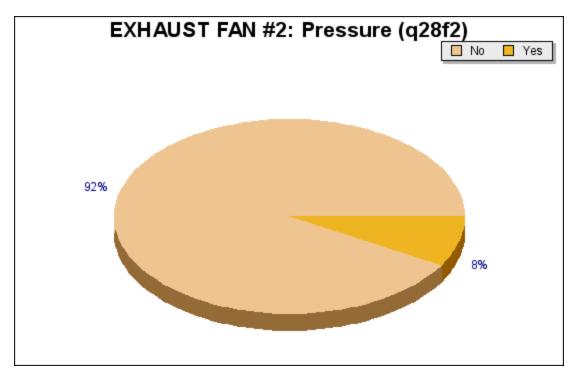
Question q28c2: EXHAUST FAN #2: Manual Control



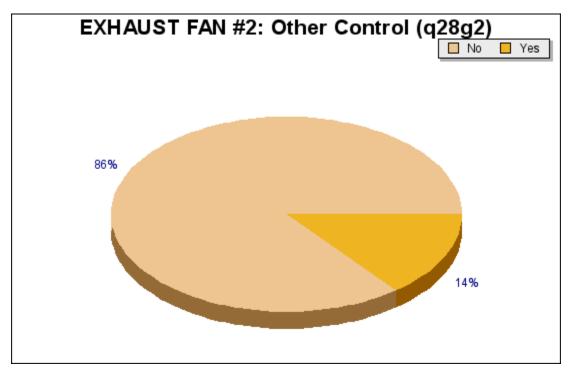
Question q28d2: EXHAUST FAN #2: Time of Day Control



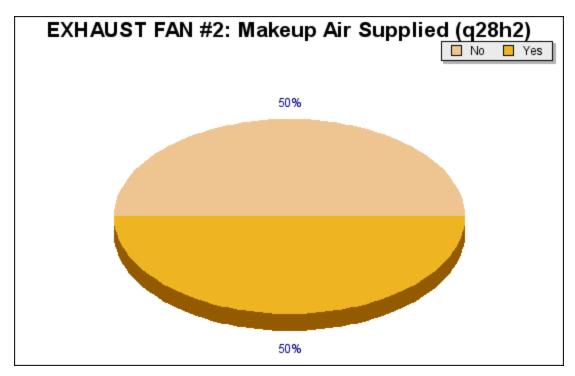
Question q28e2: EXHAUST FAN #2: Temperature Control



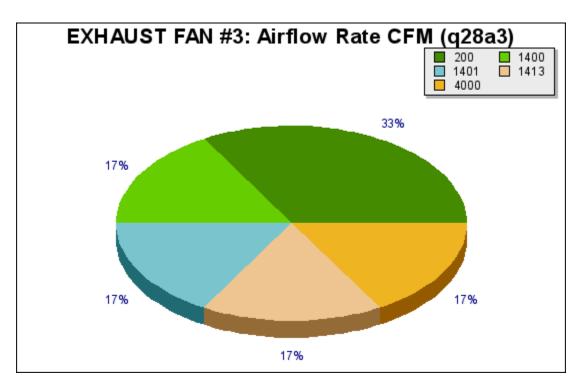
Question q28f2: EXHAUST FAN #2: Pressure



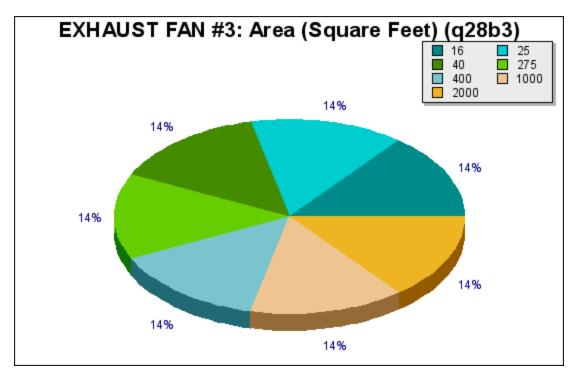
Question q28g2: EXHAUST FAN #2: Other Control



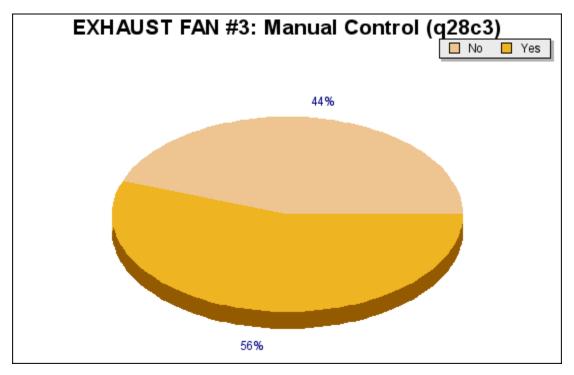
Question q28h2: EXHAUST FAN #2: Makeup Air Supplied



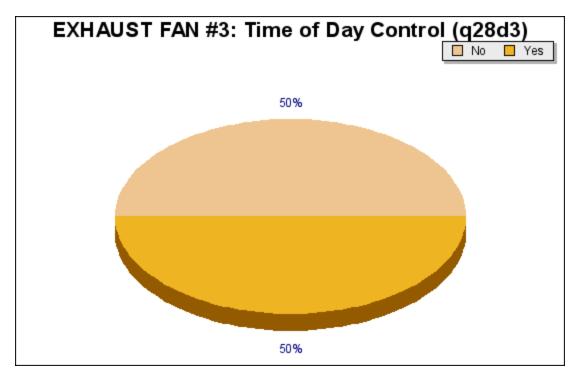
Question q28a3: EXHAUST FAN #3: Airflow Rate CFM



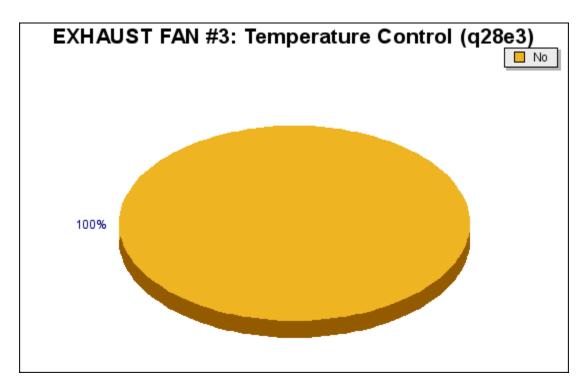
Question q28b3: EXHAUST FAN #3: Area (Square Feet)



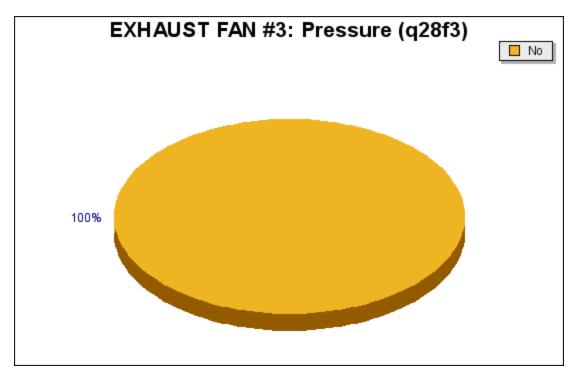
Question q28c3: EXHAUST FAN #3: Manual Control



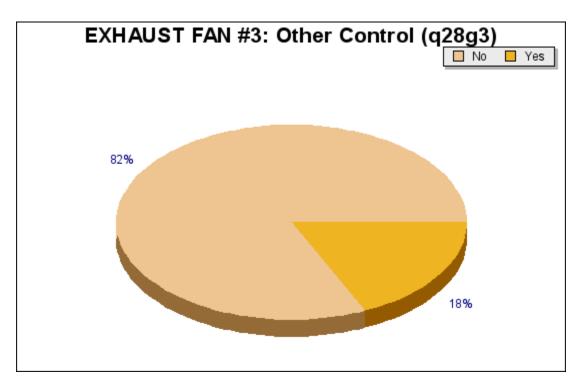
Question q28d3: EXHAUST FAN #3: Time of Day Control



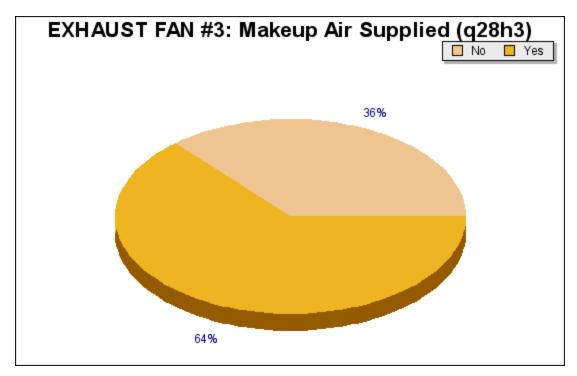
Question q28e3: EXHAUST FAN #3: Temperature Control



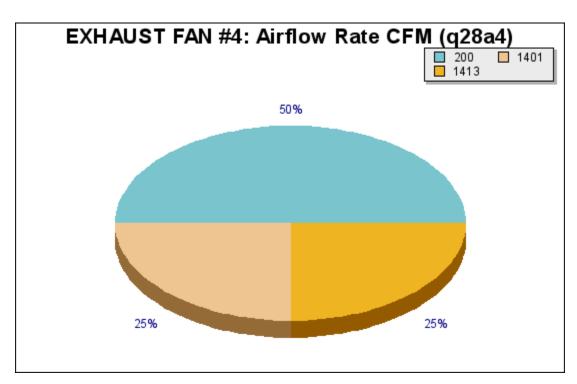
Question q28f3: EXHAUST FAN #3: Pressure



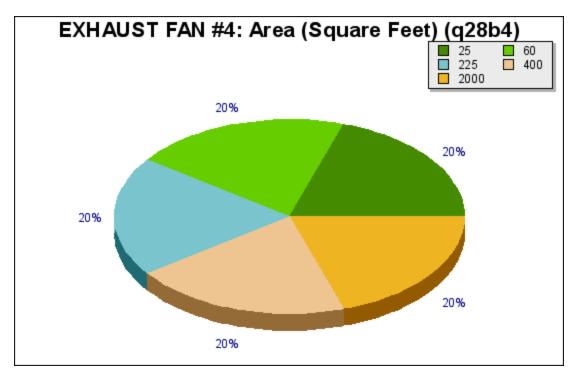
Question q28g3: EXHAUST FAN #3: Other Control



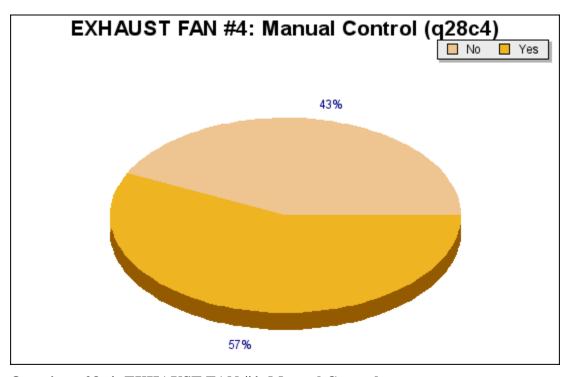
Question q28h3: EXHAUST FAN #3: Makeup Air Supplied



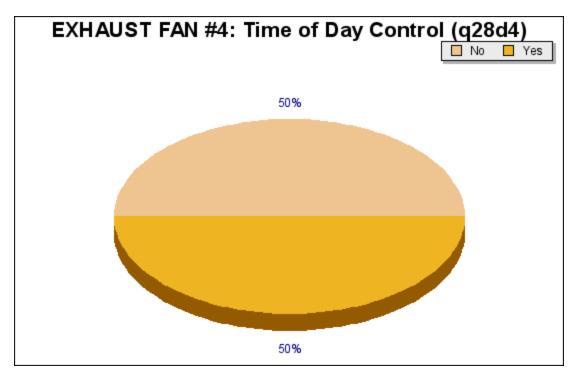
Question q28a4: EXHAUST FAN #4: Airflow Rate CFM



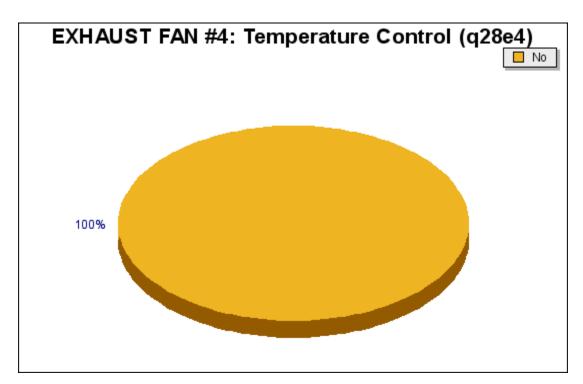
Question q28b4: EXHAUST FAN #4: Area (Square Feet)



Question q28c4: EXHAUST FAN #4: Manual Control



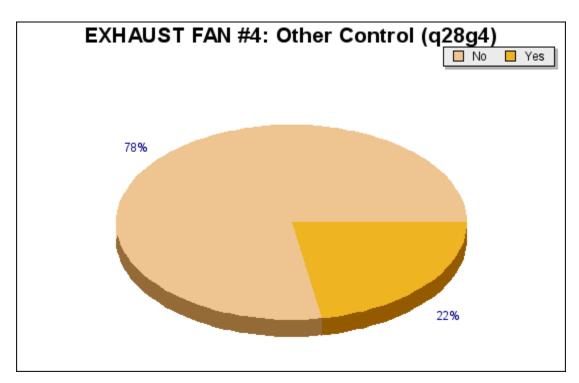
Question q28d4: EXHAUST FAN #4: Time of Day Control



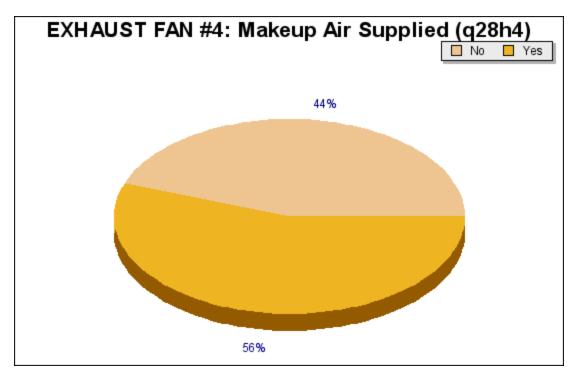
Question q28e4: EXHAUST FAN #4: Temperature Control



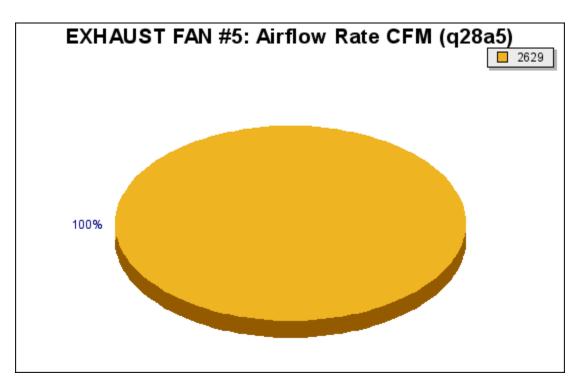
Question q28f4: EXHAUST FAN #4: Pressure



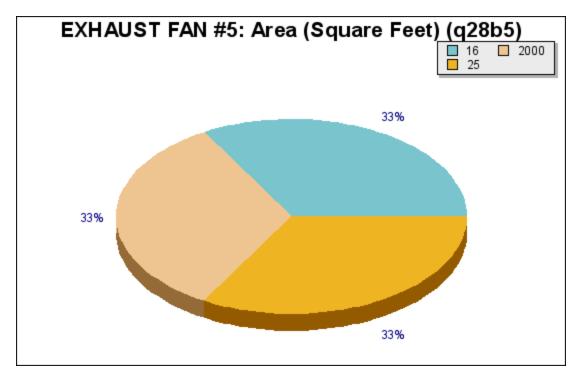
Question q28g4: EXHAUST FAN #4: Other Control



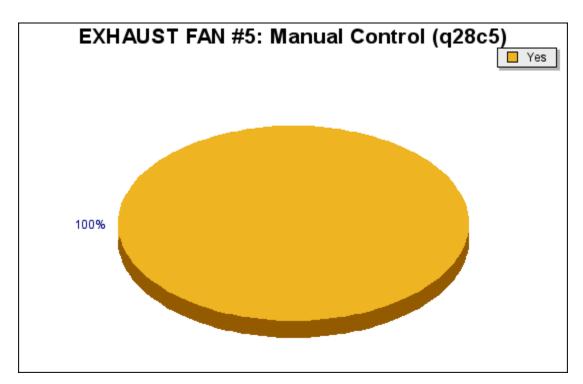
Question q28h4: EXHAUST FAN #4: Makeup Air Supplied



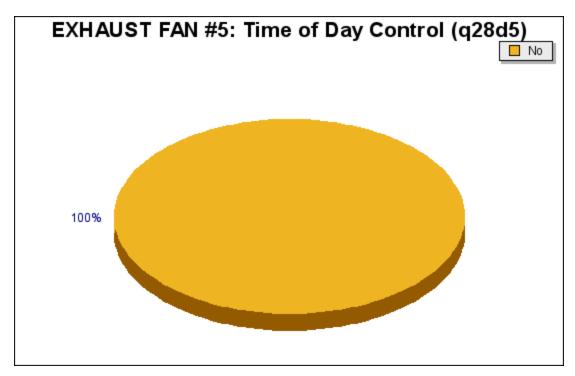
Question q28a5: EXHAUST FAN #5: Airflow Rate CFM



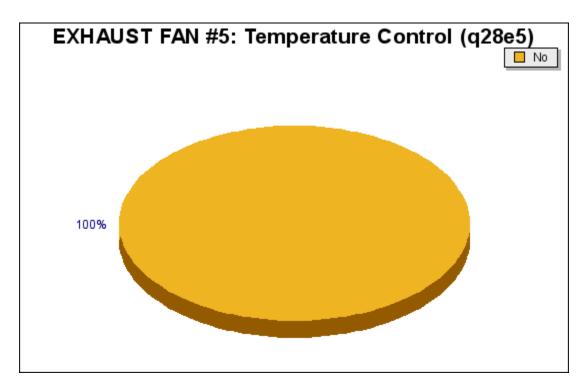
Question q28b5: EXHAUST FAN #5: Area (Square Feet)



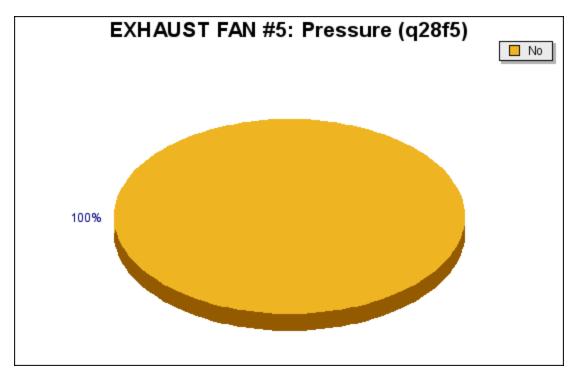
Question q28c5: EXHAUST FAN #5: Manual Control



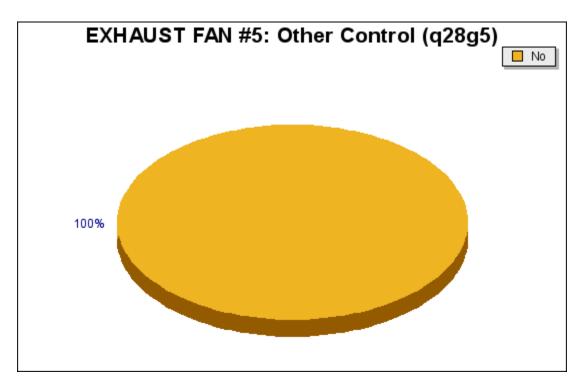
Question q28d5: EXHAUST FAN #5: Time of Day Control



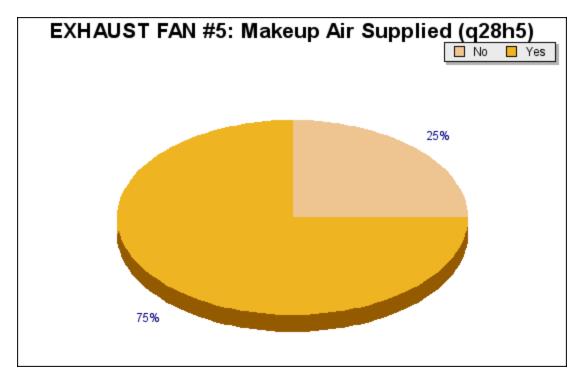
Question q28e5: EXHAUST FAN #5: Temperature Control



Question q28f5: EXHAUST FAN #5: Pressure

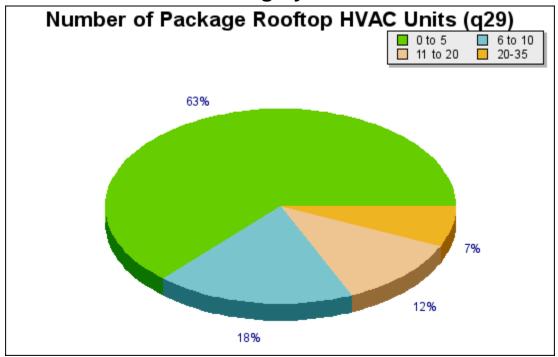


Question q28g5: EXHAUST FAN #5: Other Control



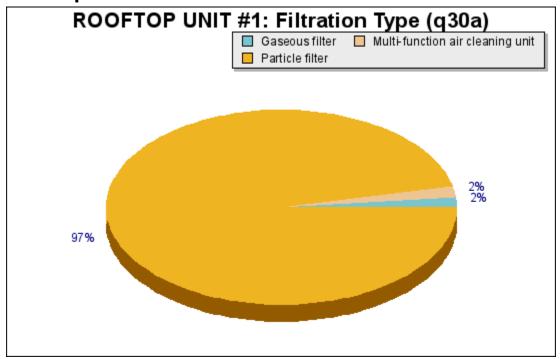
Question q28h5: EXHAUST FAN #5: Makeup Air Supplied

Filtration And Air Cleaning Systems

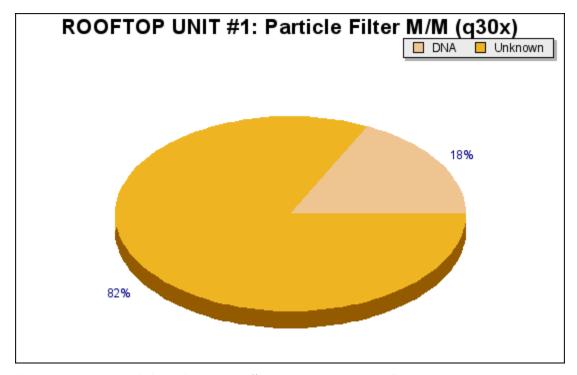


Question q29: Number of Package Rooftop HVAC Units

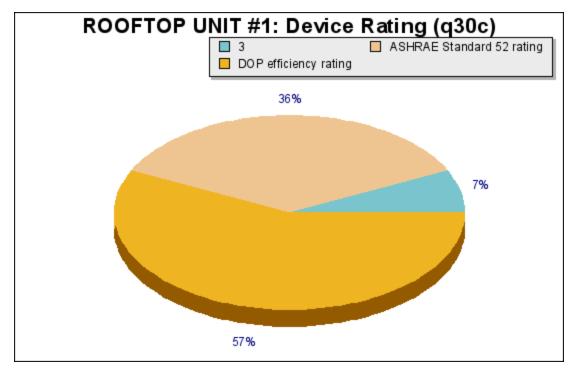
Rooftop Unit #1



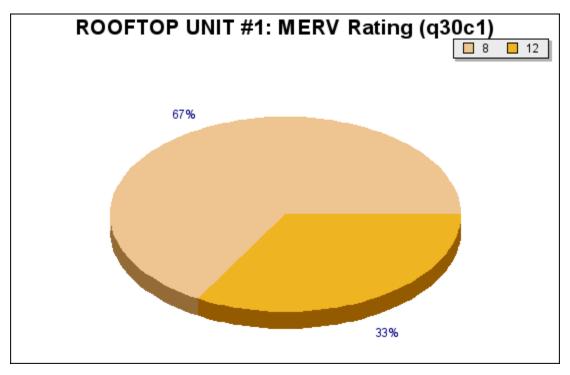
Question q30a: ROOFTOP UNIT #1: Filtration Type



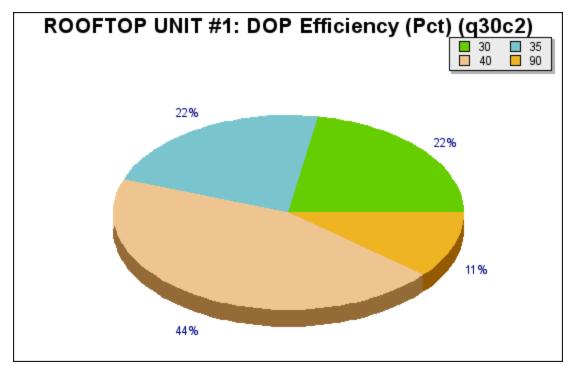
Question q30x: ROOFTOP UNIT #1: Particle Filter M/M



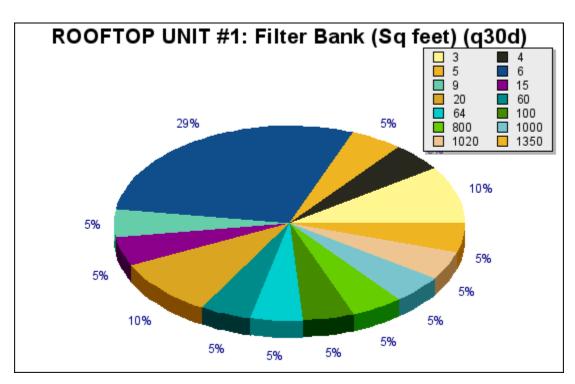
Question q30c: ROOFTOP UNIT #1: Device Rating



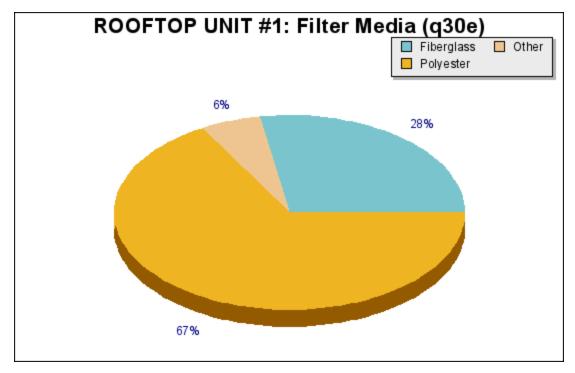
Question q30c1: ROOFTOP UNIT #1: MERV Rating



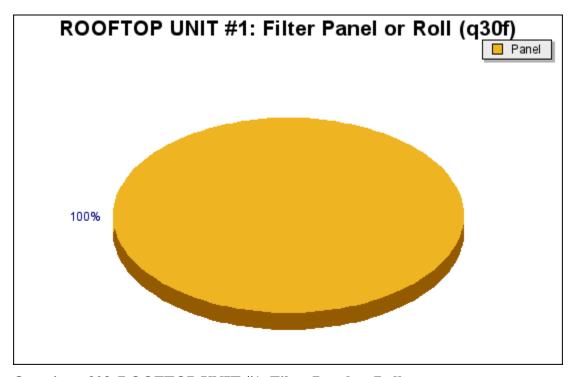
Question q30c2: ROOFTOP UNIT #1: DOP Efficiency (Pct)



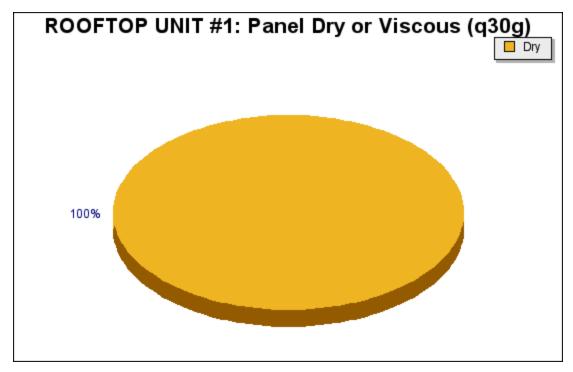
Question q30d: ROOFTOP UNIT #1: Filter Bank (Sq feet)



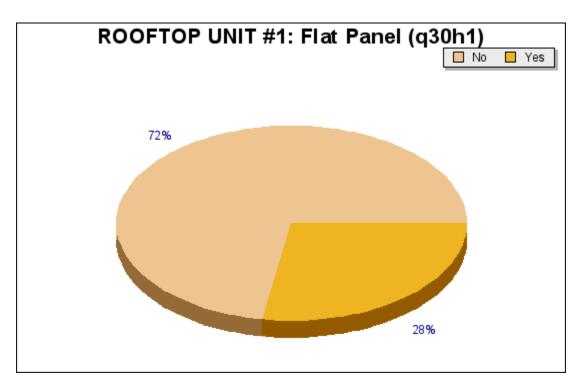
Question q30e: ROOFTOP UNIT #1: Filter Media



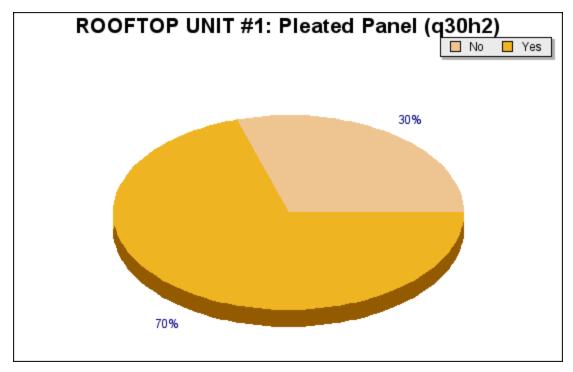
Question q30f: ROOFTOP UNIT #1: Filter Panel or Roll



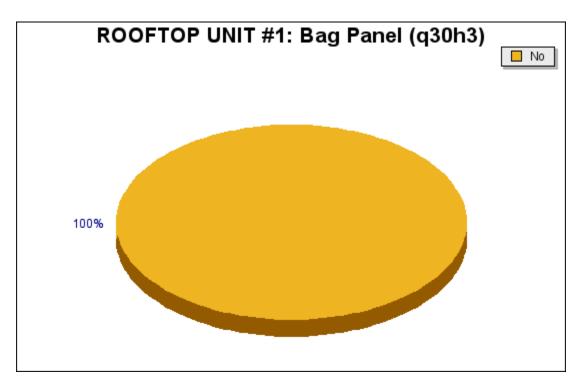
Question q30g: ROOFTOP UNIT #1: Panel Dry or Viscous



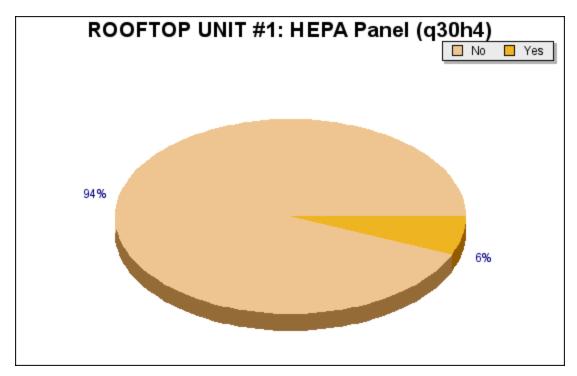
Question q30h1: ROOFTOP UNIT #1: Flat Panel



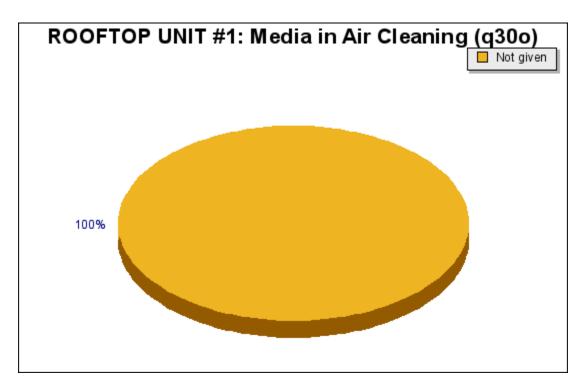
Question q30h2: ROOFTOP UNIT #1: Pleated Panel



Question q30h3: ROOFTOP UNIT #1: Bag Panel

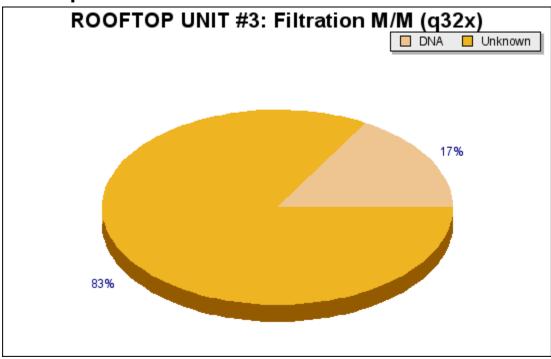


Question q30h4: ROOFTOP UNIT #1: HEPA Panel

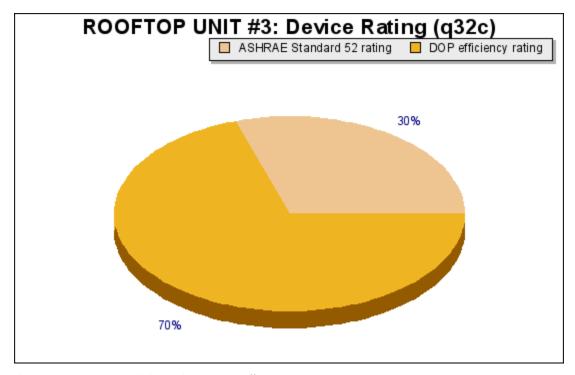


Question q30o: ROOFTOP UNIT #1: Media in Air Cleaning

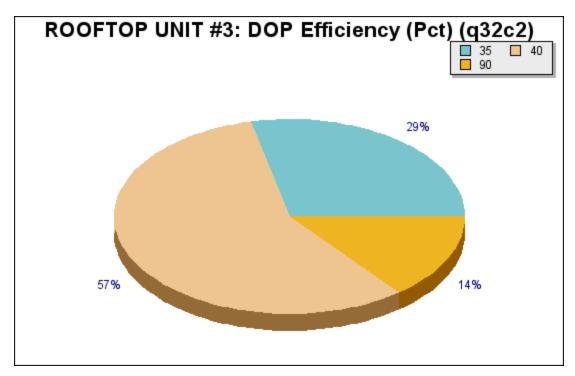
Rooftop Unit #3



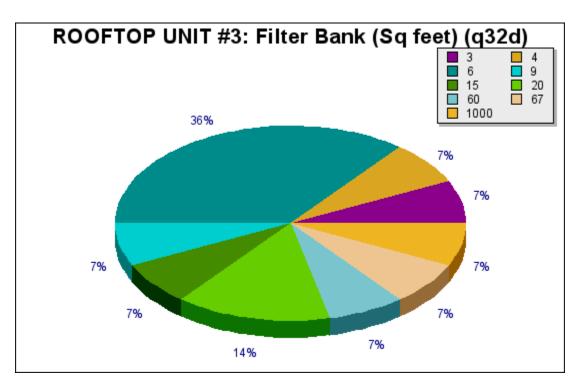
Question q32x: ROOFTOP UNIT #3: Filtration M/M



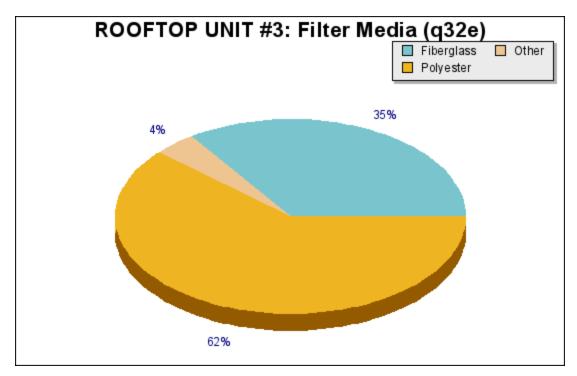
Question q32c: ROOFTOP UNIT #3: Device Rating



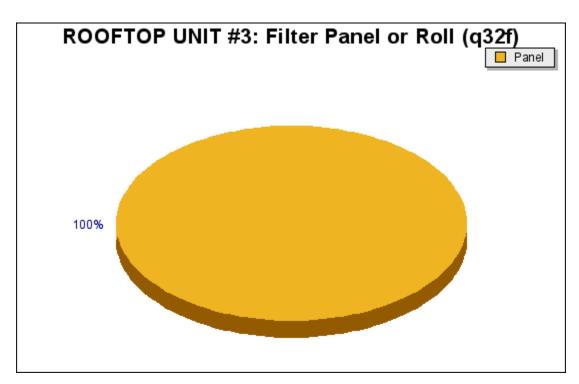
Question q32c2: ROOFTOP UNIT #3: DOP Efficiency (Pct)



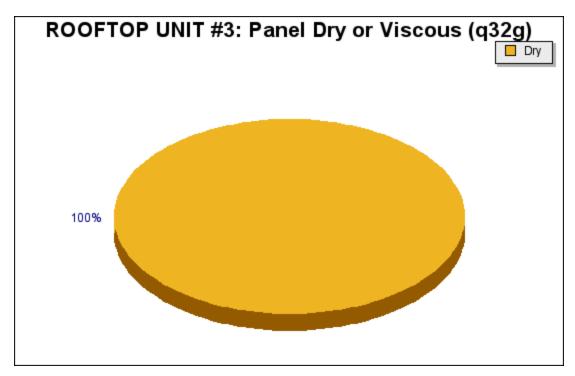
Question q32d: ROOFTOP UNIT #3: Filter Bank (Sq feet)



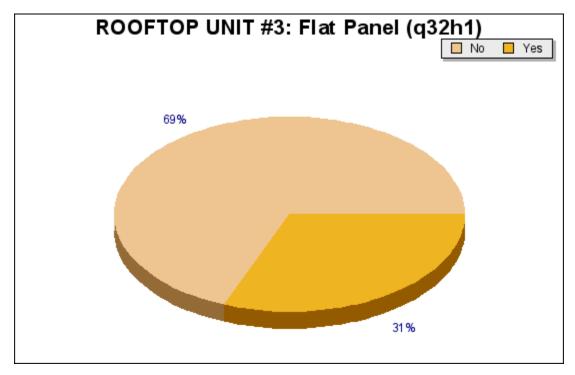
Question q32e: ROOFTOP UNIT #3: Filter Media



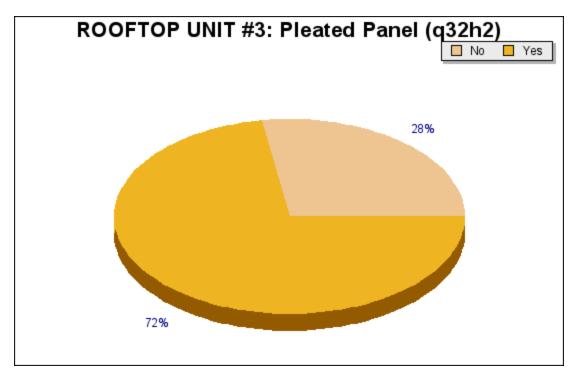
Question q32f: ROOFTOP UNIT #3: Filter Panel or Roll



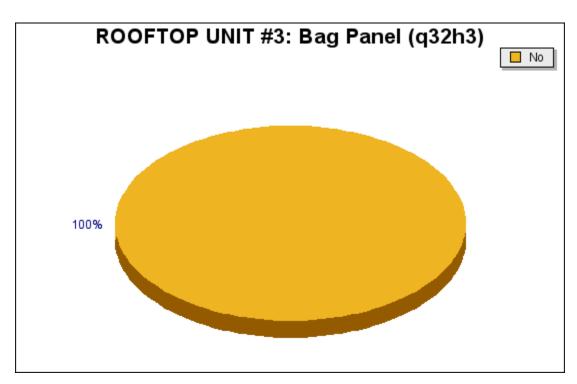
Question q32g: ROOFTOP UNIT #3: Panel Dry or Viscous



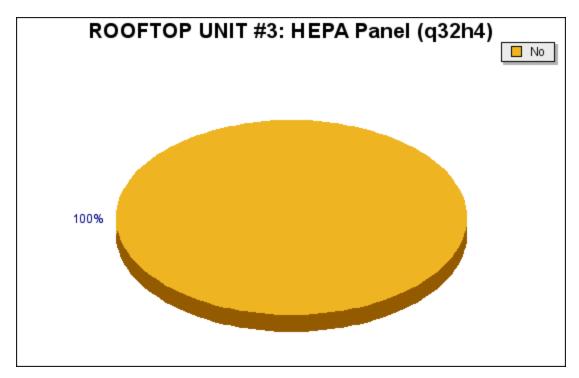
Question q32h1: ROOFTOP UNIT #3: Flat Panel



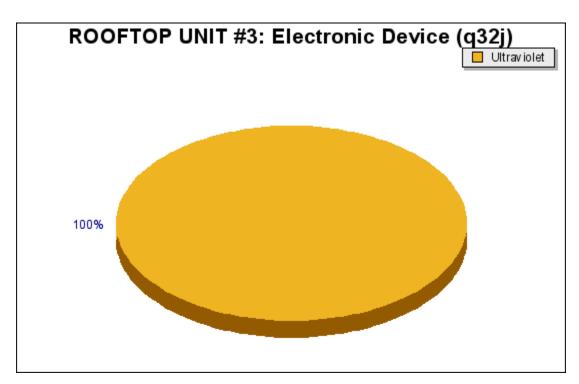
Question q32h2: ROOFTOP UNIT #3: Pleated Panel



Question q32h3: ROOFTOP UNIT #3: Bag Panel

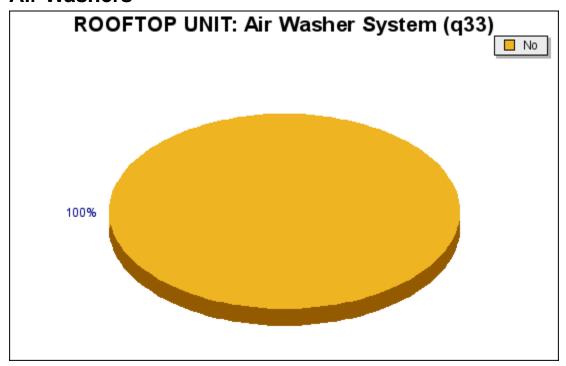


Question q32h4: ROOFTOP UNIT #3: HEPA Panel



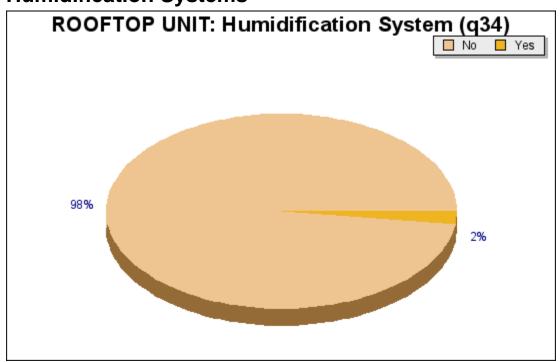
Question q32j: ROOFTOP UNIT #3: Electronic Device

Air Washers



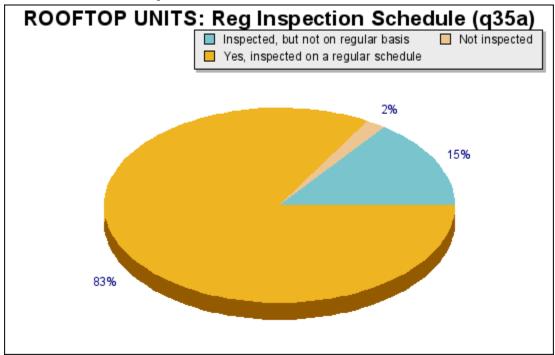
Question q33: ROOFTOP UNIT: Air Washer System

Humidification Systems

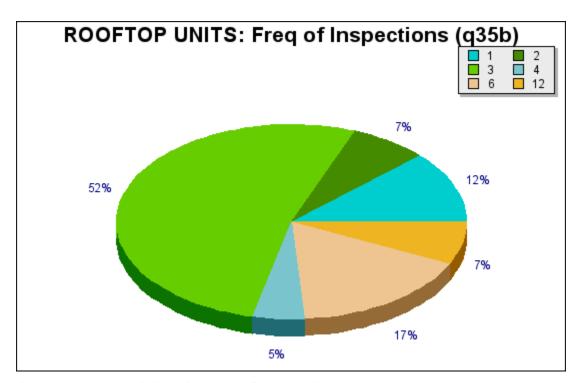


Question q34: ROOFTOP UNIT: Humidification System

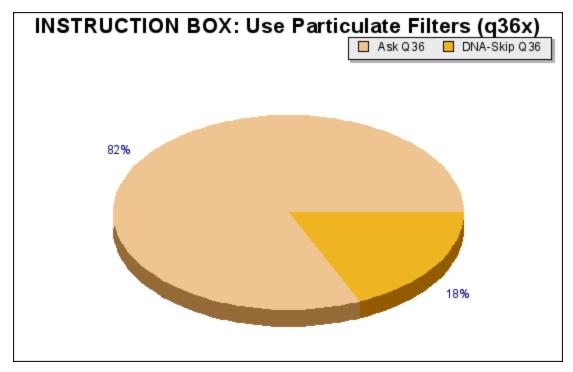
Air Handler Inspections



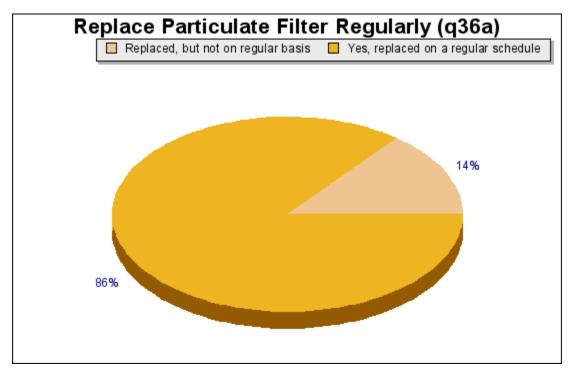
Question q35a: ROOFTOP UNITS: Reg Inspection Schedule



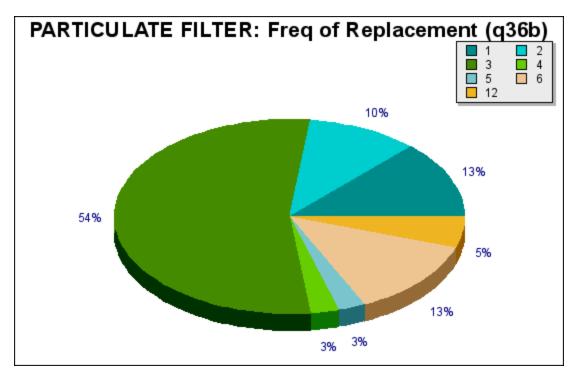
Question q35b: ROOFTOP UNITS: Freq of Inspections



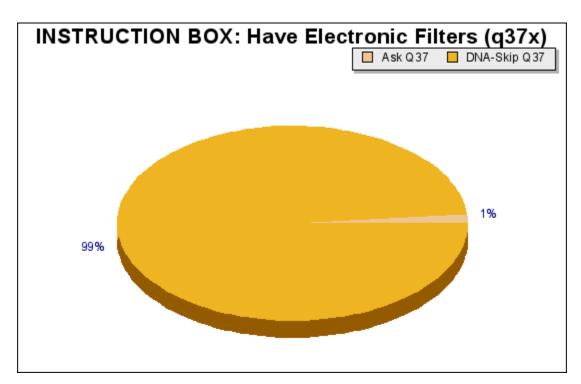
Question q36x: INSTRUCTION BOX: Use Particulate Filters



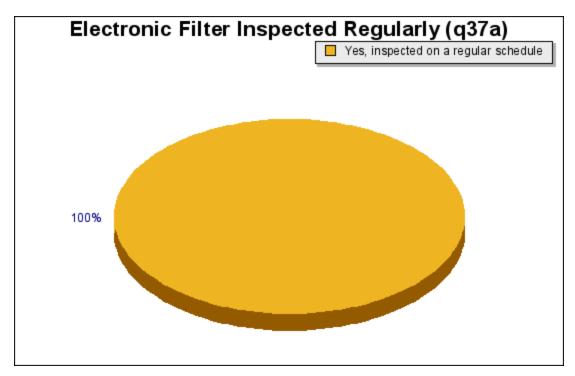
Question q36a: Replace Particulate Filter Regularly



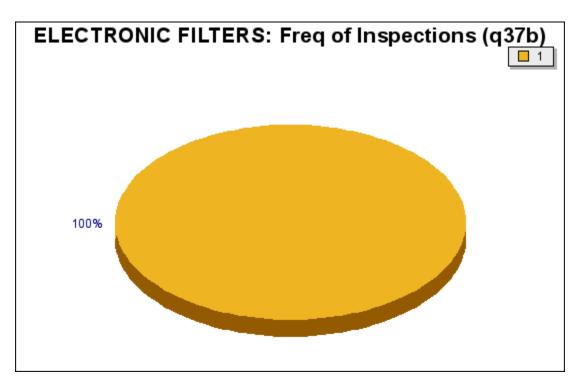
Question q36b: PARTICULATE FILTER: Freq of Replacement



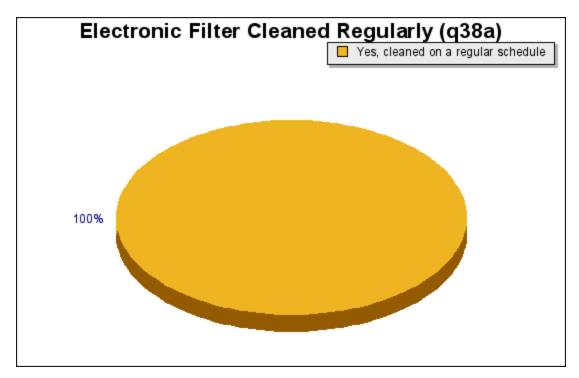
Question q37x: INSTRUCTION BOX: Have Electronic Filters



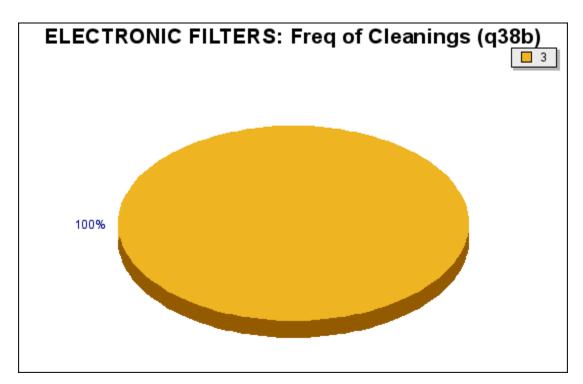
Question q37a: Electronic Filter Inspected Regularly



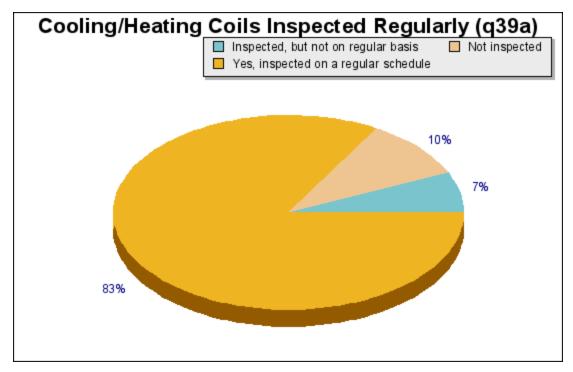
Question q37b: ELECTRONIC FILTERS: Freq of Inspections



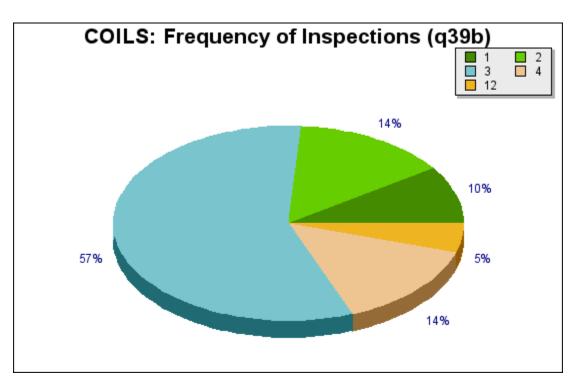
Question q38a: Electronic Filter Cleaned Regularly



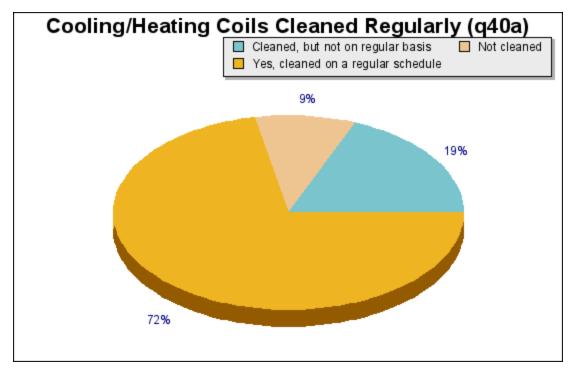
Question q38b: ELECTRONIC FILTERS: Freq of Cleanings



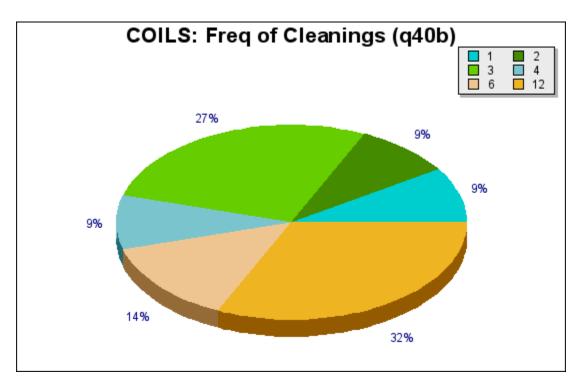
Question q39a: Cooling/Heating Coils Inspected Regularl



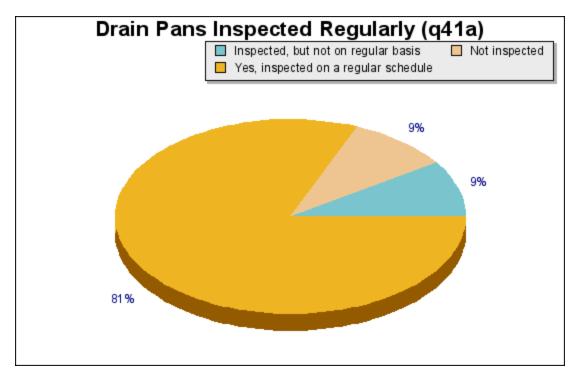
Question q39b: COILS: Frequency of Inspections



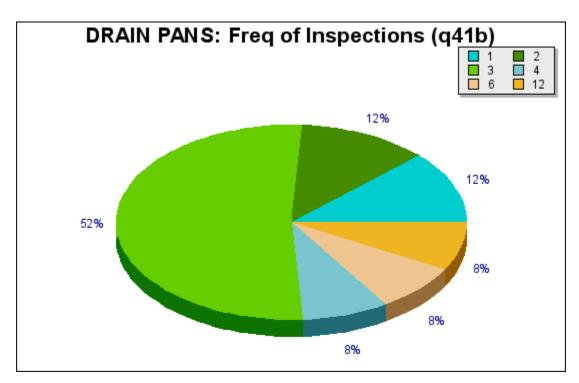
Question q40a: Cooling/Heating Coils Cleaned Regularly



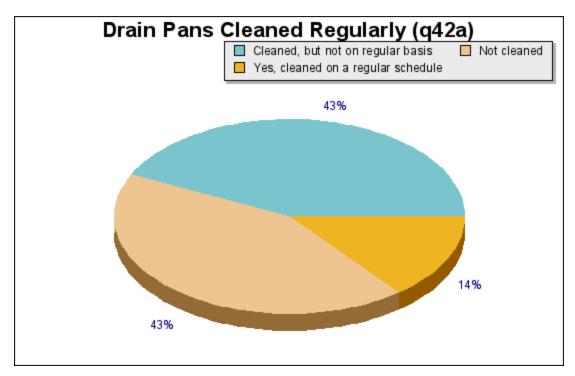
Question q40b: COILS: Freq of Cleanings



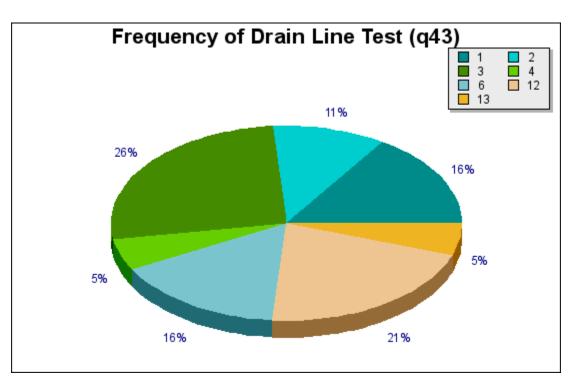
Question q41a: Drain Pans Inspected Regularly



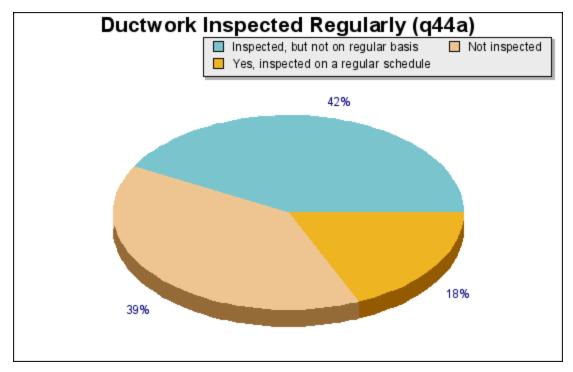
Question q41b: DRAIN PANS: Freq of Inspections



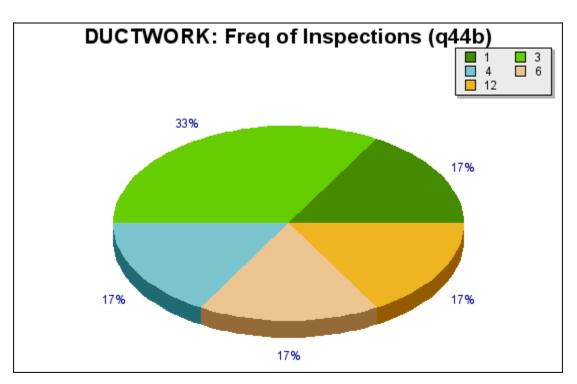
Question q42a: Drain Pans Cleaned Regularly



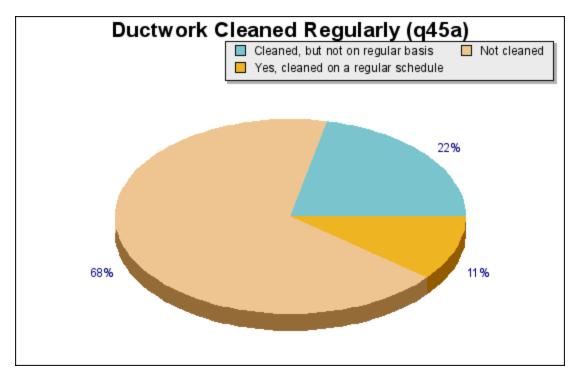
Question q43: Frequency of Drain Line Test



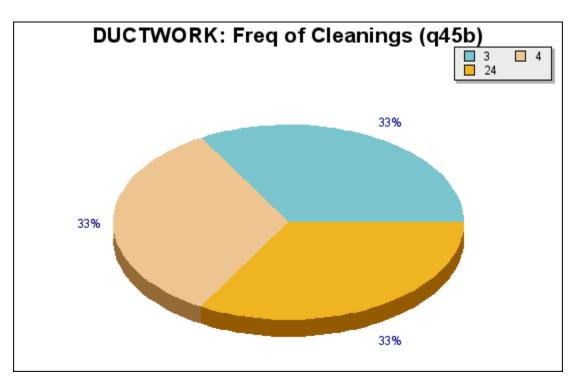
Question q44a: Ductwork Inspected Regularly



Question q44b: DUCTWORK: Freq of Inspections

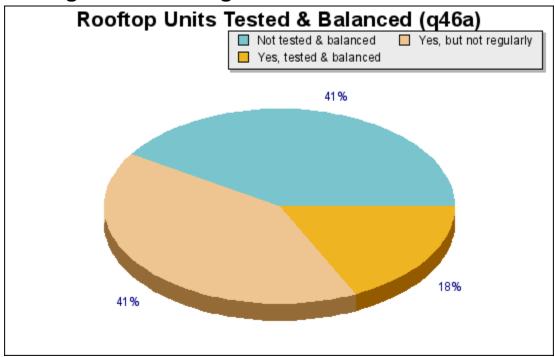


Question q45a: Ductwork Cleaned Regularly

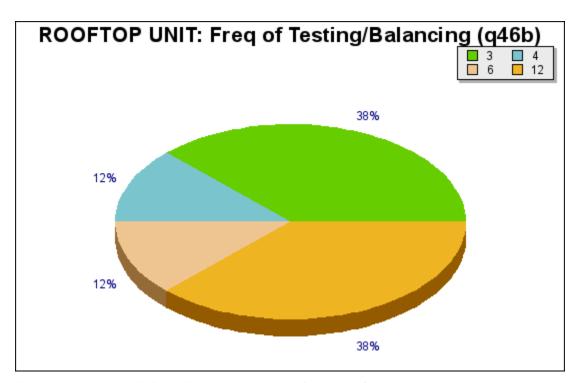


Question q45b: DUCTWORK: Freq of Cleanings

Testing And Balancing

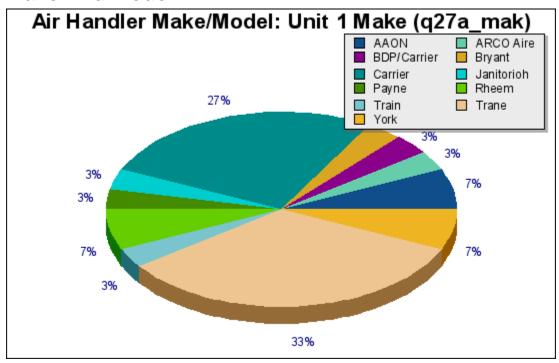


Question q46a: Rooftop Units Tested & Balanced

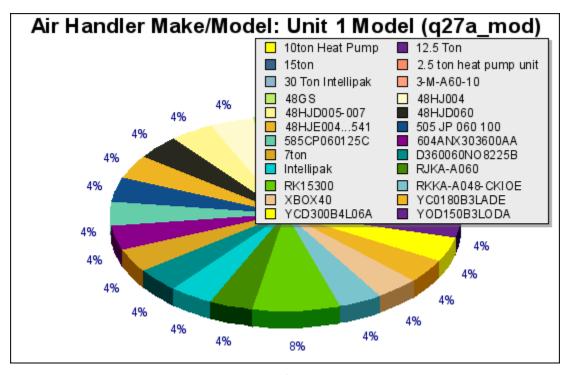


Question q46b: ROOFTOP UNIT: Freq of Testing/Balancing

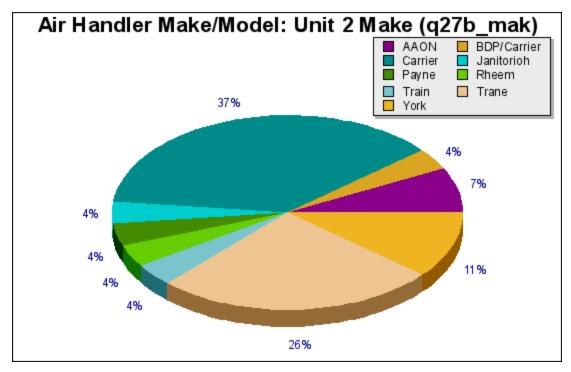
Make And Model



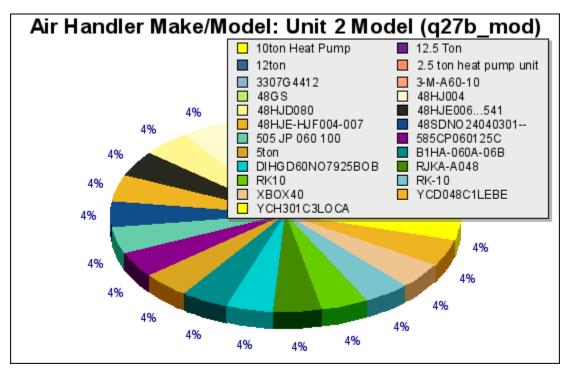
Question q27a_mak: Air Handler Make/Model: Unit 1 Make



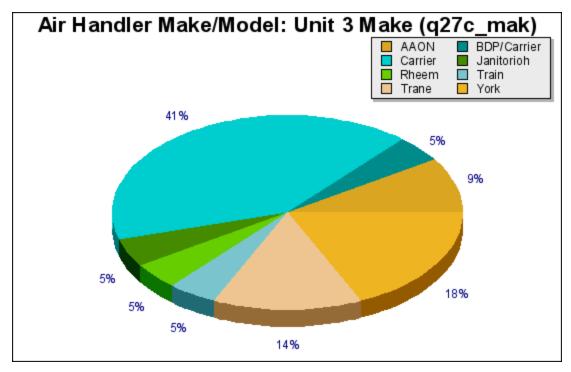
Question q27a_mod: Air Handler Make/Model: Unit 1 Model



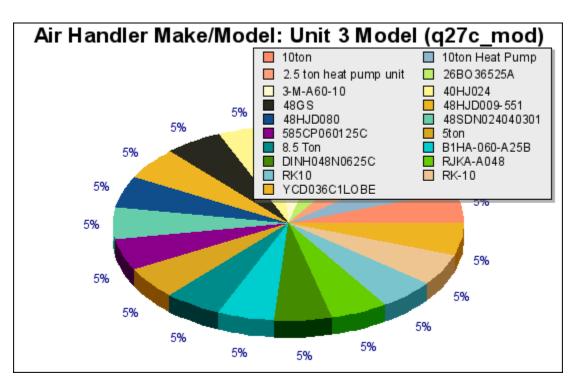
Question q27b_mak: Air Handler Make/Model: Unit 2 Make



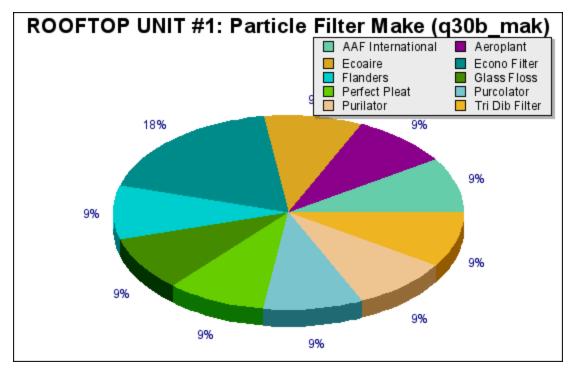
Question q27b_mod: Air Handler Make/Model: Unit 2 Model



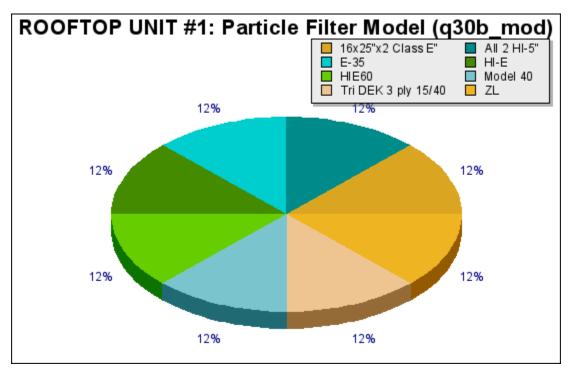
Question q27c_mak: Air Handler Make/Model: Unit 3 Make



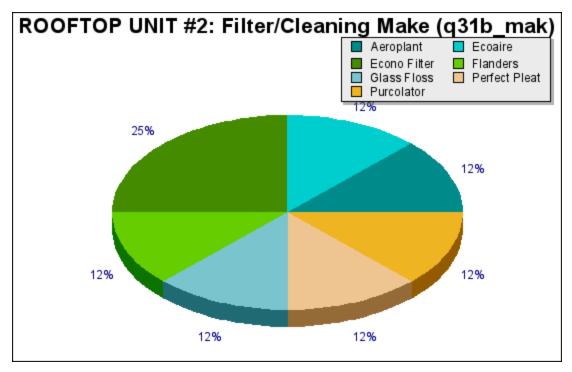
Question q27c_mod: Air Handler Make/Model: Unit 3 Model



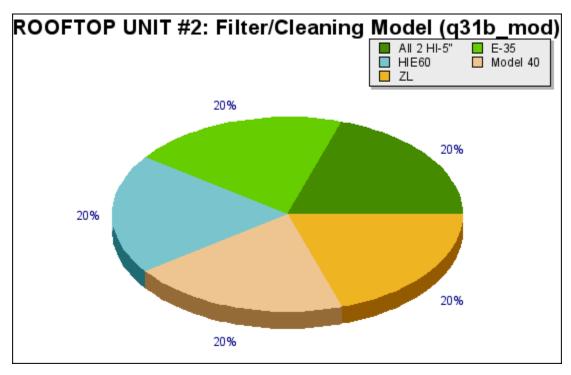
Question q30b_mak: ROOFTOP UNIT #1: Particle Filter Make



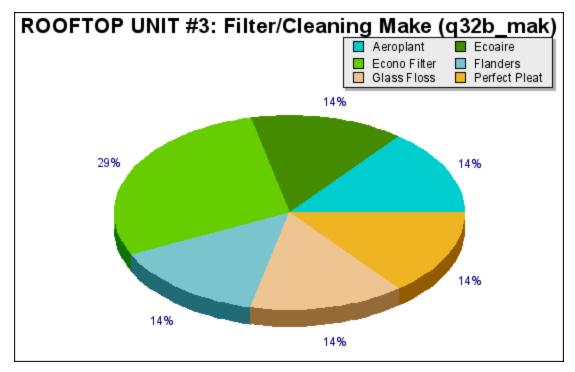
Question q30b_mod: ROOFTOP UNIT #1: Particle Filter Model



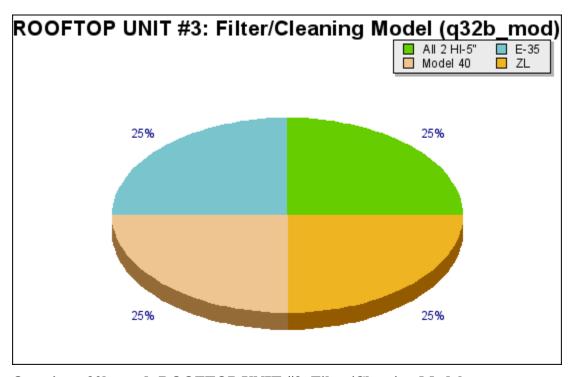
Question q31b_mak: ROOFTOP UNIT #2: Filter/Cleaning Make



Question q31b_mod: ROOFTOP UNIT #2: Filter/Cleaning Model



Question q32b_mak: ROOFTOP UNIT #3: Filter/Cleaning Make



Question q32b_mod: ROOFTOP UNIT #3: Filter/Cleaning Model