

Large Filing Separator Sheet

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A3c I see that you also installed a third measure. How many
<SUBCATEGORYDESCRIPTION3> were installed? [NUMERIC OPEN END; RANGE 1-
3000, DK, REF]

IF A3A=0 AND A3B=0 AND A3C=0: Thank and Terminate, Record Disposition as "Could Not
Confirm Measures"

PL1 Who was the most influential in identifying and recommending that you install the
<SUBCATEGORYDESCRIPTION 1> project you completed through the Custom Program?

1. Me/respondent
2. Contractor
3. Engineer
4. Architect
5. Manufacturer
6. Distributor
7. Owner
8. Supplier
9. AEP Ohio representative/program staff
00. Other, specify
98. Don't know
99. Refused

PL2 And who informed you about the availability of an incentive through the Custom
Program?

1. Me/respondent
2. Contractor
3. Engineer
4. Architect
5. Manufacturer
6. Distributor
7. AEP Ohio Account Manager
8. Owner/developer
9. Project manager
10. Supplier
11. AEP OHIO representative/program staff
00. Other, specify
98. Don't know
99. Refused

LIGHTING MODULE

[ASK IF <LIGHT>=1, ELSE SKIP TO HVAC MODULE]

Measure Modules

[For Loop 2, replace "1" at the end of read-ins with "2"; for Loop 3, replace "1" with "3".]

The following questions are about the <SUBCATEGORYDESCRIPTION_1> you installed through the Custom Program.

- L0 When did you implement (install) this project (IF NECESSARY, PROBE FOR BEST GUESS)
- a Month [Precodes for Jan through Dec., DK, REF]
 - b Year [Precodes for 2009 and 2010, DK, REF]
- L1 Please Briefly describe the Lighting project installed through the Custom Program.
[Circle all that apply.]
- 1. Custom linear fluorescents
 - 2. Custom LED lighting
 - 3. Custom HID lighting
 - 4. Custom Exterior lighting
 - 5. Custom display or specialty lighting
 - 6. Custom lighting controls
 - 7. Other [describe verbatim]
 - 8. Don't know
 - 9. Refused
- L3 Was the new lighting equipment installed in an air conditioned (cooled) space?
- 1. Yes
 - 2. No
 - 3. Some of the lighting was and some wasn't
 - 8. Don't know
 - 9. Refused

LIGHTING CONTROLS

[ASK IF L1 = 6; ELSE GO TO L5]

- L4 Before Lighting Controls were installed, about how many hours per day were the lights in operation? [NUMERIC OPEN END; 0 TO 24; 98=Don't know, 99=Refused]
- L4 After controls were installed, about how many hours per day were the lights in operation? [NUMERIC OPEN END; 0 TO 24; 98=Don't know, 99=Refused]

L5 Why was this lighting project submitted through the custom program rather than the prescriptive Program?

1. Special lighting technology installed
2. Higher incentives in the Custom Program
3. Prescriptive Program over-subscribed
4. Integrated lighting and controls
7. Other [describe verbatim]
8. Don't know
9. Refused

EQUIPMENT INTO STORAGE

L6 Was any of the rebated lighting equipment placed into storage or installed at another facility?

1. Yes
2. No
8. Don't know
9. Refused

[SKIP L6a AND L6b IF L6<>1]

L6a What percentage of the rebated lighting equipment was placed in storage? [NUMERIC OPEN END, 0 TO 100; 998=Don't know, 999=Refused]

L6b And what percentage was installed at another facility? [NUMERIC OPEN END, 0 TO 100; 998=Don't know, 999=Refused]

[ASK THE PY2 NET-TO-GROSS MODULE, THEN RETURN]

[ASK THE PY2 SPILLOVER MODULE, THEN RETURN]

HVAC MODULE

[ASK IF COOLING=1, ELSE SKIP TO REFRIGERATION MODULE]

PC1 Who was the most influential in identifying and recommending that you install the
<SUBCATEGORYDESCRIPTION 1> project you completed through the Custom Program?

1. Me/respondent
2. Contractor
3. Engineer
4. Architect
5. Manufacturer
6. Distributor
7. Owner
9. AEP Ohio representative/program staff
00. Other, specify
98. Don't know
99. Refused

PC2 And who informed you about the availability of an incentive through AEP Ohio Custom Program?

1. Me/respondent)
2. Contractor
3. Engineer
4. Architect
5. Manufacturer
6. Distributor
7. AEP/Ohio Account Manager
8. Owner/developer
9. Project manager
11. AEP Ohio representative/program staff
00. Other, specify
98. Don't know
99. Refused

The following questions are about the <SUBCATEGORYDESCRIPTION 1> you installed through the Business Custom Program.

C0 When did you install the <SUBCATEGORYDESCRIPTION 1> (IF NECESSARY, PROBE FOR BEST GUESS)

- a Month [Precodes for Jan through Dec.; DK, REF]
- b Year [Precodes for 2009 and 2010; DK, REF]

REMOVED EQUIPMENT

C1 What type of HVAC equipment was REMOVED when you installed
<SUBCATEGORYDESCRIPTION 1> through the Business Custom Program? (DO NOT READ
LIST)

- 1 Split system air conditioners (two components: compressor is separate from the supply air fan)
- 2 Packaged air conditioning systems (one component, for example rooftop units or unitary equipment)
- 3 Package Terminal A/C (e.g., Hotel/Motel units)
- 4 Window/Wall Air-Conditioning Units
- 5 Remote Condensing Unit
- 6 Evaporative coolers/swamp coolers
- 7 Water Chillers
- 8 Evaporative Condenser
- 9 Adjustable Speed Drives
- 10 Throttling Devices for HVAC fans or pumps (e.g. inlet vanes, bypass dampers, throttling valves)
- 11 Heat Pump Units
- 00 Other, specify
- 96 NOTHING, EQUIPMENT ADDED NOT REPLACED
- 98 Don't know
- 99 Refused

[SKIP C2 AND C3 IF C1=96, 98, 99]

C2 How would you describe the condition of the equipment that was removed? Was it...

- 1 Inoperable/broken
- 2 Poor condition
- 3 Fair condition
- 4 Good condition
- 8 Don't know
- 9 Refused

C3 How old was the equipment that was removed? Was it...

- 1 Less than 5 years old
- 2 Between 5 and 10 years old
- 3 10 to 20 years old
- 4 more than 20 years old
- 8 Don't know
- 9 Refused

[End of Measure Loop; GO TO NEXT COOLING MEASURE]

[ASK THE PY2 NET-TO-GROSS MODULE, THEN RETURN]

[ASK THE PY2 SPILLOVER MODULE, THEN RETURN]

REFRIGERATION MODULE

PR1 Who was the most influential in identifying and recommending that you install the
<SUBCATEGORYDESCRIPTION 1> project you completed through the Business Custom
Program?

1. Me/respondent
2. Contractor
3. Engineer
4. Architect
5. Manufacturer
6. Distributor
7. Owner
9. AEP Ohio Representative/Program Staff
00. Other, specify
98. Don't know
99. Refused

PR2 And who informed you about the availability of an incentive through AEP Ohio
Program?

1. Me/respondent
2. Contractor
3. Engineer
4. Architect
5. Manufacturer
6. Distributor
7. AEP Ohio Account Manager
8. Owner/developer
9. Project manager
11. AEP Ohio Representative/Program Staff
00. Other, specify
98. Don't know
99. Refused

Measure Loop

[Loop 1: ASK IF MEAS1=1. Loop 2: ASK IF MEAS2=1. Loop 3: ASK IF MEAS3=1.]

[For Loop 2, replace "1" at the end of read-ins with "2"; for Loop 3, replace "1" with "3".]

The following questions are about the <SUBCATEGORYDESCRIPTION 1> installed through the Business Custom Program.

R0 When did you install the <SUBCATEGORYDESCRIPTION 1> (IF NECESSARY, PROBE FOR BEST GUESS)

- a Month [Precodes for Jan through Dec.]
- b Year [Precodes for 2009 and 2010]

REMOVED EQUIPMENT

R1 What type of refrigeration equipment was removed when you installed the <SUBCATEGORYDESCRIPTION 1> through the Custom Business Program?

- 1 Old Strip curtains
- 2 Older Anti-sweat heat controllers
- 3 Standard efficiency evaporator fan motors
- 4 Older ice maker
- 5 Older controls
- 6 Same Equipment, just newer
- 00 Other, specify
- 96 NONE - Not a replacement
- 98 Don't know
- 99 Refused

R3 Approximately how old was the refrigeration equipment that was removed by the new refrigeration equipment? Was it...

- 1 Less than 5 years old
- 2 Between 5 and 10 years old
- 3 10 to 20 years old
- 4 more than 20 years old
- 8 Don't know
- 9 Refused

[End of Measure Loop; GO TO NEXT REFRIGERATION MEASURE]

[ASK PY2 NET-TO-GROSS MODULE, THEN RETURN]

[ASK PY2 SPILLOVER MODULE, THEN RETURN]

VARIABLE FREQUENCY DRIVE MODULE

[ASK IF VFSDS=1]

PV1 Who was the most influential in identifying and recommending that you install the <SUBCATEGORYDESCRIPTION 1> project you completed through the **Business Custom** Program?

1. Me/respondent
2. Contractor
3. Engineer
4. Architect
5. Manufacturer
6. Distributor
7. Owner
9. AEP Ohio Representative/Program Staff
00. Other, specify
98. Don't know
99. Refused

PV2 And who informed you about the availability of an incentive through the AEP Ohio Business Custom Program?

1. Me/respondent
2. Contractor
3. Engineer
4. Architect
5. Manufacturer
6. Distributor
7. AEP Ohio Account Manager
8. Owner/developer
9. Project manager
11. AEP Ohio Representative/Program Staff
00. Other, specify
98. Don't know
99. Refused

VARIABLE SPEED DRIVES MEASURE LOOP

The following questions are about the <SUBCATEGORYDESCRIPTION 1> you installed through the AEP Ohio Business Custom Program.

V0 When did you install the <SUBCATEGORYDESCRIPTION 1> (IF NECESSARY, PROBE FOR BEST GUESS?)

- A Month [Precodes for Jan through Dec.]
- b Year [Precodes for 2009 and 2010]

V1 Are the variable speed drives used to... (READ LIST)

- 1 Drive a newly installed piece of equipment
- 2 Replace failed equipment
- 3 Retrofit application to existing and functioning equipment
- 4 Serve as a spare
- 00 Or for some other reason (Specify)
- 98 Don't Know
- 99 Refused

V2a In the past month, how many hours per day did this equipment typically operate?
[NUMERIC OPEN END, 0 to 24; 98=Don't know, 99=Refused]

V2b And how many days per week? [NUMERIC OPEN END, 0 to 7; 8=Don't know, 9=Refused]

V2c Are there any months during the year when the operating schedule for this equipment differs significantly from what you just described?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK M2d-f IF V2c=1]

V2d How many hours per day does the equipment typically operate during the periods with different operating schedules? [NUMERIC OPEN END, 0 to 24; 98=Don't know, 99=Refused]

V2e And how many days per week? [NUMERIC OPEN END, 0 to 7; 8=Don't know, 9=Refused]

V2f How many months per year does the equipment run on the alternative schedule?
[NUMERIC OPEN END, 0 to 12; 98=Don't know, 99=Refused]

REPLACED EQUIPMENT

[ASK IF V1=2, 3, ELSE SKIP TO NTG MODULE]

I'd like to ask you a few questions about the equipment that was removed when you installed the new <SUBCATEGORYDESCRIPTION 1>.

V3c How would you describe the condition of the equipment that was removed or retrofit when you installed the new <SUBCATEGORYDESCRIPTION 1>? Were they...

- 1 Inoperable (broken)
- 2 Poor condition
- 3 Fair condition
- 4 Good condition
- 8 Don't Know
- 9 Refused

V3d How old was the equipment that was removed or retrofit? Would you say that most of it was ...?

- 1 Less than 5 years old
- 2 Between 5 and 10 years old
- 3 10 to 20 years old
- 4 more than 20 years old
- 8 Don't Know
- 9 Refused

ONLY ASK NTG ONCE.

NOTE: THE NET TO GROSS MODULE IS ASKED AT THE END OF ALL LOOPS FOR ONE
SUBCATEGORYDESCRIPTION 1 MEASURE SUCH AS LIGHTING, MOTORS, REFRIGERATION
AND HVAC.

[End of Measure Loop; GO TO NEXT MOTORS MEASURE]

[ASK THE PY2 NET-TO-GROSS MODULE, THEN RETURN]

[ASK THE PY2 SPILLOVER MODULE, THEN RETURN]

MOTORS MODULE

_[ASK IF MOTORS=1]

PM1 Who was the most influential in identifying and recommending that you install the
<SUBCATEGORYDESCRIPTION 1> project you completed through the Business Custom
Program?

- 1. Me/respondent
- 2. Contractor
- 3. Engineer
- 4. Architect
- 5. Manufacturer
- 6. Distributor
- 7. Owner
- 9. AEP Ohio Representative/Program Staff
- 00. Other, specify
- 98. Don't know
- 99. Refused

PM2 And who informed you about the availability of an incentive through the AEP Ohio Business Custom Program?

1. Me/respondent
2. Contractor
3. Engineer
4. Architect
5. Manufacturer
6. Distributor
7. AEP Ohio Account Manager
8. Owner/developer
9. Project manager
11. AEP Ohio Representative/Program Staff
00. Other, specify
98. Don't know
99. Refused

MOTORS MEASURE LOOP

THIS SECTION WILL APPLY TO CUSTOM AND PRESCRIPTIVE – though mostly prescriptive.

The following questions are about the <SUBCATEGORYDESCRIPTION 1> you installed through the AEP Ohio Business Custom Program.

M0 When did you install the <SUBCATEGORYDESCRIPTION 1> (IF NECESSARY, PROBE FOR BEST GUESS)

- a Month [Precodes for Jan through Dec.]
- b Year [Precodes for 2009 and 2010]

M1 Are the new motors used to... (READ LIST)

- 1 Drive a newly installed piece of equipment
- 2 Replace a failed motor
- 3 Replace a functioning motor
- 4 Serve as a spare
- 00 Or for some other reason (Specify)
- 98 Don't Know
- 99 Refused

M1a Are the new motors controlled by a variable frequency drive (VFD) – either new or existing?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

- M2a In the past month, how many hours per day did this equipment typically operate?
[NUMERIC OPEN END, 0 to 24; 98=Don't know, 99=Refused]
- M2b And how many days per week? [NUMERIC OPEN END, 0 to 7; 8=Don't know, 9=Refused]
- M2c Are there any months during the year when the operating schedule for this equipment differs significantly from what you just described?
- 1 Yes
 - 2 No
 - 8 Don't know
 - 9 Refused
- [ASK M2d-f IF M2c=1]
- M2d How many hours per day does the equipment typically operate during the periods with different operating schedules? [NUMERIC OPEN END, 0 to 24; 98=Don't know, 99=Refused]
- M2e And how many days per week? [NUMERIC OPEN END, 0 to 7; 8=Don't know, 9=Refused]
- M2f How many months per year does the equipment run on the alternative schedule?
[NUMERIC OPEN END, 0 to 12; 98=Don't know, 99=Refused]

REPLACED EQUIPMENT

[ASK IF M1=2, 3, ELSE SKIP TO NTG MODULE]

I'd like to ask you a few questions about the equipment that was removed when you installed the new <SUBCATEGORYDESCRIPTION 1>.

- M3a Were the motors you removed...
- (IF NEEDED: "In this survey we use the term "NEMA Premium motors" to refer to very high efficiency motors that meet specific performance criteria developed by the National Electrical Manufacturers Association. We use the term "EPAAct Motors" to refer to motors that meet current federal minimum efficiency standards contained in the Energy Policy Act; new motors installed in Illinois after 1997 must be, at a minimum, EPAAct motors. Finally, we use the term "Standard Efficiency Motors" to refer to typically older motors that do not meet the current Federal standards.)
- 1 NEMA Premium motors
 - 2 EPAAct motors
 - 3 standard efficiency motors
 - 8 Don't Know
 - 9 Refused
- M2d How many hours per day did the replaced equipment typically operate during the periods with different operating schedules? [NUMERIC OPEN END, 0 to 24; 98=Don't know, 99=Refused]

M3b Had the motors you removed been rewound?

- 1 Yes
- 2 No
- 8 Don't Know
- 9 Refused

M3c How would you describe the condition of the motors that were removed when you installed the new <SUBCATEGORYDESCRIPTION 1>? Were they...

- 1 Inoperable (broken)
- 2 Poor condition
- 3 Fair condition
- 4 Good condition
- 8 Don't Know
- 9 Refused

M3d How old were the motors that were removed? Would you say that most of them were...?

- 1 Less than 5 years old
- 2 Between 5 and 10 years old
- 3 10 to 20 years old
- 4 more than 20 years old
- 8 Don't Know
- 9 Refused

M4 What has been done with the removed motors? Would you say that most of them were...?

- 1 Scrapped for salvage
- 2 Rewound within 3 months
- 3 Stored for future rewind
- 4 Stored for future installation as is
- 5. Moved and installed elsewhere
- 6. Removed from site permanently by motor vendor.
- 8 (Don't Know)
- 9 (Refused)

ONLY ASK NTG ONCE.

NOTE: THE NET TO GROSS MODULE IS ASKED AT THE END OF ALL LOOP FOR ONE END USE [End of Measure Loop; GO TO NEXT COMPRESSED AIR MEASURE]

[ASK THE PY2 NET-TO-GROSS MODULE, THEN RETURN]

[ASK THE PY2 SPILLOVER MODULE, THEN RETURN]

COMPRESSED AIR MODULE

[ASK IF COMPAIR=1]

PCA1 Who was the most influential in identifying and recommending that you install the
<SUBCATEGORYDESCRIPTION 1> project you completed through the Custom Program?

1. Me/respondent
2. Contractor
3. Engineer
4. Architect
5. Manufacturer
6. Distributor
7. Owner
9. AEP Ohio Representative/Program Staff
00. Other, specify
98. Don't know
99. Refused

PCA2 And who informed you about the availability of an incentive through the AEP Ohio
Business Custom Program?

1. Me/respondent
2. Contractor
3. Engineer
4. Architect
5. Manufacturer
6. Distributor
7. AEP Ohio Account Manager
8. Owner/developer
9. Project manager
11. AEP Ohio Representative/Program Staff
00. Other, specify
98. Don't know
99. Refused

COMPRESSED AIR MEASURE LOOP

The following questions are about the <SUBCATEGORYDESCRIPTION 1> you installed through
the AEP Ohio Custom Program.

CA0 When did you install the <SUBCATEGORYDESCRIPTION 1> (IF NECESSARY, PROBE FOR
BEST GUESS)

- a Month [Precodes for Jan through Dec.]
- b Year [Precodes for 2009 and 2010]

CA1 Are the air compressor(s) used to... (READ LIST)

- 1 Provide air service to a newly installed equipment
- 2 Replace failed equipment
- 3 Upgrade to existing and functioning equipment
- 4 Serve as a spare
- 00 Or for some other reason (Specify)
- 98 Don't Know
- 99 Refused

CA2a In the past month, how many hours per day did this equipment typically operate?
[NUMERIC OPEN END, 0 to 24; 98=Don't know, 99=Refused]

CA2b And how many days per week? [NUMERIC OPEN END, 0 to 7; 8=Don't know, 9=Refused]

CA2c Are there any months during the year when the operating schedule for this equipment differs significantly from what you just described?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK CA2d-f IF CA2c=1]

CA2d How many hours per day does the equipment typically operate during the periods with different operating schedules? [NUMERIC OPEN END, 0 to 24; 98=Don't know, 99=Refused]

CA2e And how many days per week? [NUMERIC OPEN END, 0 to 7; 8=Don't know, 9=Refused]

CA2f How many months per year does the equipment run on the alternative schedule?
[NUMERIC OPEN END, 0 to 12; 98=Don't know, 99=Refused]

REPLACED EQUIPMENT

[ASK IF V1=2, 3, ELSE SKIP TO NTG MODULE]

I'd like to ask you a few questions about the equipment that was removed when you installed the new <SUBCATEGORYDESCRIPTION 1>.

CA3b How would you describe the condition of the equipment that was displaced from service when you installed the new <SUBCATEGORYDESCRIPTION 1>? Were they...

- 1 The same size (HP)
- 2 Smaller HP (replacement increased capacity)
- 3 Larger HP (replacement decreased capacity)
- 8 Don't Know
- 9 Refused

CA3c How would you describe the condition of the equipment that was displaced from service when you installed the new <SUBCATEGORYDESCRIPTION 1>? Were they...

- 1 Inoperable (broken)
- 2 Poor condition
- 3 Fair condition
- 4 Good condition
- 8 Don't Know
- 9 Refused

V3d How old was the equipment that was displaced from service? Would you say that it was...?

- 1 Less than 5 years old
- 2 Between 5 and 10 years old
- 3 10 to 20 years old
- 4 more than 20 years old
- 8 Don't Know
- 9 Refused

ONLY ASK NTG ONCE.

NOTE: THE NET TO GROSS MODULE IS ASKED AT THE END OF ALL LOOP FOR ONE SUBCATEGORYDESCRIPTION 1 MEASURE SUCH AS LIGHTING, MOTORS, REFRIGERATION AND HVAC.

[End of Measure Loop; GO TO NEXT Compressed air MEASURE]

[ASK THE PY2 NET-TO-GROSS MODULE, THEN RETURN]

[ASK THE PY2 SPILLOVER MODULE, THEN RETURN]

PY2 NET-TO-GROSS MODULE

Variables for the net-to-gross module:

<NTG> (B=Basic rigor level, S= Standard rigor level. All questions here are asked if the standard rigor level is designated. Basic rigor level is designated through skip patterns)

<UTILITY> (Ohio Power (OPCo) and Columbus Southern Power (CSP))

<PROGRAM> (Name of energy efficiency program)

<SUBCATEGORYDESCRIPTION 1> (Type of measure installed; from program tracking dataset)

<VEND1> (Contractor who installed new equipment, from program tracking dataset)

<TECH_ASSIST> (If participant conducted Feasibility Study, Audit, or received Technical

Assistance through the program; from program tracking database)

<ACCT_REP> (Name of utility account manager, from program tracking database or program files if present)

<OTHERPTS> (Variable to be calculated based on responses. Equals 1- minus response to N3p.)

<FINCRIT1> (Variable to be calculated based on responses. Equals 1 if payback period WITHOUT incentive is shorter than <OrganizationName> requirement. See instructions below.)

<FINCRIT2> (Variable to be calculated based on responses. Equals 1 if payback period WITH incentive is shorter than <OrganizationName> requirement. See instructions below.)

<MSAME> (Equals 1 if same customer had more than one project of the same measure type; from program tracking database)

<NSAME> (Number of additional projects of the same measure type implemented by the same customer; from program tracking database)

<FSAME>

VENDOR INFORMATION

I would like to get some information on the VENDORS that may have helped you with the implementation of this equipment.

V1 Did you work with a contractor or vendor that helped you with the choice of this equipment?

- 1 Yes
- 2 No
- 8 Don't Know
- 9 Refused

[SKIP TO V4 IF V1=2, 8, or 9]

V2 BLANK

V3 Did you also use a DESIGN or CONSULTING Engineer?

- 1 Yes
- 2 No
- 8 Don't Know
- 9 Refused

V4 Did your utility account manager assist you with the project that you implemented through the <UTILITY> <PROGRAM>?

- 1 Yes
- 2 No, don't have a utility account manager
- 3 No, have a utility account manager but they weren't involved
- 8 Don't know
- 9 Refused

NET-TO-GROSS BATTERY

My next set of questions is about the [SUBCATEGORYDESCRIPTION 1] you installed through the program.

N1 When did you first learn about AEP Ohio's Program? Was it BEFORE or AFTER you first began to THINK about implementing the [SUBCATEGORYDESCRIPTION 1]? (NOTE TO INTERVIEWER: "this measure" refers to the specific energy efficient equipment installed through the program.)

DO NOT READ LIST, SINGLE PUNCH

- 1 Before
- 2 After
- 8 Don't know
- 9 Refused

[ASK N2 IF N1=2, 8, 9]

N2 Did you learn about AEP Ohio's Program BEFORE or AFTER you DECIDED to implement the [SUBCATEGORYDESCRIPTION 1] that was installed? (NOTE TO INTERVIEWER: "the measure" refers to the specific energy efficient equipment installed through the program.)

DO NOT READ LIST, SINGLE PUNCH

- 1 Before
- 2 After
- 8 Don't know
- 9 Refused

N3 Next, I'm going to ask you to rate the importance of the program as well as other factors that might have influenced your decision to implement the [SUBCATEGORYDESCRIPTION 1]. Think of the degree of importance as being shown on a scale with equally spaced units from 0 to 10, where 0 means not at all important and 10 means extremely important. Now using this scale please rate the importance of each of the following in your decision to implement the measure at this time.

[FOR N3a-n, RECORD 0 to 10; 96=Not Applicable; 98=Don't Know; 99=Refused]

(If needed: How important in your DECISION to implement the project was...)

N3a. The age or condition of the old equipment

N3b. Availability of the PROGRAM incentive

[ASK IF <TECH_ASSIST>=1, ELSE SKIP TO N3d]

N3c. Information provided through the technical assistance you received from AEP Ohio staff

[ASK N3d IF V1=1]

N3d. Recommendation from a lighting vendor or contractor that helped you with the choice of the equipment

N3e. Previous experience with the <SUBCATEGORYDESCRIPTION 1>

N3f. Recommendation from an AEP Ohio program staff person

N3h. Information from AEP Ohio Lighting Program or AEP Ohio marketing materials

N3j. Standard practice in your business/industry

[SKIP N3k IF V4>1]

N3k. Endorsement or recommendation by an account manager of AEP Ohio

N3l. Corporate policy or guidelines

N3m. Payback on the investment

N3n. Were there any other factors we haven't discussed that were influential in your decision to install this [SUBCATEGORYDESCRIPTION 1]?

DO NOT READ LIST, SINGLE PUNCH

97 [Record verbatim]

96 Nothing else influential

98 Don't Know

99 Refused

Thinking about this differently, I would like you to compare the importance of the PROGRAM with the importance of other factors in implementing the [SUBCATEGORYDESCRIPTION 1] project.

[READ IF (N3A, N3D, N3E, N3I, N3J, N3L, N3M, OR N3NN)=8,9,10; ELSE SKIP TO N3p]

You just told me that the following other factors were important:

[READ IN ONLY ITEMS WHERE THEY GAVE A RATING OF 8 or higher]

(N3A) Age or condition of old equipment,

(N3D) Equipment Vendor recommendation

(N3E) Previous experience with this measure

(N3I) Recommendation from a design or consulting engineer

(N3J) Standard practice in your business/industry

(N3L) Corporate policy or guidelines

(N3M) Payback on investment.

(N3NN) Other factor (READ VERBATIM) < ---VERBATIM TEXT SUBSTITUTION NOT WORKING HERE

N3p If you were given a TOTAL of 100 points that reflect the importance in your decision to implement the <subcategorydescription> project, and you had to divide those 100 points between: 1) the program and 2) these other factors, taken together as whole, how many points would you give to the importance of the PROGRAM?
Points given to program: [RECORD 0 to 100; 998=Don't Know; 999=Refused]

[CALCULATE VARIABLE "OTHERPTS" AS: 100 MINUS N3p RESPONSE; IF N3p=998, 999, SET OTHERPTS=BLANK]

N3o And how many points would you give to other factors? [RECORD 0 to 100; 998=Don't Know; 999=Refused] [The response should be <OTHERPTS> because both numbers should equal 100. If response is not <OTHERPTS> ask INC1]

INC1 The last question asked you to divide a TOTAL of 100 points between the program and other factors. You just noted that you would give <N3P RESPONSE> points to the program. Does that mean you would give <OTHERPTS> points to other factors?
DO NOT READ LIST, SINGLE PUNCH

- | | |
|----|------------|
| 1 | Yes |
| 2 | No |
| 98 | Don't know |
| 99 | Refused |

[If INC1=2, go back to N3p]

CONSISTENCY CHECK ON PROGRAM IMPORTANCE SCORE

[SKIP TO N5 IF N3p=998, 999 OR IF N3p<80 OR IF (N3p>=80 AND ANY ONE OF (N3b, N3c, N3f, N3h, AND N3k)>3 AND <11)]

N4 You just gave <N3p RESPONSE> points to the importance of the program, I would interpret that to mean that the program was quite important to your decision to install this equipment. Earlier, when I asked about the importance of individual elements of the program I recorded some answers that would imply that they were not that important to you. Just to make sure I have recorded this properly, I have a couple questions to ask you.

N4a When asked about THE AVAILABILITY OF THE PROGRAM INCENTIVE, you gave a rating of ...<N3B RESPONSE> ... out of ten, indicating that the program incentive was not that important to you. Can you tell me why the incentive was not that important?

[Record VERBATIM]

98 Don't know

99 Refused

[SKIP <TECH ASSIST>=0]

N4b When I asked you about THE INFORMATION PROVIDED THROUGH THE TECHNICAL ASSISTANCE, you gave a rating of ...<N3C RESPONSE> ... out of ten, indicating that the information provided was not that important to you. Can you tell me why the information provided was not that important?

[Record VERBATIM]

98 Don't know

99 Refused

N4c When I asked you about THE RECOMMENDATION FROM AN AEP OHIO PROGRAM STAFF PERSON, you gave a rating of ...<N3F RESPONSE> ... out of ten, indicating that the information provided was not that important to you. Can you tell me why the information provided was not that important?

[Record VERBATIM]

98 Don't know

99 Refused

N4d When asked about THE INFORMATION from the AEP Ohio Business Custom Program or AEP Ohio MARKETING MATERIALS, you gave a rating of ...<N3H RESPONSE> ... out of ten, indicating that this information from the program or utility marketing materials was not that important to you. Can you tell me why this information was not that important?

[Record VERBATIM]

98 Don't know

99 Refused

[SKIP N4e IF V4>1]

N4e When asked about the endorsement or recommendation by your AEP Ohio account manager, you gave a rating of <N3K RESPONSE> ... out of ten, indicating that this Account manager endorsement was not that important to you. Can you tell me why this endorsement was not that important?

[Record VERBATIM]

98 Don't know

99 Refused

COUNTER FACTUAL QUESTIONS

Now I would like you to think about the action you would have taken with regard to the installation of this equipment if the utility program had not been available.

N5 Using a likelihood scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", if the incentive from the utility program had not been available, what is the likelihood that you would have installed exactly the same equipment?

[RECORD 0 to 10; 98=Don't know; 99=Refused]

CONSISTENCY CHECKS

[ASK N5a-d IF N3b=08, 09, 10 AND N5=08, 09, 10]

N5a When you answered ...<N3B RESPONSE> ... for the question about the influence of the incentive, I would interpret that to mean that the incentive was quite important to your decision to install. Then, when you answered <N5 RESPONSE> for how likely you would be to install the same equipment without the incentive, it sounds like the incentive was not very important in your installation decision.

I want to check to see if I am misunderstanding your answers or if the questions may have been unclear. Will you explain in your own words, the role the incentive played in your decision to install this efficient equipment?

[Record VERBATIM]

98 Don't know

99 Refused

N5b Would you like for me to change your score on the importance of the incentive that you gave a rating of <N3B RESPONSE> or change your rating on the likelihood you would install the same equipment without the incentive which you gave a rating of <N5 RESPONSE> and/or we can change both if you wish?

DO NOT READ LIST, PROBE IF NECESSARY, SINGLE PUNCH

- [ASK IF N5b=1, 3]
- N5c How important was... availability of the PROGRAM incentive? (IF NEEDED: in your DECISION to implement the project)
Please use a scale of 0 to 10, where 0 means not at all important and 10 means extremely important.
[98=Don't know, 99=Refused]
- [ASK IF N5b=2, 3]
- N5d If the AEP Ohio program had not been available, what is the likelihood that you would have installed exactly the same equipment? Please use a scale of 0 to 10, where 0 means "Not at all likely" and 10 means "Extremely likely";
[98=Don't know, 99=Refused]
- [ASK IF N3j=08, 09, 10, ELSE SKIP TO N7]
- N6 In an earlier question, you rated the importance of STANDARD PRACTICE in your industry very highly in your decision making. Could you please rate the importance of the PROGRAM, relative to this standard industry practice, in influencing your decision to install this [<measure description>]? Would you say the program was much more important, somewhat more important, equally important, somewhat less important, or much less important than the standard practice or policy?
DO NOT READ LIST, SINGLE PUNCH
- 1 Much more important
 - 2 Somewhat more important
 - 3 Equally important
 - 4 Somewhat less important
 - 5 Much less important
 - 8 Don't know
 - 9 Refused
- [ASK IF N5>0 AND <11, ELSE SKIP TO N8]
- N7 You indicated earlier that there was a <N5 RESPONSE> in 10 likelihood that you would have installed the same equipment if the program had not been available. Without the program, when do you think you would have installed this equipment? Would you say...?
READ LIST, SINGLE RESPONSE
- 1 At the same time
 - 2 Earlier
 - 3 Later
 - 4 (Never)
 - 8 (Don't know)
 - 9 (Refused)

[ASK N7a IF N7=3]

N7a. How much later would you have installed this equipment? Would you say...?

READ LIST, SINGLE PUNCH

- 1 Within 6 months?
- 2 6 months to 1 year later
- 3 1 - 2 years later
- 4 2 - 3 years later
- 5 3 - 4 years later
- 6 4 or more years later
- 8 Don't know
- 9 Refused

[ASK N7b IF N7a=6]

N7b. Why do you think it would have been 4 or more years later?

[Record VERBATIM]

- 98 Don't know
- 99 Refused

PAYBACK BATTERY

[ASK N8-N10e IF N3m>5]

I'd like to find out more about the payback criteria <ORGANIZATIONNAME> uses for its investments.

N8 What financial calculations does <ORGANIZATIONNAME> make before proceeding with installation of a MEASURE like this one?

00 [Record VERBATIM]

- 98 Don't know
- 99 Refused

N9 What is the payback cut-off point <ORGANIZATIONNAME> uses (in months) before deciding to proceed with an investment? Would you say...?

- 1 0 to 6 months
- 2 7 months to 1 year
- 3 more than 1 year up to 2 years
- 4 more than 2 years up to 3 years
- 5 more than 3 years up to 5 years
- 6 Over 5 years
- 8 Don't know
- 9 Refused

N10a What was the estimated payback period for the new <SUBCATEGORYDESCRIPTION 1>, in months, WITH the incentive from the <PROGRAM>?

- 00 [NUMERIC OPEN END, UP TO 240]
- 998 Don't know
- 999 Refused

N10b And what was the estimated payback period for the <SUBCATEGORYDESCRIPTION 1>, in months, WITHOUT the incentive from the <PROGRAM>?

00 [NUMERIC OPEN END, UP TO 240]

- 998 Don't know
- 999 Refused

[CREATE VARIABLE FINCRIT1. SET FINCRIT1 = BLANK IF: N9=8, 9 OR N10b=998,999. SET FINCRIT1 = 1 IF: (N9=1 AND N10b<7) OR (N9=2 AND N10b<13) OR (N9=3 AND N10b<25) OR (N9=4 AND N10b<37) OR (N9=5 AND N10b<61) OR (N9=6). ELSE, SET FINCRIT1 = 0.]

[ASK N10c IF FINCRIT1=1]

N10c Even without the incentive, the <SUBCATEGORYDESCRIPTION 1> project met <ORGANIZATIONNAME>'s financial criteria. Would you have gone ahead with it even without the incentive?

- 1 Yes
- 2 No
- 3 Maybe
- 8 Don't know
- 9 Refused

[CREATE VARIABLE FINCRIT2. SET FINCRIT2 = BLANK IF: N9=8, 9 OR N10a=998,999. SET FINCRIT2 = 1 IF: (N9=1 AND N10a<7) OR (N9=2 AND N10a<13) OR (N9=3 AND N10a<25) OR (N9=4 AND N10a<37) OR (N9=5 AND N10a<61) OR (N9=6). ELSE, SET FINCRIT2 = 0.]

[ASK N10d IF FINCRIT2=1 AND FINCRIT1=0 AND N3b<5]

N10d The incentive seemed to make the difference between meeting your financial criteria and not meeting them, but you are saying that the incentive didn't have much effect on your decision, why is that?

00 [Record VERBATIM]

- 98 Don't know
- 99 Refused

[ASK N10e IF FINCRIT2=0 AND N3b>7]

N10e. The incentive didn't cause this <SUBCATEGORYDESCRIPTION 1> project to meet <ORGANIZATIONNAME>'s financial criteria, but you said that the incentive had an impact on the decision to install the <SUBCATEGORYDESCRIPTION 1>. Why did it have an impact?

00 [Record VERBATIM]

98 Don't know

99 Refused

CORPORATE POLICY BATTERY

[ASK N11-N17 IF N3L>5]

N11 Does your organization have a corporate environmental policy to reduce environmental emissions or energy use? Some examples would be to "buy green" or use sustainable approaches to business investments.

1 Yes

2 No

8 Don't know

9 Refused

[ASK N12-N17 IF N11=1]

N12 What specific corporate policy influenced your decision to adopt or install the <SUBCATEGORYDESCRIPTION 1> through the <UTILITY> program?

00 [RECORD VERBATIM]

98 Don't know

99 Refused

N13 Had that policy caused you to adopt energy efficient <SUBCATEGORYDESCRIPTION 1> at this facility before participating in the <UTILITY> program?

1 Yes

2 No

8 Don't know

9 Refused

N14 Had that policy caused you to adopt energy efficient <SUBCATEGORYDESCRIPTION 1> at other facilities before participating in the <UTILITY> Program?

1 Yes

2 No

8 Don't know

9 Refused

[ASK N15-N16 IF N13=1 OR N14=1]

N15 Did you receive an incentive for a previous installation of <SUBCATEGORYDESCRIPTION 1>?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK N16 IF N15=1]

N16 To the best of your ability, please describe.... [Record VERBATIM; 98=Don't know; 99=Refused]

- a. the amount of incentive received
- b. the approximate timing
- c. the name of the program that provided the incentive

[ASK N17 IF N13=1 OR N14=1]

N17 If I understand you correctly, you said that <ORGANIZATIONNAME>'s corporate policy has caused you to install energy efficient <SUBCATEGORYDESCRIPTION 1> previously at this and/or other facilities. I want to make sure I fully understand how this corporate policy influenced your decision versus the <UTILITY> program. Can you please clarify that?

00 [Record VERBATIM]

- 98 Don't know
- 99 Refused

STANDARD PRACTICE BATTERY

[ASK N18-N22 IF N3j>5]

N18 Approximately, how long has use of energy efficient <SUBCATEGORYDESCRIPTION 1> been standard practice in your industry?

M [00 Record Number of Months; 98=don't know, 99=Refused]

Y [00 Record Number of Years; 98=don't know, 99=Refused]

N19 Does <ORGANIZATIONNAME> ever deviate from the standard practice?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK IF N19=1]

- N19a Please describe the conditions under which <ORGANIZATIONNAME> deviates from this standard practice.
00 [Record VERBATIM]
98 Don't know
99 Refused
- N20 How did this standard practice influence your decision to install the <SUBCATEGORYDESCRIPTION 1> through the <PROGRAM>?
00 [Record VERBATIM]
98 Don't know
99 Refused
- N20a Could you please rate the importance of the <PROGRAM>, versus this standard industry practice in influencing your decision to install the <SUBCATEGORYDESCRIPTION 1>? Would you say the <PROGRAM> was...?

1 Much more important
2 Somewhat more important
3 Equally important
4 Somewhat less important
5 Much less important
8 Don't know
9 Refused
- N21 What industry group or trade organization do you consult to establish standard practice for your industry?
00 [Record VERBATIM]

98 Don't know
99 Refused
- N22 How do you and other firms in your industry receive information on updates in standard practice?
00 [Record VERBATIM]

98 Don't know
99 Refused

OTHER INFLUENCES BATTERY

[ASK N23-N25 IF N3nn>5]

- N25 Please state any other factors that influenced your decision to go ahead on this energy efficiency project?
00 [Record VERBATIM]

98 Don't know
99 Refused

[ASK N26 IF MSAME=1]

BE SURE RITE AID IS IN THE SAMPLE. BUT CAN ONLY BE IN THE SAMPLE ONCE.

NOTE; SAME TYPE OF PROJECT AT DIFFERENT SERVICEADDRESS

Our records show that <ORGANIZATIONNAME> also received an incentive from <UTILITY> for
<NSAME> other <SUBCATEGORYDESCRIPTION 1> project(s).

N26 Was it a single decision to complete all of those <SUBCATEGORYDESCRIPTION 1>
projects for which you received an incentive from <UTILITY> or did each project go
through its own decision process?

- 1 Single Decision
- 2 Each project went through its own decision process
- 00 Other, specify
- 98 Don't know
- 99 Refused

NOTE; DIFFERENT TYPE OF PROJECT AT DIFFERENT SERVICEADDRESS

[ASK N27 IF FSAME=1 ELSE SKIP TO SPILLOVER MODULE]

Our records show that <ORGANIZATIONNAME> also received an incentive from <UTILITY> for a
<FDESC> project at <SERVICEADDRESS>.

N27 Was the decision making process for the <FDESC> project the same as for the
<SUBCATEGORYDESCRIPTION 1> project we have been talking about?

- 1 Same decision making process
- 2 Different decision making process
- 00 Other, specify
- 98 Don't know
- 99 Refused

PY2 SPILLOVER MODULE

Thank you for discussing the new <SUBCATEGORYDESCRIPTION 1> that you installed through
the <PROGRAM>. Next, I would like to discuss any energy efficient equipment you
might have installed OUTSIDE of the program.

SP1 Since your participation in the <UTILITY> program, did you implement any ADDITIONAL
energy efficiency measures at this facility or at your other facilities within AEP Ohio's
service territory that did NOT receive incentives through any utility or government
program?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK SP2-SP7i IF SP1=1, ELSE SKIP TO S0]

SP2 What was the first measure that you implemented? (IF RESPONSE IS GENERAL, E.G., "LIGHTING EQUIPMENT", PROBE FOR SPECIFIC MEASURE. PROBE FROM LIST, IF NECESSARY.)

- 1 Lighting: T8 lamps
- 2 Lighting: T5 lamps
- 3 Lighting: Highbay Fixture Replacement
- 4 Lighting: CFLs
- 5 Lighting: Controls / Occupancy sensors
- 6 Lighting: LED lamps
- 7 Cooling: Unitary/Split Air Conditioning System
- 8 Cooling: chillers
- 9 Cooling: Variable Frequency Drives (VFD/VSD) on HVAC Motors
- 10 VFD: retrofit or new process motor VFD
- 11 VFD: VFD retrofit on air-compressor motor
- 12 VFD: VFD retrofit on refrigeration system motor
- 13 Motors: Efficient motors
- 14 Refrigeration: Strip curtains
- 15 Refrigeration: Anti-sweat controls
- 16 Refrigeration: EC motor for WALK-IN cooler/freezer
- 17 Refrigeration: EC motor for REACH-IN cooler/freezer
- 18 Compressed Air: air compressor
- 19 Compressed Air: air distribution system improvements
- 20 Compressed Air: compressor controls
- 21 Compressed Air: air dryer
- 00 Other, specify
- 96 Didn't implement any measures
- 98 Don't know
- 99 Refused

[SKIP TO S0 IF SP2=96, 98, 99]

SP3 What was the second measure? (IF RESPONSE IS GENERAL, E.G., "LIGHTING EQUIPMENT", PROBE FOR SPECIFIC MEASURE. PROBE FROM LIST, IF NECESSARY.)

- 1 Lighting: T8 lamps
- 2 Lighting: T5 lamps
- 3 Lighting: Highbay Fixture Replacement
- 4 Lighting: CFLs
- 5 Lighting: Controls / Occupancy sensors
- 6 Lighting: LED lamps
- 7 Cooling: Unitary/Split Air Conditioning System
- 8 Cooling: chillers
- 9 Cooling: Variable Frequency Drives (VFD/VSD) on HVAC Motors
- 10 VFD: retrofit or new process motor VFD
- 11 VFD: VFD retrofit on air-compressor motor

- 12 VFD: VFD retrofit on refrigeration system motor
- 13 Motors: Efficient motors
- 14 Refrigeration: Strip curtains
- 15 Refrigeration: Anti-sweat controls
- 16 Refrigeration: EC motor for WALK-IN cooler/freezer
- 17 Refrigeration: EC motor for REACH-IN cooler/freezer
- 18 Compressed Air: air compressor
- 19 Compressed Air: air distribution system improvements
- 20 Compressed Air: compressor controls
- 21 Compressed Air: air dryer
- 00 Other, specify
- 96 Didn't implement any measures
- 98 Don't know
- 99 Refused

[SKIP SP4 IF SP3=96, 98, 99]

SP4 What was the third measure? (IF RESPONSE IS GENERAL, E.G., "LIGHTING EQUIPMENT", PROBE FOR SPECIFIC MEASURE. PROBE FROM LIST, IF NECESSARY.)

- 1 Lighting: T8 lamps
- 2 Lighting: T5 lamps
- 3 Lighting: Highbay Fixture Replacement
- 4 Lighting: CFLs
- 5 Lighting: Controls / Occupancy sensors
- 6 Lighting: LED lamps
- 7 Cooling: Unitary/Split Air Conditioning System
- 8 Cooling: chillers
- 9 Cooling: Variable Frequency Drives (VFD/VSD) on HVAC Motors
- 10 VFD: retrofit or new process motor VFD
- 11 VFD: VFD retrofit on air-compressor motor
- 12 VFD: VFD retrofit on refrigeration system motor
- 13 Motors: Efficient motors
- 14 Refrigeration: Strip curtains
- 15 Refrigeration: Anti-sweat controls
- 16 Refrigeration: EC motor for WALK-IN cooler/freezer
- 17 Refrigeration: EC motor for REACH-IN cooler/freezer
- 18 Compressed Air: air compressor
- 19 Compressed Air: air distribution system improvements
- 20 Compressed Air: compressor controls
- 21 Compressed Air: air dryer
- 00 Other, specify
- 96 Didn't implement any measures
- 98 Don't know
- 99 Refused

SP5 I have a few questions about the FIRST measure that you installed. (If needed, read back measure: <SP2 RESPONSE>) [OPEN END]

- a. Why did you not receive an incentive for this measure?
- b. Why did you not install this measure through the <UTILITY> Program?
- c. Please describe the SIZE, TYPE, and OTHER ATTRIBUTES of this measure.
- d. Please describe the EFFICIENCY of this measure.
- e. How many of this measure did you install?

SP5f. Was this measure specifically recommended by a program related audit, report or program technical specialist?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

SP5g. How significant was your experience in the <UTILITY> Program in your decision to implement this Measure, using a scale of 0 to 10, where 0 is not at all significant and 10 is extremely significant? [SCALE 0-10; 98=Don't Know; 99=Refused]

[SKIP SP5h IF SP5g = 98, 99]

SP5h. Why do you give it this rating? [OPEN END]

SP5i. If you had not participated in the <UTILITY> program, how likely is it that your organization would still have implemented this measure, using a 0 to 10, scale where 0 means you definitely WOULD NOT have implemented this measure and 10 means you definitely WOULD have implemented this measure? [SCALE 0-10; 98=Don't Know; 99=Refused]

CONSISTENCY CHECKS ON PROGRAM IMPORTANCE RATING VS. NO PROGRAM RATING

[ASK CC1a IF SP5g<4 AND SP5i <4]

CC1a When you answered ...<SP5g RESPONSE> ... for the question about the influence of the <UTILITY> Program on your decision to install this measure, I would interpret that to mean the Program was not very important to your decision. However, when you answered the previous question, it sounds like it was not very likely that you would have installed this measure had you not participated in the <UTILITY> Program. Can you please explain the role the program made in your decision to implement this measure?

00 [Record VERBATIM]

- 98 Don't know
- 99 Refused

[ASK CC1b IF SP5g>7 AND SP5i >7]

CC1b When you answered ...<SP5g RESPONSE> ... for the question about the influence of the <UTILITY> Program on your decision to install this measure, I would interpret that to mean the Program was quite important to your decision. However, when you answered the previous question, it sounds like it was very likely that you would have installed this measure had you not participated in the <UTILITY> Program. Can you please explain the role the program made in your decision to implement this measure?

00 [Record VERBATIM]

98 Don't know

99 Refused

[SKIP SP6-SP7i IF SP3=96, 98, 99]

SP6 I have a few questions about the SECOND measure that you installed. (If needed, read back measure: <SP3 RESPONSE>) [OPEN END]

- a. Why did you not receive an incentive for this measure?
- b. Why did you not install this measure through the <UTILITY> Program?
- c. Please describe the SIZE, TYPE, and OTHER ATTRIBUTES of this measure.
- d. Please describe the EFFICIENCY of this measure.
- e. How many of this measure did you install?

SP6f. Was this measure specifically recommended by a program related audit, report or program technical specialist?

1 Yes

2 No

8 Don't know

9 Refused

SP6g. Using a scale of 0 to 10, where 0 is not at all significant and 10 is extremely significant, how significant was your experience in the <UTILITY> Program in your decision to implement this Measure? [SCALE 0-10; 98=Don't Know; 99=Refused]

[SKIP SP6h IF SP6g = 98, 99]

SP6h. Why do you give it this rating? [OPEN END]

SP6i. If you had not participated in the <UTILITY> program, how likely is it that your organization would still have implemented this measure, using a 0 to 10, scale where 0 means you definitely WOULD NOT have implemented this measure and 10 means you definitely WOULD have implemented this measure? [SCALE 0-10; 98=Don't Know; 99=Refused]

CONSISTENCY CHECKS ON PROGRAM IMPORTANCE RATING VS. NO PROGRAM RATING

[ASK CC2a IF SP6g<4 AND SP6i <4]

CC2a When you answered ...<SP6g RESPONSE> ... for the question about the influence of the <UTILITY> Program on your decision to install this measure, I would interpret that to mean the Program was not very important to your decision. However, when you answered the previous question, it sounds like it was not very likely that you would have installed this measure had you not participated in the <UTILITY> Program. Can you please explain the role the program made in your decision to implement this measure?

00 [Record VERBATIM]

98 Don't know

99 Refused

[ASK CC2b IF SP6g>7 AND SP6i >7]

CC2b When you answered ...<SP6g RESPONSE> ... for the question about the influence of the <UTILITY> Program on your decision to install this measure, I would interpret that to mean the Program was quite important to your decision. However, when you answered the previous question, it sounds like it was very likely that you would have installed this measure had you not participated in the <UTILITY> Program. Can you please explain the role the program made in your decision to implement this measure?

00 [Record VERBATIM]

98 Don't know

99 Refused

[SKIP SP7 – SP7i IF SP4=96, 98, 99]

SP7 I have a few questions about the THIRD measure that you installed. (If needed, read back measure: <SP3 RESPONSE>) [OPEN END]

- a. Why did you not receive an incentive for this measure?
- b. Why did you not install this measure through the <UTILITY> Program?
- c. Please describe the SIZE, TYPE, and OTHER ATTRIBUTES of this measure.
- d. Please describe the EFFICIENCY of this measure.
- e. How many of this measure did you install?

SP7f. Was this measure specifically recommended by a program related audit, report or program technical specialist?

1 Yes

2 No

8 Don't know

9 Refused

SP7g. How significant was your experience in the <UTILITY> Program in your decision to implement this Measure, using a scale of 0 to 10, where 0 is not at all significant and 10 is extremely significant? [SCALE 0-10; 98=Don't Know; 99=Refused]

[SKIP SP7h IF SP7g = 98, 99]

SP7h. Why do you give it this rating? [OPEN END]

SP7i. If you had not participated in the <UTILITY> program, how likely is it that your organization would still have implemented this measure, using a 0 to 10, scale where 0 means you definitely WOULD NOT have implemented this measure and 10 means you definitely WOULD have implemented this measure? [SCALE 0-10; 98=Don't Know; 99=Refused]

CONSISTENCY CHECKS ON PROGRAM IMPORTANCE RATING VS. NO PROGRAM RATING

[ASK CC3a IF SP7g<4 AND SP7i <4]

CC3a When you answered ...<SP7g RESPONSE> ... for the question about the influence of the <UTILITY> Program on your decision to install this measure, I would interpret that to mean the Program was not very important to your decision. However, when you answered the previous question, it sounds like it was not very likely that you would have installed this measure had you not participated in the <UTILITY> Program. Can you please explain the role the program made in your decision to implement this measure?

00 [Record VERBATIM]

98 Don't know

99 Refused

[ASK CC3b IF SP7g>7 AND SP7i >7]

CC3b When you answered ...<SP7g RESPONSE> ... for the question about the influence of the <UTILITY> Program on your decision to install this measure, I would interpret that to mean the Program was quite important to your decision. However, when you answered the previous question, it sounds like it was very likely that you would have installed this measure had you not participated in the <UTILITY> Program. Can you please explain the role the program made in your decision to implement this measure?

00 [Record VERBATIM]

98 Don't know

99 Refused

PROCESS MODULE

Only asked once

I'd now like to ask you a few general questions about your participation in the Business Custom program.

Program Processes and Satisfaction

S0 How did you first hear about the Business Custom program?

1. AEP Ohio Account Manager)
2. AEP Ohio Website
3. Workshop/Green Ribbon Kickoff event
4. Contractor/Trade Ally
5. Email
6. Friend/colleague/word of mouth
7. Bill Insert
8. Webinar
9. Speaker/Presentation at an event
10. Newsletter
11. Vendor
12. BLANK
13. BLANK
14. Supplier
15. BLANK
16. BLANK
17. Sales Representative
18. BLANK
00. Other, specify
98. Don't know
99. Refused

S1a Did YOU fill out the application forms for the project? (Either the initial or the final program application)?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK S1b IF S1a=1 ELSE SKIP TO S1e]

S1b Did the application forms clearly explain the program requirements and how to participate?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

S1c How would you rate the application process? Please use a scale of 0 to 10 where 0 is "very difficult" and 10 is "very easy". [SCALE 0-10; 98=Don't know, 99=Refused]

[ASK S1d IF S1c<4]

S1d Why did you rate it that way?

- 1. Difficult to understand
- 2. Long process
- 00. Other, specify
- 98. Don't know
- 99. Refused

[ASK S1e IF S1a=2]

S1e Who filled out the application forms for the project?

- 1. Someone else at the facility
- 2. Someone else at <OrganizationName>
- 3. Trade Ally
- 4. Contractor
- 5. Supplier/Distributor/Vendor
- 6. Engineer
- 7. Consultant
- 00. Other, specify
- 98. Don't know
- 99. Refused

S4a Did you use a contractor for your <SUBCATEGORYDESCRIPTION 1> project?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK S4b IF S4a=1]

S4b Was the contractor you used affiliated with the AEP Ohio Business Custom program? (IF NEEDED: Was the contractor REGISTERED with the Custom program?)

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK S5 IF S4a=1 ELSE SKIP TO S7]

S5 How would you rate the contractor's ability to meet your needs in terms of implementing your project? Please use a scale from 0 to 10, where 0 is "not at all able to meet needs" and 10 is "completely able to meet needs"? [SCALE 0-10; 98=Don't know, 99=Refused]

S6a Would you recommend the contractor you worked with to others?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK S6b IF S6a=2]

S6b Why not?

- 1. Too small
- 00. Other, specify
- 98. Don't know
- 99. Refused

S7 When implementing an energy efficiency project, how important is it to you that the contractor is affiliated with the Custom Program? Please use a scale from 0 to 10, where 0 is "not at all important" and 10 is "very important"? [SCALE 0-10; 98=Don't know, 99=Refused]

S8 During the course of your participation in the program, did you place any calls to the Business Custom Call Center?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK S8a IF S8=1]

S8a On a scale of 0 to 10, where 0 is "very dissatisfied" and 10 is "very satisfied;" how would you rate your satisfaction with the Call Center's ability to answer your questions? [SCALE 0-10; 98=Don't know, 99=Refused]

[ASK S8b IF S8a<4]

S8b Why did you rate it that way?

- 1. Provided inconsistent information
- 2. Didn't understand the question
- 3. Hard to reach the right person/person with the answer
- 00. Other, specify
- 98. Don't know
- 99. Refused

S11 On a scale of 0 to 10, where 0 is very dissatisfied and 10 is very satisfied, how would you rate your satisfaction with... [SCALE 0-10; 96=not applicable, 98=Don't know, 99=Refused]

- a. The Payment Amount
- b. The communication you had with the Business Custom Program staff
- c. The measures offered by the program (If needed: this is the equipment that is eligible for an incentive under the program)
- d. The Business Custom program overall
- e. AEP Ohio overall

[ASK S12a IF S11a<4]

S12a. You indicated some dissatisfaction with the Payment Amount, why did you rate it this way?

1. Better rebates in other states
2. Too small
3. Equipment didn't qualify
00. Other, specify
98. Don't know
99. Refused

[ASK S12b IF S11b<4]

S12b. You indicated some dissatisfaction with the communication you had with the AEP Ohio staff, why did you rate it this way?

1. (Provided inconsistent information)
2. (Didn't understand the question)
3. (Hard to reach the right person/person with the answer)
00. (Other, specify)
98. (Don't know)
99. (Refused)

[ASK S12c IF S11c<4]

S12c. You indicated some dissatisfaction with the measures offered by the Business Custom program, why did you rate it this way? [OPEN END; 98=Don't know, 99=Refused]

[ASK S12d IF S11d<4]

S12d. You indicated some dissatisfaction with the Business Custom Program overall, why did you rate it this way?

1. Not as easy as other states
2. No clear guidance
00. Other, specify
98. Don't know
99. Refused

[ASK S12e IF S11e<4]

S12e. You indicated some dissatisfaction with AEP Ohio overall, why did you rate it this way?

1. Rates are too high
2. Took too long to get rebate
3. Poor customer service
4. Poor power supply/service
00. Other, specify
98. Don't know
99. Refused

S10a Did you experience any problems during the participation process? (IF NEEDED: Other than what we have already talked about)

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK S10b IF S10a=1]

S10b What problems did you experience?

1. Process takes too long
2. Inconsistent information
3. Low incentives/rebates
4. Program ran out of money
00. Other, specify
98. Don't know
99. Refused

Marketing and Outreach

MK0 I'm now going to ask you about several specific ways in which you might have seen or heard information about the Business Custom program. Have you ever... [1=Yes, 2=No, 8= (Don't know), 9= (Refused)]

- a. Received information about the program in your monthly utility bill?
- b. Attended an AEP Ohio customer event where the program was discussed?
- c. Discussed the program with an AEP Ohio Account Manager?
- d. Discussed the program with a Contactor or Trade Ally?
- e. Seen information about the program on the AEP Ohio Website?
- f. Received information about the program in an Email?
- g. Heard about the program from a colleague, friend or family member?
- h. Attended a meeting, seminar or workshop where the program was presented?
- i. Attended a webinar where the program was discussed?
- j. Read about the program in an AEP Ohio Newsletter?

MK01 Have you heard about the Business Custom Program through any other means?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK MK02 IF MK01=1]

MK02 How else did you hear about the program?

- 1. Supplier/Distributor
- 2. Customer
- 3. TV/Radio/Newspaper
- 4. Professional Association
- 00. Other, specify
- 98. Don't know
- 99. Refused

MK1b How useful were the program's marketing materials in providing information about the program? Would you say they were...?

- 1. Very useful
- 2. Somewhat useful
- 3. Not very useful
- 4. Not at all useful
- 8. Don't know
- 9. Refused

[ASK MK1c IF MK1b=3, 4]

MK1c What would have made the materials more useful to you? [MULTIPLE RESPONSE, UP TO 3]

- 1. More detailed information
- 2. Where to get additional information
- 3. Better organized information
- 00. Other, specify
- 98. Don't know
- 99. Refused

MK2 In general, what is the best way of reaching companies like yours to provide information about energy efficiency opportunities like the Business Custom Program? [MULTIPLE RESPONSE, UP TO 3]

1. Bill inserts
2. Flyers/ads/mailings
3. e-mail
4. Telephone
5. AEP Ohio Account Manager
6. Webinars/roundtables/events
7. Through trade or professional associations
8. Trade allies/contractors
9. Target upper management/decision makers
10. In person contact
11. TV/Radio/Newspaper
12. Website
00. Other, specify
98. Don't know
99. Refused

Benefits and Barriers

B1a What do you see as the main benefits to participating in the Business Custom Program? [MULTIPLE RESPONSE, UP TO 3]

1. Energy Savings
2. Good for the Environment
3. Lower Maintenance Costs
4. Better Quality/New Equipment
5. Rebate/Incentive
6. BLANK
7. Improved Safety/Morale
8. Set Example/Industry Leader
9. Able to make improvements sooner
10. Saves money on utility bill
00. Other, Specify
98. Don't know
99. Refused

B1b What do you see as the drawbacks to participating in the program? [MULTIPLE RESPONSE, UP TO 3]

1. Paperwork too burdensome
2. Incentives not high enough/not worth the effort
3. Program is too complicated
4. Cost of equipment

- 5. No drawbacks
- 6. Poor Communication
- 7. Time Consuming
- 8. Underfunded/Ran out of money
- 00. Other, specify
- 98. Don't know
- 99. Refused

B2 What do you think are the reasons companies like yours do not participate in this program? [MULTIPLE RESPONSE, UP TO 3]

- 1. Lack of awareness of the program
- 2. Financial reasons
- 3. BLANK
- 4. Not aware of savings/don't realize the savings
- 5. Difficulty of Application/Paperwork
- 6. Ran out of money
- 7. Lack of motivation
- 00. Other, specify
- 96. None/no reasons
- 98. Don't know
- 99. Refused

B3 Was the scope of your project limited by the program's incentive cap?

- 1. Yes
- 2. No
- 00. Other, specify
- 98. Don't know
- 99. Refused

Feedback and Recommendations

R1 Do you plan to participate in the program again in the future?

- 1. Yes
- 2. No
- 3. Maybe
- 8. Don't know
- 9. Refused

R2 How the Business Custom Program could be improved? [MULTIPLE RESPONSE, UP TO 4]

1. Higher incentives
2. More measures
3. Greater publicity
4. Better communication/Improve program information
5. Contact/information from Account Executives
6. Longer time period to complete project
7. Better review of applications
8. Simplify application process
9. Electronic applications
10. More funds for the program
11. BLANK
00. Other, specify
96. No recommendations
98. Don't know
99. Refused

Firmographics

I only have a few general questions left.

F1a What is <ORGANIZATIONNAME>'s business type? (PROBE, IF NECESSARY; IF MANUFACTURING, PROBE IF IT IS LIGHT INDUSTRY OR HEAVY INDUSTRY)

1. K-12 School
2. College/University
3. Grocery
4. Medical
5. Hotel/Motel
6. Light Industry
7. Heavy Industry
8. Office
9. Restaurant
10. Retail/Service
11. Warehouse
12. BLANK
13. BLANK
14. BLANK
15. Property Management/Real Estate
16. BLANK
17. BLANK
00. Other, specify
98. Don't know
99. Refused

F1b And is the business type of facility in which the <SUBCATEGORYDESCRIPTION 1> was installed the same?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK F1c IF F1b=2]

F1c What is the business type of the facility? (PROBE, IF NECESSARY – CLASS MANUFACTURING AS EITHER LIGHT OR HEAVY INDUSTRY)

- 1. K-12 School
- 2. College/University
- 3. Grocery
- 4. Medical
- 5. Hotel/Motel
- 6. Light Industry
- 7. Heavy Industry
- 8. Office
- 9. Restaurant
- 10. Retail/Service
- 11. Warehouse
- 12. BLANK
- 13. BLANK
- 14. BLANK
- 15. Property Management/Real Estate
- 16. BLANK
- 17. BLANK
- 00. Other, specify
- 98. Don't know
- 99. Refused

F2 Which of the following best describes the ownership of this facility?

- 1. <ORGANIZATIONNAME> owns and occupies this facility
- 2. <ORGANIZATIONNAME> owns this facility but it is rented to someone else
- 3. <ORGANIZATIONNAME> rents this facility
- 8. Don't know
- 9. Refused

[SKIP if F2=1]

F3 Does <ORGANIZATIONNAME> pay the electric bill?

1. Yes
2. No
8. Don't know
9. Refused

F4a How old is this facility? [NUMERIC OPEN END, 0 TO 150; 998=Don't know, 999=Refused]

[ASK F4b IF F4a=998]

F4b Do you know the approximate age? Would you say it is...?

1. Less than 2 years
2. 2-4 years
3. 5-9 years
4. 10-19 years
5. 20-29 years
6. 30 years or more years
8. Don't know
9. Refused

F5a How many employees, full plus part-time, are employed at this facility? [NUMERIC OPEN END, 0 TO 2000; 9998=Don't know, 9999=Refused]

[ASK F5b IF F5a=9998]

F5b Do you know the approximate number of employees? Would you say it is...?

1. Less than 10
2. 10-49
3. 50-99
4. 100-249
5. 250-499
6. 500 or more
8. (Don't know)
9. (Refused)

F6 Which of the following best describes the facility? This facility is...

1. <ORGANIZATIONNAME>'s only location
2. one of several locations owned by <ORGANIZATIONNAME>
3. the headquarters location of <ORGANIZATIONNAME> with several locations

[SKIP F7 IF F2=2]

F7 In comparison to other companies in your industry, would you describe
<ORGANIZATIONNAME> as...

1. A small sized organization
2. A medium-sized organization
3. A large organization
4. Not applicable
8. Don't know
9. Refused

Thank you and closing.

AEP-Ohio Evaluation for Business Custom Program

Program Staff and Implementer In-Depth Interview Guide

October 14, 2010

Name of Interviewee: _____ Date: _____

Title: _____ Company: _____

Depth Interview Guide – C&I Rebate Program

[Note to Reviewer] The Interview Guide is a tool to guide process evaluation interviews with utility staff and implementation contractors. The guide helps to ensure the interviews include questions concerning the most important issues being investigated in this study. Follow-up questions are a normal part of these types of interviews. Therefore, there will be sets of questions that will be more fully explored with some individuals than with others. The depth of the exploration with any particular respondent will be guided by the role that individual played in the program's design and operation, i.e., where they have significant experiences for meaningful responses. The interviews will be audio taped and transcribed.

Introduction

Hi, may I please speak with [NAME]?

My name is ___ and I'm calling from Navigant Consulting, we are part of the team hired to conduct an evaluation of AEP-Ohio's gridSmart Business Energy Efficiency programs. We're conducting interviews with program managers and key staff in order to improve our understanding of AEP-Ohio's programs. At this time we are interested in asking you some questions about the Commercial & Industrial Custom programs. The questions will only take about an hour. Is this a good time to talk? [IF NOT, SCHEDULE A CALL BACK.]

[READ FOR IMPLEMENTER ONLY] Ok, great. I would like to talk to you about your involvement in the custom program.

Roles and Protocols

1. Can you briefly summarize your role and responsibilities in the C&I Custom program? How long have you carried these out? Has your role changed over time and if so, how?
2. Can you explain who is involved in the program(s) implementation, what their roles are and how they interact? *[Probe for all significant actors with responsibility in program delivery including implementer, account managers, and solution providers involved in application screening and pre-/post- inspections.]* Who is responsible for marketing and

outreach, and training activities? *[Probe if characterization is different from current understanding.]*

3. What are the formal and informal communication channels between these groups (between AEP and KEMA; between AEP and OPCo/CSP; within AEP)? Do you feel information is shared in a timely manner? If not, how can this be improved? Are there common ways to identify specific projects for ease of data sharing?

Overall Goals and Objectives

4. Can you describe the goals of the program? Are these laid out in any documents? *[Record/request document.]*
5. What performance metrics are you currently using to measure the performance of the program(s)? According to these metrics, have the program(s) on track to meet their goals or have they met their goals? *[If necessary, probe for number of rebate applications, energy savings realized.]* Why or why not? If yes, have the goals been met on time?
6. What changes were made in the 2010 program based on results from the 2009 research?
 - a. Delivery of the incentive in a timely manner
 - b. Greater emphasis on non lighting measures
 - c. Increase the information flow between KEMA and the customer
 - d. Simplify the application – specifically the documentation required
 - e. Increase the role of the trade ally in program delivery

Program Theory

7. In your own words, what are the market barriers addressed by the program(s), the program intervention strategies to address these barriers, and the program delivery steps? (We are looking for cause-effect relationships between proposed intervention and actions taken for all steps in the chain of program delivery steps.)

Marketing and Promotion

8. Have there been any marketing and promotional efforts for the program(s)? Please describe the program marketing campaign in your own words *[If necessary: Do marketing activities vary by prescriptive and custom? By customer size? By market sector or business type?]* How often do marketing activities occur? Have you made any changes to the marketing materials in 2010? Do you think these materials were more successful in 2010 compared to the 2009 materials? Can you provide to me copies of your marketing plan and all marketing collateral used?

9. Do the marketing and promotional efforts address all measure end-use categories (i.e., lighting, HVAC, refrigeration, motors)? If not, why not?
10. Which end-use category marketing efforts are the most successful and the least successful? Why?
11. Do you think the level of effort and budget put into marketing and promotion of the program(s) has been appropriate so far? Do you think promotional efforts are successful? Do you think they reach the right audience? *[Probe for differences between customer and trade ally target markets.]*
12. Do you anticipate making any changes to marketing efforts for Program Year 3? If so, please describe these changes. Do you have documentation of these changes? If so, can you provide copies to me?

Program Participation

We are also trying to learn of any process related issues that may arise from the current design of the program.

13. Could you briefly describe how customers participate in the program?
14. Do you have a sense of how satisfied customers are with various aspects of the program (e.g., ease of application, verification process, amount of incentive, and timing of incentives)?
15. What do customers do if they have questions about the participation process? Is there a systematic process in place for responding to customer inquiries? How quickly are their questions answered? What improvements can be made? What improvements have been made during 2010 to improve program participation? What do you think still needs to be changed going forward?
16. What is the target processing time for the technical screening and approval of pre-approval forms? What is the average processing time? What, if anything, slows down processing time? What other changes can be made to decrease processing time?
17. What percentage of customers who submit pre-approval forms do not complete the program (i.e., the project is canceled or discontinued)? What are the reasons that customers might not submit their final documentation or otherwise complete the program? Is there a process in place for following up with customers between issuing the pre-approval letter and receiving the final documentation? Is there any system in place to track project progress? If so, please describe.

18. What is the target processing time between final documentation and payment? What percent of applications are actually processed within that amount of time? What, if anything, slows down processing time? How can KEMA or AEP Ohio staff speed up the processing time of the payments?

Quality Assurance and Quality Control

19. The AEP-Ohio Business Programs operations manual shows a quality step in the administration responsibilities for nearly all of the program processes – are the quality procedures documented anywhere? If so, can you provide a copy to me? Can you provide a brief description of these quality procedures?
20. What kind of quality assurance and quality control procedures are in place to evaluate project completion? What is the process for verifying savings? Were any changes made to the QA/QC procedures?
21. Approximately what percentage of all projects are pre-inspected and post-inspected? How do you determine if a project requires inspection (both pre and post)? *[Probe for custom projects, random check guidelines (10% of \$10K or less, 25% of \$10K-\$50K, 100% of \$50K+), geographical location, contractor]*
22. Who conducts pre and post inspections and how are they documented? Can you provide these documents to me?
23. Are inspections documented as part of the tracking data?
24. When are on-site measurements conducted as part of the pre and post verification? Which measures and business types? Can you provide documentation of measurement results to me?
25. We will likely have more questions about Quality Assurance and Quality Control procedures once we've had the chance to review the documented quality procedures. Who is the appropriate person (or persons) to contact with future questions?

Solution Providers

Can you describe the application process for solution provider registration? *[Probe for qualifications or training requirements.]* Is there one staff member that oversees the program ally network?

26. How are program solution providers recruited for the program(s)? Which types of solution providers are recruited to participate in the program(s)? Which types participate in the program(s) and which do not? What are the main benefits for the

solution providers to participate? Do you have a sense of solution providers' satisfaction with their participation in this program?

27. Is there a need that is not being met for the types that are not participating? Is there a way to encourage them to participate?
28. What kind of training is provided to them as part of the registration process? What role do they have in marketing the program(s)? What kind of support, if any, is provided to them for marketing the program(s) to their customers?
29. What is expected of solution providers? Are there any specific responsibilities that come with registering? Are there any quality control procedures in place for them (e.g., removing an ally from the program if complaints are received about them, periodic performance evaluations)? Are solution providers meeting expectations? Why or why not? Have the expectations of solution providers changed in 2010? If so, please describe.
30. Have solution providers requested any other types of support/collateral, etc. If so, what have they requested and how are you responding to their requests? Were any changes made in 2010? If so, please describe.

Rebates/Incentives

31. Are program participants satisfied with the current rebate amounts and incentive limit caps (50% of total cost)? Are the incentive limit caps being checked for all projects?
32. How do solution providers perceive the incentive levels and the minimum or maximum payback caps? What specific feedback have they given? Have you heard any feedback from solution providers about the percent of total project cost caps, and if so, what have you heard?
33. Are you planning any changes to incentive levels for the next program year? If yes, what is the rationale behind the change? Did you implement any changes for the 2010 program year?

Call Center

34. Are customers/contractors making use of the phone number listed in the application form? [*Probe for call volume.*] What are the main issues raised by customers/contractors to the call center?
35. How are these issues resolved?

Data Tracking

36. Can you briefly describe the process for tracking program data? Do you feel all important information is captured and stored in a way to best support program efforts? Is the information accurate, current and complete? How frequently is the tracking data missing? Are there additional types of reports or information that you would find beneficial? Is there a process for requesting additional data?
37. Who captures the data and how? [*Probe for: How do you get access to the data you need for daily program management?*]
38. Does application information get tracked in the same database as installation information and inspection information? Or can it easily be merged?
39. Is the system used for data tracking linked with any other systems such as databases with customer account information or ones that track marketing activities?

Program Adjustments and Enhancements

40. (For Custom) Based on your experience with implementing the program and communicating with customers, how did interest in the program in 2010 compare to interest in 2009? Do you expect the same result in Program Year 3? Why/Why not? What changes will be made to increase program interest in 2011?
41. Have the design of the program(s) or the program processes changed since last year? If so, how? Why were the changes made? Do you have documentation of the program design or processes before and after the changes? If so, can you provide these documents to me?
42. Will there be any changes made to the program offerings in Program Year 3 (e.g., program offerings, marketing approach, targets, incentive levels, etc)? If so, please describe these additions or deletions.
43. Are there any other elements in design, structure, and/or operation that should be modified to make the program(s) work better? If so, what would you recommend? Why do you think this change is needed?
44. From your perspective, is staffing adequate for this program to meet its goals? (If not): What areas/functions do you feel are not adequately staffed?

Success and the Future of These Efforts

45. In your opinion, how successful are the program(s)? Why? What are the strengths? What are the weaknesses? Do you feel that free-ridership is a major concern for the program(s)? [*Please explain.*]

46. If so, what steps can be taken to avoid free-ridership?

47. Do you think the current economic conditions are affecting the program? If so, how?

Other

[AEP-OHIO ONLY] We are also planning on talking with [Kim Murray (KEMA operations manager) and MaryAnn Sheehan (data and document management)]. Are those the best people for us to interview? Are there any additional people with key roles that we should talk to?

48. Do you have any other comments or suggestions for us?

Thank you very much for taking the time in assisting us with this evaluation. Your contribution is a very important part of the process.

It is unlikely but if a few additional questions come up, is it okay if we follow-up with a quick call?

AEP-Ohio Evaluation for the Business Custom Program

Solution Provider Interview Guide

November 9, 2010

Name of Interviewee: _____ Date: _____

Title: _____ Company: _____

[Note to Reviewer] The Interview Guide is a tool to guide process evaluation interviews. This guide helps to ensure the interviews include questions concerning the most important issues being investigated in this study. Follow-up questions are a normal part of these types of interviews. Therefore, there will be sets of questions that will be more fully explored with some individuals than with others. The depth of the exploration with any particular respondent will be guided by the role that individual played in the program's design and operation, i.e., where they have significant experiences for meaningful responses. The interviews will be audio taped and transcribed.

Introduction

Hi, may I please speak with [NAME]?

My name is ___ and I'm calling from Navigant Consulting, we are part of the team hired to conduct an evaluation of AEP-Ohio's gridSmart Business Custom Program. We're currently in the process of conducting interviews with lighting contractors and equipment suppliers to improve our understanding of AEP-Ohio's programs.

Our records show you have been named as a lighting contractor or equipment or service provider by one or more of AEP Ohio business customers that have participated in the Business Custom Program. At this time we are interested in asking some questions of the person most experienced with the Business Custom program. [CONFIRM THAT THIS IS THE PERSON MOST KNOWLEDGEABLE AT THEIR BUSINESS OR GET ALTERNATE NAME].

The questions will only take about half an hour. Information you provide will be kept anonymous in our reports. General observations and findings will appear in our final report, but they will not be attributed to any named person or company. Is this a good time to talk? [IF NOT, SCHEDULE A CALL BACK.]

Background

1. Can you briefly describe the company you work for and the type of business it conducts?
How many are employed at the company? Who are your primary business customers?
What type of equipment did you install for the Business Custom Program?

2. Can you briefly summarize your roles and responsibilities at your company? For how long have you carried these out?
3. How would you describe your familiarity with AEP Ohio's Business Custom Program? Have you personally worked with any of your customers who have participated in this program?

Solution Provider Participation

The following questions are based on the 2009 or 2010 program or both?

4. Did you begin participation in the program in 2009 or 2010? How was your firm recruited to participate in this program?
5. What are the reasons your firm decided to participate in this program? What are the main benefits to your firm?
6. About how many lighting or equipment projects was your company involved with in 2010 that were part of the Custom Program? (If few) Is there a reason you have not been involved with more projects? In your opinion, has the Custom Program increased your business? What percent of your business was part of the Custom Program?

[CONFIRM THAT THERE IS A SOLUTION PROVIDER REGISTRATION PROCESS]

7. Can you describe the application process for program ally registration? *[Probe for qualifications or training requirements.]* What kind of training is provided as part of the registration process? Was the training useful?
8. What is expected of program allies? Are there any specific responsibilities that come with registering? Do you know of any quality control procedures in place for solution providers? (for example, removing a provider from the program if complaints are received about them)
9. How satisfied are you with your experiences with the Custom Program?

Marketing and Promotion to Customers

10. How does your company become involved with projects associated with the program? Do you actively promote participation or do customers bring projects they want to submit to the Custom Program?
11. How do customers find out about this program? Has your company promoted the program through its own marketing collateral? Who, outside of your company and the customer, has been influential in getting customers to participate?
12. What kind of support, if any, does AEP Ohio provide to you for marketing the program to your customers? Do you distribute utility-produced marketing materials? Have you

requested any other types of support/collateral, etc. If so, what have you requested and how has AEP Ohio responded to your requests? How satisfied are you with those materials? How could they be improved?

13. Do you think AEP Ohio's level of marketing and promotion of the Custom Program has been appropriate so far? Do you think promotional efforts are successful? Do you think they reach the right audience?
14. Do you have suggested changes to AEP Ohio's marketing efforts for next year? If so, please describe these changes.

Customer Participation

15. What reasons do customers give for participating in the program?
16. Do customers understand the participation process? How do you get program information to them? What improvements can be made?
17. What activities does your company perform to help customers identify opportunities to participate? Do customers need your help with the program after the equipment is installed?
18. What is the review time between completing the pre-approval application and letter of approval from AEP Ohio? Has this had any impact on your sales process?
19. Does the timing required for submitting documentation (within 60 days of project completion) present a challenge? How? Does it affect certain types of projects or customers more than others? If so, how and why? For a typical custom project, how much time is spent completing required program documentation and application paperwork? Overall, are these requirements reasonable? Is the paperwork handled effectively by program staff once submitted?
20. Have you encountered any challenges in helping customers participate in this program? If so, please describe. Have you had any challenges providing qualifying products?
21. What are the reasons that customers might not participate in this program? Do customers complain about any particular aspects of the program? Do customers cancel their participation or drop out of this program? If so, why?

Rebates/Incentives

22. What is your opinion of the incentives offered to Custom Program participants? Are program participants satisfied with these incentive levels? Are they processed in a timely manner?

23. Are the incentives effective at encouraging customers to pursue projects they would not have considered without the program?

Quality Assurance and Quality Control

24. Have you had to answer questions or provide additional information as a result of a program-sponsored quality inspection to verify equipment quantities and eligibility? Has any equipment you installed been rejected for an incentive? Why?

Call Center

25. Do you know whom to contact for help with this program?
26. Are customers or your company staff making use of the KEMA phone number listed on the application form? At what point during the participation process are calls usually made? What are the main issues raised and are these issues resolved to your satisfaction? Typically, how long does it take to resolve inquiries to the call center?

Program Adjustments and Enhancements

27. What type of information could the utility provide you to increase your familiarity and understanding of the program?
28. What could be modified to make the program work better (e.g., incentive levels, eligible equipment, etc)? If so, what would you recommend? Why do you think this change is needed?
29. Would more training be useful? What types?

Success and the Future of These Efforts

30. In your opinion, how successful is the program? Why? What are the strengths? What are the weaknesses? Do you feel that some customers would be installing the same lighting/equipment products without the incentives of the Custom Program? [Please explain.]
31. Do you think the current economic conditions are affecting program participation? If so, how?

Other

32. Do you have any other comments or suggestions for us?

Thank you very much for taking the time in assisting us with this evaluation. Your contribution is a very important part of the process.

It is unlikely but if a few additional questions come up, is it okay if we follow-up with a quick call?



**AEP Ohio
Energy Efficiency/
Peak Demand Reduction Plan
Year 2 (1/1/2010-12/31/2010)**

**Program Year 2010 Evaluation Report:
Self-Direct Program**

Presented to



A unit of American Electric Power

March 8, 2011



Presented by:
Randy Gunn
Managing Director
Navigant Consulting
30 S. Wacker Drive, Suite 3100
Chicago, IL 60606

Phone 312.583.5700
Fax 312.583.5701

www.navigantconsulting.com



Submitted to:

AEP Ohio
850 Tech Center Drive
Gahanna, Ohio 43230

Submitted by:

Navigant Consulting, Inc.
30 S. Wacker Drive, Suite 3100
Chicago, IL 60606
Phone 312.583.5700
Fax 312.583.5701

Contact:

Randy Gunn, Managing Director
312.583.5714
randy.gunn@navigantconsulting.com

Stu Slote, Associate Director
802.526.5113
stu.slote@navigantconsulting.com

Prepared by:

Kevin Grabner, Managing Consultant
608.497.2323
kevin.grabner@navigantconsulting.com

Argene McDowell, Senior Consultant
608.497.2330
argene.mcdowell@navigantconsulting.com

Table of Contents

Section E.	Executive Summary	1
E.1	Evaluation Objectives	1
E.2	Evaluation Methods.....	1
E.3	Key Findings and Recommendations	2
Section 1.	Introduction and Purpose of the Study	5
1.1	Evaluation Overview.....	5
1.1.1	Process Questions	6
Section 2.	Description of the Program	8
2.1	Program Description	8
2.1.1	Business Sector Programs.....	8
2.1.2	Self-Direct Program Description.....	10
2.2	Program Year 2010 Self-Direct Program Participation	13
Section 3.	Methodology.....	19
3.1	Analytical Methods.....	19
3.1.1	Impact Evaluation Methods	19
3.1.2	Process Evaluation Methods	21
3.2	Data Sources	22
3.3	Sampling Plan.....	24
3.3.1	Impact Sample.....	24
3.3.2	Process Sample.....	26
Section 4.	Detailed Evaluation Findings.....	27
4.1	Impact Results	27
4.1.1	Findings from the Application Document Review Task.....	27
4.1.2	Program Impact Parameter Estimates	28
4.1.3	Program Impact Results.....	30
4.2	Process Evaluation Results	31
4.2.1	Process Themes	31
4.3	Cost Effectiveness Review	36
Section 5.	Conclusions and Recommendations	38
5.1	Conclusions.....	38
5.1.1	Program Impacts.....	38
5.1.2	Program Processes.....	39
5.2	Recommendations.....	40
5.2.1	Impact Recommendations	40
5.2.2	Process Recommendations	40



Section 6.	Appendices	42
6.1	AEP Ohio Self-Direct Customer Participant In-Depth Interview Guide (Imbedded).....	42
6.2	AEP Ohio Self-Direct Solution Providers Interview Guide (Imbedded).....	42
6.3	AEP Ohio Self-Direct Program Staff and Program Implementer In-Depth Interview Guide (Imbedded)	42

List of Tables

Table E-1.	Data Collection Activities for PY 2010 Evaluation	2
Table E-2.	Gross Savings Estimates for PY 2010 Self-Direct Prescriptive Program.....	2
Table 2-1.	gridSMART Business Sector Programs Planned Savings Goals and Budgets	9
Table 3-1.	Data Collection Activities for PY 2010 Evaluation.....	22
Table 3-2.	Profile of the OPCo Gross Impact M&V Sample by Strata	25
Table 3-3.	Profile of the CSP Gross Impact M&V Sample by Strata	25
Table 3-4.	In-Depth Interviews Sample	26
Table 3-5.	Process Participating Customer and Solution Providers Phone Interview Sample	26
Table 4-1.	Progress on Resolving Application Processing Issues Identified in the PY 2009 Evaluation	27
Table 4-2.	OPCo Verified Gross Energy Realization Rates and Relative Precision.....	29
Table 4-3.	OPCo Verified Gross Demand Realization Rates and Relative Precision	29
Table 4-4.	CSP Verified Gross Energy Realization Rates and Relative Precision	30
Table 4-5.	CSP Verified Gross Demand Realization Rates and Relative Precision.....	30
Table 4-6.	Gross Savings Estimates for 2010 Self-Direct Program	30
Table 4-7.	PY 2010 OPCo Self-Direct Program Participation and Savings by Measure.....	31
Table 4-8.	PY 2010 CSP Self-Direct Program Participation and Savings by Measure	31
Table 4-9.	Inputs to Cost-Effectiveness Model for AEP Ohio Self-Direct Program.....	37
Table 4-10.	Cost-Effectiveness Results for the Self-Direct Program.....	37



Section E. Executive Summary

This document presents a summary of the findings and results from the evaluation of the 2010 Self-Direct Program implemented by AEP Ohio for the program year January 1, 2010 through December 31, 2010 (PY 2010).¹

The purpose of the Self-Direct Program is to allow qualifying business customers to commit their already completed energy efficiency and summer peak demand reduction resources to AEP Ohio. Resources are committed on a case-by-case basis and approved by the Public Utility Commission of Ohio (PUCO) through a special arrangement. The 2010 program targeted projects installed after January 1, 2007 and prior to the date of acceptance into the program (within the preceding three years.) Customer payments are made following PUCO approval which may occur after the program end date. The 2009 program did not make incentive payments until 2010, and the 2010 program will make incentive payments after 2010. The Self-Direct Program is marketed, administered, and delivered in both Ohio Power Company (OPCo) and Columbus Southern Power (CSP) service territories as a single program under the gridSMART from AEP Ohio umbrella. The program is administered by an implementation contractor, KEMA Services Inc. (KEMA), in coordination with AEP Ohio.

E.1 Evaluation Objectives

The three major objectives of the evaluation are to: (1) quantify verified gross energy savings and summer peak demand reduction² from the program during PY 2010; (2) determine key process-related program strengths and weaknesses and identify ways in which the program can be improved; and (3) provide data to determine program cost-effectiveness.

E.2 Evaluation Methods

The data collected for evaluation of the PY 2010 Self-Direct Program were gathered during a number of activities, including in-depth phone interviews with program managers and the implementation contractor (KEMA), in-depth phone interviews with participating customers and trade allies "Solution Providers," tracking system data review, and technical review of a sample of project. Table E-1 provides a summary of these data collection activities including the targeted population, the sample frame, and timing in which the data collection occurred.

¹ Program Year 2010 (PY 2010) began January 1, 2010 and ended December 31, 2010. The 2010 Self-Direct Program targeted projects installed after January 1, 2007 and prior to December 15, 2010.

² The summer on-peak period for claiming demand reduction is defined as 3 pm through 6 pm, June through August.



Table E-1. Data Collection Activities for PY 2010 Evaluation

Data Collection Type	Targeted Population	Sample Frame	Sample Design	Sample Size	Timing
Tracking Data Analysis	2010 Self-Direct projects submitted to PUCO by 12/31/2010	AEP Ohio Tracking Database	-	All	October 2010 through February 2011
In-depth Interviews	Program staff at AEP Ohio and the implementation support contractor	Contacts from AEP Ohio	-	3 Interviews; 6 utility and contractor staff	November-December 2010 January 2011 check-in
In Depth Interviews	2010 program customer participants from OPCo and CSP	Application Form Input Tracking Database	Selected by Availability and Business Type	6 (OPCo) 3 (CSP)	December 2010 through February 2011
In Depth Interviews	Solution Providers to the 2010 program	Application Form Input Tracking Database	Random selection	3	December 2010 through February 2011
Project Application File Review	Projects in the 2010 Program	Tracking Database	Stratified Random Sample by Project-Level kWh (3 Strata)	21 (OPCo) 20 (CSP)	January-February 2011

E.3 Key Findings and Recommendations

The impact results for the PY 2010 Self-Direct Program are shown in Table E-2.

Table E-2. Gross Savings Estimates for PY 2010 Self-Direct Prescriptive Program

Program	Program Goals		Ex-Ante Claimed Savings		Verified Gross Savings		Adjusted Gross Savings	
	Gross MWh	Gross MW	Gross MWh	Gross MW	Gross MWh	Gross MW	Gross MWh	Gross MW
OPCo	NA	NA	16,281	2.906	17,307	2.836	17,307	2.836
CSP	NA	NA	16,348	2.188	18,147	2.041	18,147	2.041
Total	NA	NA	32,629	5.094	35,453	4.877	35,453	4.877

For OPCo, the realization rate (defined as verified gross savings/ex-ante claimed savings) is 1.06 for gross energy savings, and 0.98 for gross demand reduction. The relative precision at a



90 percent confidence level for the 2010 Self-Direct projects in the sample is ± 5 percent for the energy realization rate and ± 4 percent for the demand realization rate.

For CSP, the realization rate is 1.11 for gross energy savings, and 0.93 for gross demand reduction. The relative precision at a 90 percent confidence level for the 2010 Self-Direct projects in the sample is ± 2 percent for the energy realization rate and ± 8 percent for the demand realization rate.

Key Impact Recommendations

1. AEP Ohio should utilize the government/municipal "business type" designation in the tracking system because tracked savings indicates government is a significant contributor to program activity and a potential expansion opportunity.
2. AEP Ohio should consider targeted outreach efforts to the government sector (including education) in 2011.
3. If the Statewide TRM becomes required during 2011, AEP Ohio will again face a program year in which two TRMs and default savings methodologies are used to estimate ex-ante claimed gross savings. If a statewide TRM is used, AEP Ohio should implement a single TRM/claimed savings methodology and tracking approach for the entire year as soon as possible.
4. Although AEP Ohio and KEMA have made substantial improvements in their documentation and application processing, there is potential for additional improvements with respect to matching invoices with claimed savings. Inability to confirm invoiced quantities on some projects was a contributing factor to the realization rates for demand reduction that were slightly less than 1.00.
5. Breaking out project submittals to multiple space types could be implemented for larger projects by KEMA after the customer submits an application.

Key Process Recommendations

1. Collateral materials and the Web site should make clearer the link between the Self-Direct incentive and the opportunity to continue to invest in energy efficiency.
2. AEP Ohio will need to brainstorm ways to maintain customer satisfaction during the time period required by KEMA and the PUCO for processing applications and approving the Self-Direct incentives if the proposed pilot is not accepted soon. This one factor is having a very significant impact on the program achieving goals and is having a negative impact on customer satisfaction. If this is not possible, AEP Ohio should communicate in very LARGE letters what the expected wait time for the incentive could be to manage customers' expectations.



3. It is likely that 2011 is the last year AEP Ohio can expect a significant amount of savings from the Self-Direct Program, as 2008 is the last year before the AEP Ohio Prescriptive and Custom programs were implemented in 2009.
4. AEP Ohio should consider usability testing their Web site across all programs. Feedback indicates the gridSMART programs are not prominently placed and titles are confusing. Usability testing is a powerful way to improve the impact of the information on a Web site.
5. KEMA and AEP Ohio should jointly develop a method for emailing or calling customers waiting for PUCO approval to assure the customer is not being forgotten and that it will receive an incentive. The communication might be combined with complimentary offerings of energy efficiency products, such as compact fluorescent bulbs and smart plug devices.
6. AEP Ohio and KEMA both reported being fully staffed for implementing the AEP Ohio Self-Direct Program. Both entities should take steps to ensure that critical positions remain fully staffed.
7. KEMA should improve methods for tracking a project. Each application should be assigned a unique number that is used in the KEMA database and is linked to that paper application. The tracking number should be shared with the customer for ease in communicating or answering questions later in the process. Customers with multiple projects become frustrated when the correct project cannot be identified.
8. AEP Ohio should evaluate its account executives resources to determine what role these can play in the on-site verification process given the other demands on their time, define that role in some detail, and contract with KEMA to conduct the remaining on-site visits.



Section 1. Introduction and Purpose of the Study

The purpose of the Self-Direct Program is to allow qualifying business customers to commit their already completed energy efficiency and summer peak demand reduction resources to AEP Ohio. Resources are committed on a case-by-case basis and approved by the Public Utility Commission of Ohio (PUCO) through a special arrangement. Eligible customers are non-residential customers with energy consumption over 700,000 kWh per year from AEP Ohio, or are part of a national account involving multiple facilities in one or more states. Customers must be accepted into the program by AEP Ohio and the PUCO and must sign a participation agreement.

The program launched for Ohio Power (OPCo) and Columbus Southern Power (CSP) in mid-2009 and experienced strong participation in the first year. Participation has dropped substantially from the 2009 program year to 2010.

The Self-Direct Program rewards qualifying customers who submit previously installed projects through one of two energy efficiency credit options: an energy efficiency credit payment of 75 percent of the calculated incentive amount under the Prescriptive or Custom Program; or an exemption from the Energy Efficiency/Peak Demand Reduction (EE/PDR) rider for a specified number of months. The 2010 program targeted projects installed after January 1, 2007 and prior to the date of acceptance into the program (within the preceding three years). Customer payments are made following PUCO approval which may occur after the program end date. The 2009 program did not make incentive payments until 2010, and the 2010 program will make incentive payments after 2010.

The Self-Direct Program is marketed, administered, and delivered in both OPCo and CSP service territories as a single program under the gridSMART from AEP Ohio umbrella.

1.1 Evaluation Overview

The three major objectives of the evaluation are to: (1) quantify energy savings and summer peak demand reduction from the program during program year (PY) 2010; (2) determine key process-related program strengths and weaknesses and identify ways in which the program can be improved; and (3) provide data to determine program cost-effectiveness.

The evaluation will seek to answer the following key research questions.



Impact Questions

1. Were the impacts reported by the program achieved?
2. What were the realization rates? (Defined as evaluation-verified (ex-post) savings divided by program-reported (ex-ante) savings.)
3. What are the benefits and costs and cost effectiveness of this program?

The PY 2010 evaluation provides separate quantitative results for OPCo and CSP for each of these three impact questions.

1.1.1 Process Questions

Marketing and Participation

1. Is the program outreach to customers through the program and program Solution Providers effective in increasing awareness of the program opportunities?
2. How did customers become aware of the program? What marketing strategies could be used to boost program awareness?

Program Characteristics and Barriers

1. What areas could the program improve to create a more effective program for customers and Solution Providers partners and help increase the energy and demand impacts?
2. Is the application process efficient and easy for customers to navigate? Does the process present any barriers to program participation?
3. Are customers and program partners satisfied with the aspects of program implementation in which they have been involved?

Administration and Delivery

1. Are the program administrative and delivery processes effective for smoothly providing incentives to customers?
2. What were the early program satisfaction and customer service experiences?
3. Are the communication processes with participants effective?



4. What are the verification procedures for the program? Have they been implemented in a manner consistent with design? Do they present a barrier to participation or perceived undue burden on customers?

The PY 2010 evaluation presents findings for each of these process questions. Findings were combined for OPCo and CSP to be consistent AEP Ohio's approach of delivering a single program statewide. Both utilities were represented in the samples.



Section 2. Description of the Program

This evaluation report covers the Self-Direct Program element of the AEP Ohio gridSMART business energy efficiency and peak demand reduction programs.

2.1 Program Description

2.1.1 Business Sector Programs

Ohio recently passed comprehensive energy legislation, which includes an advanced energy portfolio standard (AEPS) 2008 Senate Bill (SB) 221, signed into law by Governor Ted Strickland on May 1, 2008.³ The law directs Ohio utilities to implement programs to help their customers use electricity more efficiently, and requires electric utilities to achieve energy savings of 22.2 percent of baseline electricity use by the end of 2025 through energy efficiency programs. Utilities must also implement programs to reduce peak energy demand one percent beginning in 2009, and an additional 0.75 percent per year through 2018, for a total of 7.75 percent.

In response to the new legislative requirements, AEP Ohio launched a set of EE/PDR programs for 2009-2011 under a three-year action plan with oversight by the PUCO. The 2010 Self-Direct Program was one of three program elements available to non-residential customers of AEP Ohio's two operating companies, OPCo and CSP, during 2010⁴:

- » The **Self-Direct Program** rewards qualifying customers who submit previously installed projects through one of two energy efficiency credit options: an energy efficiency credit payment of 75 percent of the calculated incentive amount under the Prescriptive or Custom program; or an exemption from the EE/PDR rider for a specified number of months. The 2010 program targeted projects installed after January 1, 2007 and prior to December 31, 2010.
- » The **Prescriptive Program** provides a streamlined incentive application and quality control process, and is intended to facilitate ease of participation for nonresidential customers interested in purchasing efficient technologies from a pre-qualified list. Relationships with trade ally "Solution Providers" are a key strategy for promoting prescriptive incentive availability to customers. The 2009 program targeted discrete new construction, retrofit, and replacement opportunities in lighting, and the application form was eligible for use in early 2010. In April 2010, AEP Ohio launched the 2010 Prescriptive program and application form that expanded the program to additional

³ http://www.legislature.state.oh.us/bills.cfm?ID=127_SB_221

⁴ A fourth business sector program, Express Install was initiated during the last quarter of 2010.



end-uses such as HVAC, and refrigeration systems, and increased the number of eligible lighting measures.

- » The **Custom Program** offers incentives to customers for less common or more complex energy-saving measures installed in qualified retrofit and equipment replacement projects.
- » The **Express Install Program** provides one-stop turn-key service to small businesses (less than 200,000 kWh consumption per year) for lighting and refrigeration measure upgrades. Approved service providers recruit participants, identify savings opportunities, complete program paperwork and install measures for the program. The Express Install Program launched in November 2010 and has limited participation in Program Year 2010. Savings estimates are based on prescriptive formulas for simplicity and auditability.

The AEP Ohio gridSMART programs are funded on an annual calendar year basis. Funding in any given program year is limited to that year's budgeted amount and, therefore, incentives are paid on a first-come, first-served basis until the program year's incentive funds are exhausted. Funds may be shifted between the multiple business program elements based on participant response and approval of the PUCO. The business sector portion of the program is based on three year savings goals as follows in Table 2-1.

Table 2-1. gridSMART Business Sector Programs Planned Savings Goals and Budgets

Business Sector Programs	2009	2010	2011	2009-2011 Total
Energy Savings (GWh)	107.2	176.5	249.9	533.6
% Savings of Sector Sales	0.30%	0.50%	0.70%	1.50%
Demand Savings (MW)	24.7	134.5	152.6	220.5
% Savings of Sector Sales	0.36%	0.56%	0.75%	1.65%
Total Cost (\$ millions)	\$16.1	\$32.2	\$40.4	\$88.8

Source: Program Operations Manual, January 25, 2010

AEP Ohio retained KEMA Services Inc. (KEMA) as its program administrator responsible for day-to-day operations of the Business Programs. AEP Ohio Prescriptive and Custom Program Managers report to an overall Business Programs Manager who also managed the Self-Direct Program. In September, a Self-Direct Program Manager was hired. An AEP Ohio staff person supports outreach and marketing, and other AEP Ohio staff support planning, evaluation, and reporting.



2.1.2 Self-Direct Program Description

The Self-Direct Program⁵ is unusual in that the program offers energy efficiency incentives to qualified business customers for energy efficiency projects completed in the last three years that resulted in energy savings and peak demand reduction. The goal of the Self-Direct Program is to educate non-residential customers on all of the AEP Ohio programs, and to provide start up funds for medium to large customers to participate in other AEP Ohio programs. The Self-Direct Program opens the door to customers who have implemented energy efficiency improvements in the past three years. In addition, it provides a vehicle to promote energy efficiency with customers and support employment in the state of Ohio. The Self-Direct incentives are a way to 'prime the market' for more energy efficiency participation by providing start-up funds for the next project that qualifies for the Custom or Prescriptive Programs, and to preempt customer complaints that they are not receiving a return on their required payments into the EE/PDR fund. The Self-Direct Program may experience declining participation over time as customers become aware of the Custom and Prescriptive Programs and elect to receive 100 percent of the calculated incentive rather than accept the 75 percent rebate offered through the Self-Direct Program.

AEP Ohio business customers in the state of Ohio with annual electricity usage greater than 700,000 kWh or who are part of a national or regional account with multiple facilities in one or more states are eligible to apply to the Self-Direct Program. Projects are accepted into the Self-Direct Program by AEP Ohio and the PUCO on a case-by-case basis. Projects must have an installation date within three years of the date of acceptance into the program. Projects are required to produce verifiable and persistent energy savings (kWh) and/or peak demand reduction (kW) for at least five years from the date of installation. Projects are also required to have a payback period between one and seven years without the incentive applied, or pass cost-effectiveness tests determined by AEP Ohio.

Customers have a choice of two incentive plans for receiving an energy efficiency credit, and may choose an incentive payment or the EE/PDR Rider Exemption. The EE/PDR rider is an additional fee based on usage that is added to all customer bills for recovery of EE/PDR program implementation costs. Customers choosing the incentive payment would:

- » Receive a payment of 75 percent of the calculated incentive under the Prescriptive Program or Custom Program (kWh only).
- » Stay in the EE/PDR rider and would be eligible to participate in other energy efficiency programs offered by AEP Ohio.
- » Be encouraged to use energy efficiency credit payments to help fund future energy efficiency and demand reduction projects.

⁵ Information obtained from the Self-Direct Fact Sheet 0210.



Customers choosing the EE/PDR exemption would:

- » Receive an exemption from the EE/PDR rider for a specified number of months.
- » Not be eligible to participate in any other energy efficiency programs offered by AEP Ohio during the period of exemption.

Implementation Strategy

AEP Ohio Customer Service staff promote the Self-Direct Program to their accounts, while KEMA provides application review and processing. In 2010, AEP Ohio and KEMA have shared project site verification inspection responsibilities. KEMA provides the project and measure tracking system while AEP Ohio maintains systems for program level tracking and reporting. AEP Ohio handles all submission of Self-Direct projects to the PUCO. KEMA handles customer communication regarding application processing and approvals, sometimes working through AEP Ohio Customer Service Representatives.

Roles of the Implementation Contractor

The primary role of KEMA is to manage Self-Direct applications as these are submitted. KEMA staff reviews the application and calculates the incentive. The application is then sent to AEP Ohio for review. After AEP Ohio reviews and approves the Self-Direct application, KEMA prepares the documents for PUCO submittal and AEP Legal files the joint application on the PUCO's public docket. Once the PUCO approves the application KEMA releases the project for payment and mails the incentive check. KEMA created a database to track the status of projects. In addition, KEMA has a large role in marketing the program by providing informational presentations at AEP Ohio sponsored seminars and meetings and also at trade organization meetings and events.

KEMA's responsibilities in the area of providing post inspections fluctuated over the course of the program. In May of 2010, AEP Ohio decided to conduct all to the inspections for the Self-Direct Program because the inspection process was a good opportunity for AEP Ohio to engage the customer. KEMA provided training to AEP Ohio account executives on giving inspections in the summer of 2010. The large number of inspections and an unexpected reduction in force due to retirements limited AEP Ohio's ability to complete the inspections. In addition, not all account managers were well equipped to conduct the inspections. Currently, KEMA continues to perform inspections.

Both KEMA and AEP Ohio agreed that they work collaboratively on the Self-Direct Program. Program managers from both organizations may discuss details of the program numerous times a day. Regular team meetings are held weekly to coordinate and decide program issues. KEMA participates in AEP Ohio gridSMART Program quarterly seminars for either customers or



Solution Providers. KEMA and AEP Ohio spend a lot of energy convincing Solution Providers of various kinds that the program should be a tool in their tool box that will strengthen their relationship with their customers. It is important to get information and to recruit Solution Providers to carry the message to their customers, as trade allies and lighting contractors with a previous relationship with the customer can be influential in customer decision making.

Program Timeline

- » June 1, 2009 – The 2009 program targeted projects installed after January 1, 2006 and prior to December 31, 2009.
- » During 2009, improvements made to application form in response to customer feedback.
- » January 1, 2010 - The 2010 program targeted projects installed after January 1, 2007 and prior to December 31, 2009. Self-Direct projects submitted to PUCO by 12/31/2009. No projects approved by PUCO in 2009; hence no incentives were paid to program participants in 2009.
- » April, 2010 – Launched Solution Provider network and the 2010 Prescriptive-Custom Application Form which expanded prescriptive lighting measures and added prescriptive rebates for HVAC equipment, refrigeration, and other measures. February 11, 2010 First 2009 program projects approved by PUCO and incentive payment made on February 26, 2010. As of March 1, 2011, 63 projects remain in the review process.
- » September 15, 2010 AEP Ohio withholds applications from PUCO until the program requirements are finalized.
- » December 8, 2010 First batch of 2010 projects delivered to PUCO.
- » February 2, 2011 Final batch of 2010 projects delivered to PUCO.
- » December 31, 2010 – The 2010 Self-Direct Program ends.

Program Delivery Mechanisms and Marketing Strategy

The AEP Ohio customer services group manages customer relationships.. Customer services account managers leveraged their close relationships with managed customers (those customers that have a account manager specifically assigned to the customers) to identify projects that would qualify for the Self-Direct Program. In 2009, AEP Ohio began educating lighting contractors about the Self-Direct, Custom and Prescriptive Programs. This process has expanded with the development of the Solution Provider Network. AEP Ohio EE/PDR staff is also involved in a collaborative of business and customer advocate associations such as the Ohio Manufacturing Association, Ohio Hospital Association, Chamber of Commerce, the Industrial Energy Users, the Ohio Energy Group, the Board of Regents, Association of Independent Colleges and Universities and other statewide groups that work with large customers. These organizations help promote the program to their members. In 2010, AEP Ohio began reaching out to architects and consulting engineers. In 2011, AEP Ohio plans to focus on working with professional groups to market the business programs. KEMA also provides



outreach to civic and professional organizations to promote the program. KEMA marketing staff and AEP Ohio marketing staff jointly develop presentations and collateral materials.

Solution Provider Participation

AEP Ohio and KEMA launched a solution provider/trade ally network of contractors in April of 2010. This is a network of contractors that have been trained on the program, have applied to market the program, and are listed on the AEP Ohio Web site as a registered contractor for the business sector programs. Through 2010, about 120 Solution Providers have been trained or approved to market the AEP Ohio business sector programs. However, Solution Providers can participate in a program without registering with AEP Ohio.

2.2 Program Year 2010 Self-Direct Program Participation

The Self-Direct Program evaluation team was able to extract key program participation data from AEP Ohio's tracking database, which was provided in Excel spreadsheet format. Database spreadsheet tabs included a project level dataset with project total impacts, application submittal and status data, and internal approval information. Project data was linked by a unique project number to measure level information – one tab per measure category (Lighting, Custom, HVAC, etc.). The technical basis for AEP Ohio's ex-ante claimed gross savings is described in Section 3.1.1.

All data was tracked separately between the two utilities, OPCo and CSP. Generally, evaluation results are shown separately for each service territory, except where summary tables combine program participation numbers. Table 2-2-2 and Table 2-2-3 provide a profile of PY 2010 Self-Direct participation at the project level, Table 2-2-4 and Table 2-2-5 provide participation at the Prescriptive and Custom levels, and Table 2-2-6 and Table 2-2-7 provide detailed measure level breakouts.

For OPCo, participation is highest within light and heavy industry, which combined for 34 percent of claimed energy savings. Participation was also high within education (schools and colleges/universities), and in office and retail business types, which had significant participation by businesses that submitted multiple projects for office branch and retail chain locations. Miscellaneous was 18 percent of the project count and 14 percent of claimed energy savings. Checking the data, Miscellaneous was primarily projects in city and county government, including traffic signals. The Self-Direct applications for both 2009 and 2010 had check boxes for Government/Municipal, and AEP Ohio should consider how to utilize that designation because tracked savings indicates government is a significant contributor to program activity and a potential expansion opportunity.



For CSP, participation was highest in industry at 29 percent of claimed energy savings, while schools and offices were significant contributors with 16 percent of claimed energy savings for each. Retail chains and office branches participated across the OPCo and CSP territories. The coding of Government/Municipal as Miscellaneous also occurred for CSP.

Table 2-2. PY 2010 OPCo Self-Direct Program Participation by Business Type

Business Type	Project Count		Ex-Ante Claimed Savings, Gross MWh		Ex-Ante Claimed Savings, Gross MW	
School	15	13%	1,141	7%	0.272	9%
College/University	3	3%	2,419	15%	0.576	20%
Grocery	8	7%	762	5%	0.076	3%
Hotel/Motel	1	1%	106	1%	0.008	0%
Medical	3	3%	209	1%	0.039	1%
Office	27	23%	998	6%	0.311	11%
Retail/Service	26	22%	2,609	16%	0.405	14%
Light Industry	4	3%	4,133	25%	0.480	17%
Heavy Industry	9	8%	1,452	9%	0.239	8%
Warehouse	1	1%	97	1%	0.017	1%
Miscellaneous	22	18%	2,354	14%	0.482	17%
Total	119	100%	16,281	100%	2.905	100%

Source: Evaluation analysis of tracking data from AEP Ohio database exports from January 7, 2011 and February 21, 2011.



Table 2-3. PY 2010 CSP Self-Direct Program Participation by Business Type

Business Type	Project Count		Ex-Ante Claimed Savings, Gross MWh		Ex-Ante Claimed Savings, Gross MW	
	Count	Percentage	MWh	Percentage	MW	Percentage
School	12	10%	2,625	16%	0.405	19%
College/University	1	1%	388	2%	0.044	2%
Grocery	12	10%	1,255	8%	0.139	6%
Hotel/Motel	1	1%	268	2%	0.036	2%
Medical	11	9%	790	5%	0.105	5%
Office	50	41%	2,640	16%	0.413	19%
Retail/Service	11	9%	875	5%	0.133	6%
Light Industry	5	4%	1,150	7%	0.302	14%
Heavy Industry	2	2%	3,520	22%	0.064	3%
Warehouse	11	9%	1,579	10%	0.296	14%
Miscellaneous	6	5%	1,259	8%	0.250	11%
Total	122	100%	16,348	100%	2.188	100%

Source: Evaluation analysis of tracking data from AEP Ohio database exports from January 7, 2011 and February 21, 2011.

Table 2-4 and Table 2-5 show the program breakdown for each utility between Prescriptive and Custom measure components. For OPCo, Custom measures accounted for just 18 percent of the energy savings, with the largest project being a custom HVAC project, and the greatest energy saving custom measure type being LED refrigeration case lighting submitted on 2009 application forms. For CSP, Custom measures accounted for 53 percent of the energy savings and 27 percent of demand reduction, with the largest project being a custom process measure claiming savings over 3.2 million kWh for improved electric heating efficiency and no demand reduction. Other significant custom measures for CSP were HVAC controls retrofits that emphasized energy savings over demand reduction. There were four LED refrigeration case lighting projects submitted to CSP as custom measures on 2009 application forms.



Table 2-4. PY 2010 OPCo Self-Direct Program Participation by Program Type

Program Type	Ex-Ante Claimed Savings, Gross MWh		Ex-Ante Claimed Savings, Gross MW	
Prescriptive	13,406	82%	2.506	86%
Custom	2,874	18%	0.400	14%
Total	16,281	100%	2.905	100%

Source: Evaluation analysis of tracking data from AEP Ohio database exports from January 7, 2011 and February 21, 2011.

Table 2-5. PY 2010 CSP Self-Direct Program Participation by Program Type

Program Type	Ex-Ante Claimed Savings, Gross MWh		Ex-Ante Claimed Savings, Gross MW	
Prescriptive	7,611	47%	1.607	73%
Custom	8,737	53%	0.581	27%
Total	16,348	100%	2.188	100%

Source: Evaluation analysis of tracking data from AEP Ohio database exports from January 7, 2011 and February 21, 2011.

Lighting measures are the largest contributors to claimed savings at the end use level, especially for OPCo, where lighting provides 82 percent of claimed energy savings. For CSP, lighting measures provide 44 percent of savings, followed by custom measures that provide 35 percent of savings. For both utilities, the most prominent lighting measure technology is four foot T8 lighting. HVAC and refrigeration provide 14 percent of energy savings for OPCo and 21 percent of energy savings for CSP.



Table 2-6. PY 2010 OPCo Self-Direct Program Participation by Measure Type

End Use Type	Measure	Ex-Ante Claimed Savings, Gross MWh		Ex-Ante Claimed Savings, Gross MW	
Lighting	T8/T5 New Fluorescent Fixtures	5,718	35%	0.782	27%
Lighting	CFL - Screw-in	2,138	13%	0.440	15%
Lighting	LED Traffic Signals	1,677	10%	0.369	13%
Lighting	High Perf. or Reduced Watt 4-Foot T8	1,617	10%	0.349	12%
Lighting	Occupancy Sensor	579	4%	0.191	7%
Lighting	New Construction Lighting Density	559	3%	0.104	4%
Lighting	Permanent Lamp Removal	341	2%	0.074	3%
Lighting	8-foot T12 to Reduced Wattage T8	183	1%	0.045	2%
Lighting	LED, T-1, or Electrolum. Exit Signs	141	1%	0.017	1%
Lighting	Delamping (with T8 ballast retrofit)	117	1%	0.023	1%
Lighting	Daylight Sensor Controls	110	1%	0.036	1%
Lighting	New Construction Occupancy Sensors	113	1%	0.032	1%
Lighting	Exterior Lighting	50	0%	-	0%
Lighting	Hardwired Compact Fluor. Fixtures	45	0%	0.009	0%
Lighting	Standard Linear Fluorescent Retrofit	10	0%	0.003	0%
Lighting	Lighting Custom	6	0%	0.001	0%
Lighting	2-foot & 3-foot T12 to T8	6	0%	0.001	0%
Lighting	4-foot T12 U Tube to T8 U Tube	5	0%	0.001	0%
HVAC	HVAC Custom	543	3%	0.181	6%
HVAC	Manual to programmable thermostat	58	0%	-	0%
HVAC	Water Cooled Chillers, Centrifugal	30	0%	0.029	1%
Refrigeration	LED Refrigeration Case Lighting	1,567	10%	0.179	6%
Refrigeration	Refrigeration Other	61	0%	0.008	0%
Comp. Air	Compressed Air	202	1%	0.008	0%
Other Custom	Other Custom	403	2%	0.024	1%
Total	Total	16,281	100%	2.905	100%

Source: Evaluation analysis of tracking data from AEP Ohio database exports from January 7, 2011 and February 21, 2011.


Table 2-7. PY 2010 CSP Self-Direct Program Participation by Measure Type

End Use Type	Measure	Ex-Ante Claimed Savings, Gross MWh		Ex-Ante Claimed Savings, Gross MW	
Lighting	Interior T8/T5 New Fluor. Fixtures	3,166	19%	0.632	29%
Lighting	New Construction Lighting Density	1,224	7%	0.209	10%
Lighting	High Perf. or Reduced Watt 4-Foot T8	761	5%	0.179	8%
Lighting	Occupancy Sensor	762	5%	0.173	8%
Lighting	LED Traffic Signals	587	4%	0.117	5%
Lighting	Lighting / Permanent Lamp Removal	180	1%	0.041	2%
Lighting	CFL - Screw-in	142	1%	0.030	1%
Lighting	Exterior Lighting	127	1%	-	0%
Lighting	Lighting Custom	104	1%	0.024	1%
Lighting	8-foot T12 to Reduced Wattage T8	48	0%	0.012	1%
Lighting	LED, T-1, or Electrolum. Exit Signs	36	0%	0.004	0%
Lighting	Delamping (with T8 ballast retrofit)	34	0%	0.006	0%
Lighting	New Construction Occupancy Sensors	19	0%	0.007	0%
Lighting	Standard Linear Fluorescent Retrofit	16	0%	0.005	0%
Lighting	Hardwired Compact Fluor. Fixtures	8	0%	0.002	0%
Lighting	2-foot & 3-foot T12 to T8	-	0%	-	0%
Lighting	4-foot T12 U Tube to T8 U Tube	-	0%	-	0%
Lighting	Daylight Sensor Controls	-	0%	-	0%
HVAC	HVAC Custom	2,160	13%	0.292	13%
HVAC	Manual to programmable thermostat	125	1%	-	0%
HVAC	Water Cooled Chillers, Centrifugal	110	1%	0.130	6%
Refrigeration	LED Refrigeration Case Lighting	918	6%	0.123	6%
Refrigeration	Refrigeration Other	75	0%	0.008	0%
Comp. Air	Compressed Air	-	0%	-	0%
Other Custom	Other Custom	5,745	35%	0.196	9%
Total	Total	16,348	100%	2.188	100%

Source: Evaluation analysis of tracking data from AEP Ohio database exports from January 7, 2011 and February 21, 2011.



Section 3. Methodology

For Self-Direct Program participants, the evaluation team conducted impact and process evaluation activities following the methodologies outlined below.

3.1 *Analytical Methods*

3.1.1 **Impact Evaluation Methods**

The objective of this element of the impact evaluation is to verify the ex-ante claimed gross savings in the Self-Direct Program tracking system. Savings verification is conducted through a multi-step approach:

- » **Tracking System Savings Review**, to identify potential adjustments to ex-ante claimed savings for measures due to outliers, missing information, or tracking system data entry or calculation errors. Evaluation adjustments identified through the Tracking System Savings review are made to all measures in the population where the adjustment is found to be applicable.
- » **Default Measure Savings Assessment**, to identify potential adjustments to ex-ante claimed savings for prescriptive measures where the evaluation team recommends an alternative default value for a specific measure.
- » **Application Documentation Review**, to identify potential adjustments to ex-ante claimed savings for measures based on review of documentation, assumptions, engineering analysis for a sample of projects. Sampling is discussed in the following Section 3.3.1.
- » **On-site Verification**. On-site verification was not conducted by the evaluation team on PY 2010 Self-Direct projects. However, the Ohio Statewide Evaluator team conducted on-site assessments of 2009 Self-Direct projects in 2010.
- » **Other Adjustments to Savings**. Other adjustments to savings could include statistical or baseline adjustments to verified savings.

The basis for AEP Ohio's ex-ante claimed savings depends upon multiple factors. Measures may be submitted to the Self-Direct Program through the Prescriptive Program application process, or if measures do not meet Prescriptive criteria they may be proposed as Custom Program measures. A single project may consist of both Prescriptive and Custom measures. Several common Prescriptive measures submitted on the 2010 application form were custom measures on 2009 applications which were accepted into the middle of 2010. Examples include LED refrigeration case lighting and various other lighting measures.



Claimed savings for Prescriptive measures are based on a technical reference manual (TRM) developed by KEMA. Measures submitted on the 2009 application forms had ex-ante savings estimated and tracked using the PY 2009 version of the program TRM documented in Appendix A of KEMA's January 25, 2010 Operations Manual. An updated TRM was developed by KEMA for the PY 2010 program year, dated August 5, 2010, and used for measures submitted through the 2010 application form. Custom measures rely upon customer provided data and energy savings calculations, and may be revised by KEMA upon technical review.

Sampling was conducted separately for OPCo and CSP. Application Documentation Review was conducted on a sample of projects randomly selected from the operating company populations. For each selected project, an in-depth review of project documentation is performed to assess the engineering methods, parameters and assumptions used to generate all ex-ante claimed gross savings. When available, all measure specifications and quantities were verified by reviewing the accompanying specification documents as well as installation invoices. For each measure in the sampled project, the evaluation reviewer estimated verified gross savings based on the review of project documentation and engineering analysis. Adjustments to estimate verified savings were based on building-specific information, invoices, specifications sheets and other documentation to the extent it was judged more representative of the project than default measure savings assumptions. Categories of changes to ex-ante claimed savings included the following:

- » Building type
- » Hours of use
- » Coincidence factor
- » Equipment quantities from invoices
- » Space cooling HVAC interaction factor credit
- » Baseline equipment specifications
- » Post retrofit equipment specifications
- » Other changes, such as analysis methodology for custom measures

Billing data were available for several of the custom sites. Therefore, energy savings were computed by subtracting post-measure energy consumption from pre-measure consumption. In general, the implementer performed regression analysis on the weather data to ensure that pre and post-measure billing data were comparable. If the available data did not span an entire year, the data were scaled to reflect annual consumption so that annual savings could be calculated.

In addition to reviewing the inputs to savings estimates, the methodologies and results from the implementer were compared to outside sources from the literature when appropriate. For example, as part of the review process for three custom sites involving LED refrigeration case



lighting, the implementer results were compared to a Pacific Northwest National Lab and U.S. Department of Energy case study involving a similar site.

Once the verified gross impacts were developed for each project in the sample, the evaluation team estimated verified gross realization rate (which is the ratio of the verified gross savings to ex-ante claimed gross savings) by stratum for each operating utility. The stratum-level realization rates were then applied to the population of ex-ante claimed gross savings by strata, and summed up to the population using the strata weights. The result is an ex-post estimate of verified gross savings for the program for OPCo and CSP.

3.1.2 Process Evaluation Methods

The purpose of the process evaluation is to assess the effect of the program structure and program implementation on program performance and customer satisfaction. The evaluation team's process efforts provide insights and recommendations to support the continued success of the Self-Direct Program.

Central to the process evaluation for the Self-Direct Program were interviews with program managers and review of relevant program tracking databases, documents, and other materials to understand how the program has evolved from the previous year. In addition, the evaluation team interviewed participating customers to better understand customer satisfaction and perceptions related to the program. Finally, the evaluation team conducted several interviews with Solution Providers to identify their perspectives on the program.

The evaluation team used senior staff members to conduct these in-depth qualitative interviews. Senior staff were flexible in their approach to the discussion, allowing the respondent to talk about his/her experience or perspective while still shaping the discussion toward the most important, relevant and necessary information. The team conducted the interviews by telephone in order to complete the interviews quickly and to be flexible to the respondents' schedule.

Interview guides were developed to be open-ended and to allow for a free-flowing discussion between interviewer and respondent and real time interviewing flexibility. The team developed guides which highlighted the key issues, but did not require being read verbatim to offer the interviewer the flexibility to delve deeply into pertinent issues based on the respondents' knowledge of and experience with the program.

The evaluation team took detailed notes during each in-depth interview and/or taped the discussion to ensure thorough documentation of each interview. For any quantitative questions, interviewers are trained to record and summarize responses to allow the evaluators to draw conclusions in the analysis.



3.2 Data Sources

The data collected for evaluation of the PY 2010 Self-Direct Program was gathered during a number of activities, including in-depth phone interviews with program managers and the implementation contractor (KEMA), in-depth phone interviews with participating customers and Solution Providers, tracking system data review, and technical review of a sample of projects. Table 3-11 provides a summary of these data collection activities, including the targeted population, the sample frame, and the timeframe in which the data collection occurred.

Table 3-1. Data Collection Activities for PY 2010 Evaluation

Data Collection Type	Targeted Population	Sample Frame	Sample Design	Sample Size	Timing
Tracking Data Analysis	2010 Self-Direct projects submitted to PUCO by 12/31/2010	AEP Ohio Tracking Database	-	All	October 2010 through February 2011
In-depth Interviews	Program staff at AEP Ohio and the implementation support contractor	Contacts from AEP Ohio	-	3 Interviews; 6 utility and contractor staff	November-December 2010 January 2011 check-in
In Depth Interviews	2010 program customer participants from OPCo and CSP	Application Form Input Tracking Database	Selected by Availability and Business Type	6 (OPCo) 3 (CSP)	December 2010 through February 2011
In Depth Interviews	Solution Providers to the 2010 program	Application Form Input Tracking Database	Random selection	3	December 2010 through February 2011
Project Application File Review	Projects in the 2010 Program	Tracking Database	Stratified Random Sample by Project-Level kWh (3 Strata)	21 (OPCo) 20 (CSP)	January-February 2011

Tracking Data

The Self-Direct Program evaluation team was able to extract key program participation data from AEP Ohio's tracking database, which was provided in Excel spreadsheet format. The tracking data delivered for this evaluation was extracted from a program tracking database maintained by KEMA, using extracts dated October 7, 2010 and January 7, 2011 and revised February 21, 2011.



Database spreadsheet tabs included a project level dataset with project total impacts, application submittal and status data, and internal approval information. Project data was linked by a unique project number to measure level information – one tab per measure category (Lighting, Custom, HVAC, etc.). All data was tracked separately between the two utilities, OPCo and CSP.

The evaluation team conducted the initial tracking system review and draft sample design for application file review using the database export of the tracking system data from January 7, 2011. The final tracking system review, ex-ante savings estimates, and sample design were based on the final database version that incorporated updates to final claimed impacts dated February 21, 2011. The differences between the January 7 and February 21 versions related to treatment of ex-ante claimed gross savings for lighting measures submitted with the 2009 prescriptive application form versus the 2010 prescriptive application. For the January 7 extract and earlier, prescriptive lighting measures submitted with the 2009 application form had ex-ante claimed savings based on an average per unit savings that was *not* business-type specific. Instead, KEMA recorded prescriptive lighting savings using per unit impacts that were an un-weighted average across all business types. The 2009 application included check boxes for participants to provide their “Building Type.”

For lighting measures submitted on the 2010 application form, KEMA’s tracking system recorded claimed savings that were business-type specific, based on a “Business Type” check box on the application. In addition, the 2010 application had an optional check box for daily operating shift schedule (24 hours/day, 16 hours/day, and 8 hours/day). The 2010 application was released in April 2010, so the 2010 program contained a mix of 2009 and 2010 application forms.

After discussion with AEP Ohio, it was decided that KEMA should convert impacts on lighting measures submitted on 2009 application forms to business-type specific values so that there was a consistent basis for ex-ante claimed savings. This was accomplished by KEMA and AEP Ohio by adjusting the ex-ante energy impacts of 2009 lighting measures using the 2010 values for default business specific hours of use and HVAC energy interaction factors, and adjusting the ex-ante demand reduction for business specific demand HVAC interaction and coincidence factors. This adjustment resulted in a “Corrected” set of ex-ante data that was made final on February 21, 2011. The corrected data contained the revised impacts for 2009 application form lighting measures and the corresponding project-level impacts.

Project and Program Documentation

To support the engineering review, AEP Ohio provided project documentation in electronic format for each sampled project. Documentation included some or all of scanned files of hardcopy application forms and available supporting documentation from the applicant



(invoices, measure specification sheets, vendor proposals), KEMA calculation spreadsheets, and PUCO submittal packages. This documentation was provided by uploading to a secure file transfer site.

The evaluation team also reviewed program materials developed by KEMA and AEP Ohio, including: two versions of the KEMA technical reference manual documenting prescriptive savings (Appendix A of the operations manual), application forms, PUCO submittal forms, and checklists, and program materials available from the program Web site (www.gridsmartohio.com).

Program and Implementer Staff Interviews

The interviews with the program managers focused on program processes to better understand the goals of the program, how the program was implemented, the perceived effectiveness of the program, and also verified evaluation priorities. The interview with the implementation staff explored the implementation of the program in more detail and also covered areas of outreach and data quality assurance.

Participating Customer and Solution Provider In-Depth Interviews

In-depth interviews with participating customers and Solution Providers were conducted as part of this evaluation to assess program effectiveness and barriers to participation. The interviewees were selected randomly from contact information provided on the application forms from the population of 2010 projects.

3.3 Sampling Plan

3.3.1 Impact Sample

The sample for the application documentation review of PY 2010 Self-Direct Program projects was selected from the January 7, 2011 data extract and the selection was confirmed with the final claimed savings data extract of February 21, 2011. The sample design and selection process was conducted separately for OPCo and CSP to achieve a relative precision of ± 10 percent or better at a 90 percent level of confidence for each operating company.

The program-level Self-Direct ex-ante claimed gross savings data was analyzed by utility, measure type, project size, and number of projects by individual companies to inform sample design. After analysis, the sample design selected for the Self-Direct evaluation was stratified by project size, where project size is defined as the sum of all ex-ante energy savings for measures installed within an individual project (as defined by unique project IDs assigned by AEP Ohio; generally projects have unique premise ID's.) Projects were sorted from largest to smallest energy savings and placed into one of three strata by equalizing the expected total standard deviation on the individual realization rates, weighted by size. As shown below, stratum 1



equates to projects with the largest claimed energy savings, stratum 2 to medium-sized projects, and stratum 3 to the smallest projects.

The Self-Direct sample was selected to estimate verified gross savings at a relative precision of better than ± 10 percent at a 90 percent level of confidence for each operating company. This approach resulted in a sample of 21 OPCo projects and 20 CSP projects to be selected for application documentation review. This sample was drawn as follows: in OPCo, all 4 projects in stratum 1 were selected, 8 of 22 projects in stratum 2 were randomly selected, and 9 of 93 projects in stratum 3 were randomly selected, covering 62 percent of ex-ante claimed gross energy impacts. In CSP, all 4 projects in stratum 1 were selected, 7 of 21 projects in stratum 2 were randomly selected, and 9 of 97 projects in stratum 3 were randomly selected, covering 61 percent of ex-ante claimed gross energy impacts.

Profile of Application Review Sample

Table 3-23-2 and Table 3-33-3 provide a profile of the gross impact measurement and verification (M&V) sample in comparison with the populations for OPCo and CSP. Also shown are the ex-ante based MWh sample weights for each stratum.

Table 3-2. Profile of the OPCo Gross Impact M&V Sample by Strata

Population Summary				Sample		
Sampling Strata	Number of Project (N)	Ex-Ante Claimed Gross Savings, MWh	MWh Weights	n	Ex-Ante MWh	Sampled % of Population
1	4	6,982	0.429	4	6,982	100%
2	22	5,689	0.349	8	2,538	45%
3	93	3,610	0.222	9	558	15%
Total	119	16,281	1.000	21	10,078	62%

Table 3-3. Profile of the CSP Gross Impact M&V Sample by Strata

Population Summary				Sample		
Sampling Strata	Number of Project (N)	Ex-Ante Claimed Gross Savings, MWh	MWh Weights	n	Ex-Ante MWh	Sampled % of Population
1	4	6,925	0.424	4	6,925	100%
2	21	6,048	0.370	7	2,670	44%
3	97	3,375	0.206	9	412	12%
Total	122	16,348	1.000	20	10,008	61%



3.3.2 Process Sample

As seen in Table 3-4-4 the evaluation team planned to interview four program staff, two from AEP Ohio and two from KEMA. For this analysis, the evaluation team interviewed 6 staff through three interviews: (1) the AEP Ohio EE/PDR Program Manager; (2) the Self-Direct Program Manager who was retiring and (3) his replacement; and (4) the Director, (5) the Program Manager and (6) the Outreach Manager from KEMA.

Table 3-4. In-Depth Interviews Sample

What	Who	Plan	Completed	When
In-depth interview	Program staff at AEP Ohio and the implementation support contractor	4	3 Interviews; 6 utility and contractor staff	November-December 2010 January 2011 check-in

Table 3-5-5 summarizes the sample for the participant interviews. Participating customers for the in-depth interviews were chosen based on availability and business type. They included representatives from a middle school, a private high school, a state college, a non-profit property owner, a grocery, a retail store, a packaging plant, a steel castings plant and an agricultural equipment manufacturer. Most of the respondents had the title of facilities manager or site manager- a director.

All three of the Solution Providers interviewed for this study were national players in the energy services market. The providers included a company who sold anti-sweat heaters for glass doors, a lighting services company, and a company that secures rebates for chain account retailers.

Table 3-5. Process Participating Customer and Solution Providers Phone Interview Sample

What	Who	Plan	Completed	When
In-depth process interview	Participants from OPCo and CSP	Up to 8 (OPCo) Up to 8 (CSP)	6 (OPCo) 3 (CSP)	December 2010 through February 2011
In-depth process interview	Solution Providers	Up to 6	3	December 2010 through February 2011



Section 4. Detailed Evaluation Findings

4.1 Impact Results

This section presents the results of the impact and process evaluations of the Self-Direct Program.

4.1.1 Findings from the Application Document Review Task

The evaluation team estimated verified gross program impacts based on application documentation review for each of the sampled projects from OPCo and CSP 2010 Self-Direct participants, following the methodology outlined in Section 3.1.1. Observations from the file review experience were that KEMA and AEP Ohio made substantial improvements in project tracking, documentation, and file management systems for the 2010 program when compared with the 2009 program. The observations are provided in Table 4-1.

Table 4-1. Progress on Resolving Application Processing Issues Identified in the PY 2009 Evaluation

PY 2009 Issue	PY 2010 Observation
Overabundance of multiple copies of the same files or forms.	Issue resolved.
Inconsistent file naming conventions.	Issue resolved.
Multiple forms tended to create more difficulties in tracking than ease of use.	Substantially improved with revised 2010 forms.
Track the baseline and existing kW and the new and retrofit kW, or process all projects as Custom.	Improvements to forms and application processing reduced the problems that led to the recommendation.
Check box indicating if the space is conditioned or not.	Not implemented, still recommended.
Require measures to be broken down by space type. Some projects included office space, warehouse space and manufacturing space. All the measures should be detailed separately for each space type because they each have different interactive effects on the kWh savings and kW savings.	Not implemented, still recommended. Breaking out of project submittals to multiple space types could be implemented for larger projects by KEMA after the customer submits an application, if multiple space types are involved.



PY 2009 Issue	PY 2010 Observation
On some projects, detailed data on before and after fixture types, wattages, quantities, and operating hours was internally conflicting and inconsistent with invoices or executive summary sheets and the calculation spreadsheet filled out by the customer.	Improved forms and reviewer notes reduced but do not eliminate the issue.
Some project files included spec sheets of the new equipment. This would be a good practice to require.	Practice implemented in PY 2010.
Very few of the sampled projects that evaluator was able to confirm the equipment quantities and types that were listed in KEMA's Calc sheet. More transparency in the tracking process would greatly enhance the ability to verify the final numbers.	Documentation and measure quantities and types were collected in the PY 2010 tracking system and made available to evaluator. Differences were found between invoices and claimed quantities on some projects, but ability to verify claimed savings was improved over 2009.
Base ex-ante impacts on building/business-type specific parameters.	Implemented in PY 2010.

Although AEP Ohio and KEMA have made substantial improvements in their documentation and application review process, there is potential for additional improvements with respect to matching invoices with claimed savings. It was not always possible to verify equipment quantities based on invoices supplied.

Occupancy sensor off-rates are a noteworthy point of discussion. It appears that although the implementer adjusted savings estimates to account for the hours of use specific to the business type, occupancy sensor off-rates may still reflect an average across all business types. Part of the evaluation team's review process was to adjust occupancy sensor off-rates to the values listed in the Appendix A TRM, all of which we judged to be appropriate for the building types listed. For some sites, this resulted in significant adjustments to the savings estimates.

Another problem occurred when the customer printed results from the AEP Ohio spreadsheet based calculation tool. Due to the color scheme employed in the tool, printouts that are subsequently scanned in black and white become unreadable for important blocks of data. KEMA should test and revise this tool. Overall, the methodologies and savings estimates provided by the implementer for the measures were appropriate and accurate based on the data provided.

4.1.2 Program Impact Parameter Estimates

The statistical method of separate ratio estimation was used for combining individual realization rates from the sample projects into an estimate of verified gross energy savings for



the population.⁶ In the case of a separate ratio estimator, a separate gross energy savings realization rate is calculated for each stratum and then combined. The separate ratio estimation technique follows the steps outlined in the California Evaluation Framework.⁷ These steps are matched to the stratified random sampling method that was used to create the sample for the program. The standard error was used to estimate the error bound around the estimate of verified gross energy savings and demand reduction. The results are summarized in Table 4-2 and Table 4-3 for OPCo and in Table 4-4 and Table 4-5 for CSP.

Table 4-2. OPCo Verified Gross Energy Realization Rates and Relative Precision

Sampling Strata	Relative Precision at 90% Level of Confidence ± %	Low	Mean	High
Stratum 1	0%	1.01	1.01	1.01
Stratum 2	3%	0.94	0.97	1.00
Stratum 3	14%	1.06	1.24	1.42
Total Energy RR	5%	1.01	1.06	1.12

Table 4-3. OPCo Verified Gross Demand Realization Rates and Relative Precision

Sampling Strata	Relative Precision at 90% Level of Confidence ± %	Low	Mean	High
Stratum 1	0%	0.88	0.88	0.88
Stratum 2	6%	0.93	0.99	1.04
Stratum 3	8%	0.97	1.06	1.15
Total Demand RR	4%	0.94	0.98	1.01

⁶ A full discussion of separate ratio estimation can be found in Sampling Techniques, Cochran, 1977, pp. 164-169.

⁷ TecMarket Works Framework Team, The California Evaluation Framework, Prepared for the California Public Utilities Commission and the Project Advisory Group, June 2004.



Table 4-4. CSP Verified Gross Energy Realization Rates and Relative Precision

Sampling Strata	Relative Precision at 90% Level of Confidence ± %	Low	Mean	High
Stratum 1	0%	1.35	1.35	1.35
Stratum 2	5%	0.93	0.98	1.03
Stratum 3	7%	0.91	0.98	1.05
Total Energy RR	2%	1.08	1.11	1.14

Table 4-5. CSP Verified Gross Demand Realization Rates and Relative Precision

Sampling Strata	Relative Precision at 90% Level of Confidence ± %	Low	Mean	High
Stratum 1	0%	1.00	1.00	1.35
Stratum 2	13%	0.77	0.89	1.03
Stratum 3	7%	0.92	0.98	1.05
Total Demand RR	8%	0.86	0.93	1.14

4.1.3 Program Impact Results

Based on the impact parameter estimates described in the previous section, the evaluation team estimated the verified gross program impacts resulting from the PY 2010 Self-Direct Program, shown in Table 4-6. No further adjustments were made to verified gross savings.

Table 4-6. Gross Savings Estimates for 2010 Self-Direct Program

Program	Ex-Ante Claimed Savings		Verified Gross Savings		Adjusted Gross Savings	
	Gross MWh	Gross MW	Gross MWh	Gross MW	Gross MWh	Gross MW
OPCo	16,281	2.906	17,307	2.836	17,307	2.836
CSP	16,348	2.188	18,147	2.041	18,147	2.041
Total	32,629	5.094	35,453	4.877	35,453	4.877

As requested by the statewide evaluator, Table 4-74-7 and Table 4-84-8 provide participation counts, ex-ante savings estimates, and gross savings calculated at the measure level. Due to the large number of measure types installed through the program, it was not practical to provide results by individual measure, so results were aggregated to measure end-use level. Detailed data for individual measure types is available.



Table 4-7. PY 2010 OPCo Self-Direct Program Participation and Savings by Measure

Measure End-Use	Participation Count	Ex-Ante Claimed Savings		Verified Gross Savings		Adjusted Gross Savings	
		Gross MWh	Gross MW	Gross MWh	Gross MW	Gross MWh	Gross MW
Lighting	367	13,416	2.477	14,262	2.418	14,262	2.418
HVAC	22	631	0.210	671	0.205	671	0.205
Refrigeration	13	1,629	0.187	1,731	0.182	1,731	0.182
Compr. Air	2	202	0.008	215	0.007	215	0.007
Other Custom	2	403	0.024	428	0.023	428	0.023
Total	406	16,281	2.905	17,307	2.836	17,307	2.836

Table 4-8. PY 2010 CSP Self-Direct Program Participation and Savings by Measure

Measure End-Use	Participation Count	Ex-Ante Claimed Savings		Verified Gross Savings		Adjusted Gross Savings	
		Gross MWh	Gross MW	Gross MWh	Gross MW	Gross MWh	Gross MW
Lighting	333	7,216	1.440	8,009	1.343	8,009	1.343
HVAC	44	2,456	0.421	2,726	0.393	2,726	0.393
Refrigeration	16	992	0.131	1,101	0.122	1,101	0.122
Compr. Air	-	-	-	-	-	-	-
Other Custom	5	5,684	0.196	6,310	0.183	6,310	0.183
Total	398	16,348	2.188	18,147	2.041	18,147	2.041

4.2 Process Evaluation Results

4.2.1 Process Themes

There are many themes to explore during a process evaluation. The evaluation team engaged three Self-Direct Solution Providers, nine program participants, and six program management staff through in-depth interviews to explore the issues that were foremost in their minds. Several common themes emerged, as discussed below.

Program Administration

The Self-Direct Program started more slowly than one might expect because both KEMA and AEP Ohio were understaffed in the early days of the 2009 program. Now both KEMA and AEP Ohio are fully staffed and the program administration has improved. After customers complete the program application, it is sent to KEMA. KEMA staff reviews the application and calculates the incentive. The application is then sent to AEP Ohio for review. After AEP Ohio reviews and approves the Self-Direct application, it is sent to the PUCO for approval and then back to KEMA, who issues the check to the customer for the incentive.



The application was simplified over time based on customer feedback that it was hard to understand and difficult to complete. The PUCO incorporated parts of the application into the application for their Mercantile Pilot Program.

The most serious issue in the administration of the program was the extended time required by KEMA and the PUCO for processing applications. Even though the program began in June 2009, not one customer received an incentive during 2009. Most of the 2009 customers received their incentive in early 2010. Processing applications was negatively impacted in September of 2010 as the PUCO began making changes to the application and review process. AEP Ohio decided to withhold utility-approved projects until the rules reached some form of stasis. Later in 2010, AEP Ohio decided to move ahead with sending projects for processing and sent applications for approval in several batches in December of 2010, as well as another batch in February 2011. The reason for the delay in sending all 2010 applications through in the calendar year was due to the thorough reviews necessary to ensure accurate submittals, as well as the overall determination by AEP Ohio to switch their then current application to the Pilot Mercantile program application. All projects submitted to the PUCO for approval that are counted toward 2010 benchmark requirements are applications that were submitted by customers in 2010. Also, PUCO approvals were taking six to nine months or longer, and sometimes longer than a year.

The PUCO initiated a pilot mercantile program in September 2010 that provides for a 60 day automatic approval process. All but two of the applications submitted for 2010 are using this automatic approval process.

Communication Issues

AEP Ohio and KEMA communicate about the details of administering the program almost daily. The Self-Direct Team meets once a week to discuss general program issues. In addition, AEP Ohio receives weekly and monthly tracking reports to help them stay abreast of the status of the program.

Customers are generally not critical about the support received from either AEP Ohio or KEMA during the application process, although one customer expected KEMA to be more proactive during the application process. Customers were more critical, however, about the lack of communication from KEMA about the status of projects during the long wait for the payment of the incentive.

Self-Direct Program Changes

The Self-Direct Program has undergone a number of changes since it was first designed. One of the most important changes was the improvements that were made to the application form



between 2009 and 2010. Customers agreed that the application form was much easier to work with in 2010.

The roles between AEP Ohio and KEMA have changed throughout the length of the program. AEP Ohio planned to conduct inspections but then decided to pass that responsibility to KEMA. In May of 2010, AEP Ohio decided to conduct all the inspections for the Self-Direct Program to develop closer relationships to their managed customers. The large quantity of inspections coupled with a reduction in employees led AEP Ohio to ask KEMA to take over the inspections. As AEP Ohio brought new people on to replace those who left, AEP Ohio decided to have them trained to perform the inspections. Some of the inspections involve metering and AEP Ohio staff is not allowed to do metering. Currently, KEMA continues to perform inspections.

Another change in the Self-Direct Program is that the increased number of both AEP Ohio and KEMA staff has raised the marketing of the program to a new level. The Self-Direct Program now has a dedicated AEP Ohio Program Manager, rather than one who is responsible for numerous programs. KEMA has assigned a Program Manager, an Operations Manager and an Outreach Manager.

Data Tracking

In 2009, customers complained that KEMA sometimes had problems finding the correct project in their database because there was no number that cross referenced the project to the application form. It appears that this problem has not been fixed. While KEMA can search the database by cross-referencing the customer's name, address or account number, KEMA has no common reference with the customer for a specific project. Therefore, it is difficult to answer questions under these conditions.

Quality Assurance and Quality Control

AEP Ohio has been in the process of cleaning up the data. During the project review, errors may be found that impact the incentive level. The process in the past was that KEMA would review the project application, and AEP Ohio would review the project application and send it to the Commission. If the Commission found any errors, there was no process set up to correct those errors in the KEMA database. For 2010, AEP Ohio changed the process to include a review by AEP Ohio who sends the project application back to KEMA for correction.

Program Marketing and Outreach

The Self-Direct Program was first marketed by the AEP Ohio account executives to the targeted market where they had naturally developed many contacts – to managed accounts. After KEMA was brought on to the team, marketing continued through the account executives and was expanded to include presentations at AEP Ohio quarterly meetings, to civic organizations



and Solution Provider associations. Presentations were developed jointly by AEP Ohio and KEMA staff.

The next step was to bring the Solution Providers into the marketing mix. Efforts are currently underway to develop and expand the Solution Provider network. Participants in the Solution Provider network are equipment vendors, contractors, engineers, architects or energy services providers who have been educated on the program and have agreed to follow the program's rules and processes. Providers help businesses learn about the gridSMART energy efficiency programs, including the Self-Direct Program, and provide support on program applications. Solution Providers that have participated in the Self-Direct Program like the program and claim that it has increased their business. Program participation by Solution Providers can be expected to increase as KEMA staff continues to build relationships with Solution Providers and educate them in seminars and meetings about the gridSMART family of programs.

Some of the Self-Direct Program participants actively seek out opportunities for utility incentives by searching the Web site or calling their account executive at the utility. These organizations may have an energy manager whose main job responsibility is to identify rebate opportunities. Others found out about the program through participating in the other gridSMART programs or via a phone call from their account executive. About half of the Self-Direct participants in our study (n=9) were aware of the other gridSMART programs.

Satisfaction with the Call Center

Self-Direct customers generally do not call the KEMA call center. Customers either have a relationship with their AEP Ohio account executive or develop a relationship with KEMA staff. In both cases, customers are calling directly to these contacts for information on their application or to resolve any issue with the application.

Customer Satisfaction

While customers like the idea of the Self-Direct Program incentives, many of them are frustrated by the six month, nine month, or year plus wait to receive an incentive. Participating in the Self-Direct Program may appear to be 'free money', but a customer may make a significant investment in time and energy to complete the Self-Direct Program application. In fact, some customers have indicated that small projects are not worth the trouble (although, some organizations have applied for incentives that total less than \$1,000 per site). Lack of knowledge of why the application is held for extended time periods by the PUCO and the timing of the payment has exacerbated customers' frustrations. One customer said:

"Our company hired a consultant who filled out the forms. They dealt with AEP. We were not made aware of the long time lag to get the money.....We checked and saw that the utility filed the paperwork with the Commission. For some reason, it took



time. Seemed like nearly a year to get payment. This delay affected the company's desire to file for another project.....It took about 9 months before we saw any money.much of a delay was a surprise to us."

Customers who visited the gridSMART Web site generally did so to download the Self-Direct Program forms. Some customers had difficulty finding the necessary material. Those who had problems completing the forms were able to find help through KEMA staff or from their AEP Ohio account executive. One customer who was not an engineer thought the application form was very difficult to understand. Customers who received help from KEMA staff rated it 'average'.

Barriers to Participation

The long lead time before payment of the incentive is a large barrier to the program and has reduced customer satisfaction with the program. Customers get frustrated when no information is forthcoming from the PUCO, KEMA, or AEP Ohio on how much longer processing will take. One goal of the program is to encourage customers to use the Self-Direct Program rebate to invest in other energy efficiency or demand reducing projects by participating in the Prescriptive or Custom Programs. Both the lengthy wait for the payment and the uncertainty of the timing of the payment prevent the Self-Direct Program from achieving this goal.

A less significant barrier is the amount of work necessary to complete the application. To gather the information to verify that a project qualifies for an incentive, customers must find the paperwork from a project that was implemented two or three years ago. One customer indicated that it had another project that would qualify for the program but that it might not have time to complete the paperwork.

Recruiting Solution Providers

Program staff reports that a significant effort is required to convince a contractor that the program should be a tool in their tool box and that it is not extra work for it. Although many of the contractors that were originally interested in the program and being a Solution Provider applied to do so, they do not all market the program. Program staff circles back to them and try to convince them that Self-Direct is a viable program and is worth the time and effort to fill out the paperwork when meeting with customers and doing projects that would qualify for the program. Program staff also present at association meetings to promote the program.

Solution Providers' Evaluation of the Program

All three of the Solution Providers interviewed for this study were national players in the energy services market. The Solutions Providers included a company who sells anti-sweat heaters for glass doors, a lighting services company, and a company that secures incentives for



chain account retailers. All of the Solution Providers took the initiative in pursuing the incentives for their clients, including completing the paperwork for the project.

All three Solution Providers interviewed had years of experience with energy efficiency programs and in delivering those programs to customers. The lighting services company thinks that AEP Ohio is easy to work with.

The company that works with chain account retailers reported that its first project took a year to receive approval from the PUCO. He said: "And following up on that information is difficult as well. They are less [have fewer] people. We are dedicated to getting our clients rebates." In addition, the requirement for submitting documentation of a completed project is difficult for Solution Providers who may be working with 30 sites in multiple service areas.

The Solution Providers in our sample are very aware of whom to contact if they have a question that needs answering or an issue to resolve. Overall, the incentive is adequate for their products; they do not believe that more training is needed.

The sluggish economy is helping business for the three service providers, as more customers want to file for incentives (Self-Direct, Prescriptive, or Custom). The providers said:

"The economy is helping our business... The money is worth more. Everyone is looking to reduce capital and operating costs."

"We did \$24 million in business in 2009 and \$36 million in business this year. (The poor economy impacts us) just the opposite because everyone wants the rebate."

"Four years ago the rebate was seen as extra credit. In the past few years we have seen a lot of customers coming to us well in advance and asking us to screen their projects for upfront rebate potential. And they are using those numbers as part of their budgeting process."

4.3 Cost Effectiveness Review

This section addresses the cost effectiveness of the PY 2010 Self-Direct Program. Cost effectiveness is assessed through the use of the Total Resource Cost (TRC) test. Table 4-94-9 summarizes the unique inputs used in the TRC test.



Table 4-9. Inputs to Cost-Effectiveness Model for AEP Ohio Self-Direct Program

Item	CSP	OPCo
Measure Life	11	11
Participants	122	119
Annual Energy Savings	18,147	17,307
Coincident Peak Savings	2.041	2.836
Third Party Implementation Costs	\$800,383	\$549,125
Utility Administration Costs	\$119,933	\$115,335
Utility Incentive Costs	\$669,080	\$720,563
Participant Contribution to Incremental Measure Costs	\$6,517,351	\$3,967,490

Based on these inputs, the TRC ratio for CSP is 1.2 and 2.40 for OPCo, and the program passes the TRC test in each utility and for the program in its entirety. Table 4-10-10 summarizes the results of the cost-effectiveness tests. Results are presented for the test, the Participant TRC test, the Ratepayer Impact Measure test, and the Utility Cost test.

Table 4-10. Cost-Effectiveness Results for the Self-Direct Program

Test Results for Self-Direct Program	CSP	OPCo
Total Resource Cost	1.2	1.9
Participant Cost Test	1.8	2.2
Ratepayer Impact Measure	0.8	1.0
Utility Cost Test	5.7	6.3

At this time, additional benefits related to reduction of greenhouse gas emissions have not been quantified in the calculation of the TRC. These additional benefits would increase the given TRC benefit/cost ratio.



Section 5. Conclusions and Recommendations

5.1 Conclusions

5.1.1 Program Impacts

1. For OPCo, the realization rate (defined as verified gross savings / ex-ante claimed savings) is 1.06 for gross energy savings, and 0.98 for gross demand reduction. The relative precision at a 90 percent confidence level for the 2010 Self-Direct projects in the sample is ± 5 percent for the energy realization rate and ± 4 percent for the demand realization rate.
2. For CSP, the realization rate is 1.11 for gross energy savings, and 0.93 for gross demand reduction. The relative precision at a 90 percent confidence level for the 2010 Self-Direct projects in the sample is ± 2 percent for the energy realization rate and ± 8 percent for the demand realization rate.
3. Overall, the methodologies and savings estimates provided by the implementer for the measures were appropriate and accurate based on the data provided. Observations from the evaluators file review experience were that KEMA and AEP Ohio made substantial improvements in project tracking, documentation, and file management systems for the 2010 program when compared with the 2009 program.
4. Although AEP Ohio and KEMA have made substantial improvements in their documentation and application processing, there is potential for additional improvements with respect to matching invoices with claimed savings. Inability to confirm invoiced quantities on some projects was a contributing factor to the realization rates for demand reduction that were slightly less than 1.00.
5. Occupancy sensor off-rates are a noteworthy point of discussion. It appears that although the implementer adjusted savings estimates to account for the hours of use specific to the business type, occupancy sensor off-rates may still reflect an average across all business types. Part of the evaluation team's review process was to adjust occupancy sensor off-rates to the values listed in the Appendix A KEMA TRM, all of which were judged to be appropriate for the building types listed. For some sites, this resulted in significant adjustments to the savings estimates.
6. For OPCo and CSP, participation is highest within light and heavy industry. Participation was also high within education (schools and colleges/universities), and in office and retail business types, which had significant participation by businesses that submitted multiple projects for office branch and retail chain locations.
7. Miscellaneous was 18 percent of the project count and 14 percent of claimed energy savings for OPCo. Checking the data, Miscellaneous was primarily projects in city and



county government, including traffic signals. The Self-Direct applications for both 2009 and 2010 had check boxes for Government/Municipal.

8. The prevalence of participation by schools, colleges and government is an anomalous characteristic of the Self-Direct Program, compared with business Prescriptive and Custom programs offered in Ohio and elsewhere. Barriers to participation by the government and non-profit sector such as capital constraints and slow decision-making are not an issue for the retrospective Self-Direct Program. Another traditional program barrier – government bidding and project auditing requirements – probably helps ensure retention of detailed bids and invoicing.
9. The use of two different TRMs and methods of computing and tracking ex-ante claimed savings, which were then corrected to one method through post-processing of the tracking data after the year ended, resulted in delays and significant challenges for the evaluation team. This dual approach also introduces the potential for significant ex-post adjustments in the evaluation process, introducing uncertainty for program management.

5.1.2 Program Processes

1. This innovative program has been only partially successful in meeting its goal to act as a gateway to managed customers participation in the Custom and Prescriptive Programs. Self-Direct customers may not be aware of the other non-residential programs and the long lag time from application to payment of the incentive reduced the influence of the incentive to encourage new investment in energy efficiency.
2. The most significant contributor to customer dissatisfaction with the Self-Direct Program is the lag in disbursing the program incentive caused by the time required by the PUCO to process the applications after approval by AEP Ohio.
3. The second significant contributor to customer dissatisfaction with the Self-Direct Program is the amount of time and effort needed to find the invoices and supporting documents.
4. Program participants do not rank the AEP Ohio Web site as easy to use even if their only goal is to download forms.
5. KEMA or AEP Ohio should communicate more proactively with customers who are waiting to receive a Self-Direct Program incentive.
6. Early marketing and outreach efforts were hampered by low AEP Ohio and KEMA staffing levels. This problem has since been corrected.
7. KEMA and AEP Ohio have worked together to solve some data quality issues. However, customers are still frustrated when they call and there is no common project tracking number available to both parties.
8. The value of this Self-Direct Program diminishes with each year. AEP Ohio should focus resources on how to extract the most value from this program in 2011 before the window of opportunity closes.



9. AEP Ohio spent 2010 intermittently assuming responsibility for project verification and assigning it to KEMA.
10. The Statewide evaluation team conducted site visits on 2009 Self-Direct participants in 2010, and findings from that effort may yield recommendations for process improvements.

5.2 Recommendations

5.2.1 Impact Recommendations

1. AEP Ohio should utilize the government/municipal "business type" designation in the tracking system because tracked savings indicates government is a significant contributor to program activity and a potential expansion opportunity.
2. AEP Ohio should consider targeted outreach efforts to the government sector (including education) in 2011.
3. AEP Ohio may want to consider a targeted marketing and outreach approach for government and education. The Self-Direct program offers a unique solution to barriers that make government sector participation in traditional programs very challenging.
4. If the Statewide TRM becomes required during 2011, AEP Ohio will again face a program year in which two TRMs and default savings methodologies are used to estimate ex-ante claimed gross savings. If a statewide TRM is used, AEP Ohio should implement a single TRM/claimed savings methodology and tracking approach for the entire year as soon as possible.
5. AEP Ohio and KEMA should continue to work on improving the ability to match invoices to quantities used in claimed savings.
6. Breaking out project submittals to multiple space types could be implemented for larger projects by KEMA after the customer submits an application.

5.2.2 Process Recommendations

1. Collateral materials and the Web site should make clearer the link between the Self-Direct incentive and the opportunity to continue to invest in energy efficiency. About half of the program participants interviewed, admittedly a small sample, did not know about the other AEP Ohio gridSMART business programs.
2. AEP Ohio will need to brainstorm ways to maintain customer satisfaction during the time period required by KEMA and the PUCO for processing and approving the Self-Direct incentives if the proposed pilot is not accepted soon. This one factor is having a tremendous impact on the program achieving its goals and is having a negative impact on customer satisfaction. If this is not possible, AEP Ohio should communicate in very LARGE letters what the expected wait for the incentive could be to manage customers' expectations.



3. It is likely that 2011 is the last year AEP Ohio can expect a significant amount of savings from the Self-Direct Program as 2008 is the last year before the AEP Ohio gridSMART programs were implemented.
4. AEP Ohio should consider usability testing the gridSMART Ohio Web site across all programs. Feedback from participants indicates the gridSMART programs are not prominently placed and titles are confusing. Usability testing is a powerful way to improve the impact of the information on a Web site in a "two-click" world.
5. KEMA and AEP Ohio should jointly develop a method for emailing or calling customers waiting for PUCO approval to assure customers they are not forgotten and that they will receive their incentive. The communication might be combined with complimentary offerings of energy efficiency products, such as compact fluorescent bulbs and smart plug devices.
6. AEP Ohio and KEMA both report they are fully staffed for implementing the AEP Ohio Self-Direct Program. Both entities should take steps to ensure that critical positions remain fully staffed.
7. KEMA should improve methods for tracking a project. Each application should be assigned a unique number that is used in the KEMA database and is linked to that paper application. The tracking number should be shared with the customer for ease in communicating or answering questions later in the process. Customers with multiple projects become very frustrated when the correct project cannot be identified.
8. AEP Ohio should evaluate its account executives resources to determine what role these can play in the on-site verification process given the other demands on their time, define that role in some detail, and contract with KEMA to conduct the remaining on-site visits.



Section 6. Appendices

The following guides were used to conduct the in-depth interviews.

6.1 *AEP Ohio Self-Direct Customer Participant In-Depth Interview Guide (Imbedded)*



AEP Ohio Self Direct
PY2 Participant_Int G

6.2 *AEP Ohio Self-Direct Solution Providers Interview Guide (Imbedded)*



AEP Ohio Self Direct
Solution Provider Inte

6.3 *AEP Ohio Self-Direct Program Staff and Program Implementer In-Depth Interview Guide (Imbedded)*



AEP Ohio Self Direct
Program Staff & Implk

AEP Ohio Evaluation for the Self Direct Program

Customer Participant In-Depth Interview Guide

October 28, 2010

Name of Interviewee: _____ Date: _____
Title: _____ Company: _____
Interviewer: _____ Project Number: _____

Depth Interview Guide – Self Direct Program

The interviews will be audio taped and transcribed.

Identify Appropriate Respondent

- 1a. Hello, this is <INTERVIEWER NAME> calling from Navigant Consulting on behalf of AEP Ohio. This is not a sales call. May I please speak with <CONTACT> ?

[IF NEEDED]: my understanding is that <CONTACT> is responsible for making energy-related decisions for your firm at <SERVICE ADDRESS> and was listed as the primary contact when <Company> participated in AEP Ohio's Self Direct Program. May I please speak with him/her?

1 No, this person no longer works here → Is there someone else that is involved with facility improvements or building operations that might be familiar with <company>'s participation in AEP Ohio's Self Direct program? [Repeat introduction with new contact]

2 No, this person is not available right now [Ask when available or leave message.]
CALL BACK LATER

3 Yes – SKIP to Q2

97 No, other reason (THANK & TERMINATE)

2. Hello, my name is <INTERVIEWER NAME> calling from Navigant Consulting on behalf of AEP Ohio. We're calling to do a follow-up survey about your firm's participation in the Self Direct program. Do you recall participating in the Self Direct Program on or about <PROGRAM DATE>?

1 Yes → continue to Q3

2 No → [Describe program and ask if they were involved. If still no recall → Can I speak with someone who is likely to be responsible for facility improvements?]

3 There is no one here with information on that address/wrong address – THANK & TERMINATE

[IF NEEDED] Navigant is an independent consulting firm hired by AEP Ohio to learn about customer experiences with its Self Direct program and to help AEP Ohio improve its programs for the future.

[IF NEEDED] This is a very important fact-finding survey with companies that have recently participated in an energy efficiency program sponsored by AEP Ohio. We are NOT interested in selling anything, and we are primarily interested in gaining your feedback on the Self Direct program to help AEP Ohio improve the services it provides to its customers in the future. Your responses will not be connected with your firm in any way and will be summarized with responses we get from other businesses that we talk with.

3. Great. Are you the person responsible or were you involved with your company's decision to participate in the program, or were you the main point of contact with AEP Ohio?

1 Yes → Great. We would like to ask you some questions about this program, which should only take about 15 to 20 minutes. Is now a good time, or is there a time we can call you back tomorrow?

2 No → Ask for contact name and repeat introduction in Q2.

Now I'd like to ask you about the project you submitted.

4. Do you remember how you first learned about the financial incentives available through the Self Direct program?
- a. Since then, have you heard about the program from other sources such as a solution provider/contractor? What type of solution provider/contractor told you about the program?
 - b. Was he/she supportive of the program? What role did the solution provider play in your decision to participate in the program?
5. What were the circumstances surrounding your decision to participate?
[PROBES: Who was involved in the decision to move forward with this project

and submit an application?]

6. Can you spend just a few minutes and describe the process that you went through to complete and submit the required application(s)? I'm particularly interested in who took the lead in the project, the ease/difficulty you experienced in completing the required forms, what resources were utilized to complete the application, etc.
7. Who was primarily responsible for preparing the incentive application (including the required supporting documentation)?

PROBE: If not the respondent, ask if person was employed by the company, was a solution provider (and what type), etc.

8. Were the incentive application forms easy to understand? Was it clear to you what you needed to submit?
 - a. Did you consult any resources such as the AEP Ohio website, program materials, the spreadsheet calculator, or an account representative to complete the application?
 - b. Did [you/they] experience any difficulties in preparing/submitting the incentive application? What was the source of difficulty/delay? What level of support was provided by AEP Ohio?
 - c. Could this process be made easier for you? If so, how?
9. Was an eligible project easy to select? Are there more projects at this site that might qualify for this program? Do you plan to participate in the program again?
10. The program offers your company the option to receive a direct incentive payment or an exemption from the EE/PDR rider. Which option has your organization selected? Who was primarily responsible for choosing the option?

a. PROBES: Why was that option chosen?

b. R7a-(If incentive option chosen)

c. Have you received your incentive from participating in the program in 2009? 2010? When do you expect to receive your incentive?

d. Are you satisfied with the amount of incentives offered through the Self Direct program? Will the incentive payment be used to conduct future energy efficiency projects?

Communications

11. How would you describe communications between your organization and AEP Ohio during your program participation? Were you informed that final payment required approval by the PUCO, which would delay your incentive payment?
12. How would you describe communications between your organization and the program implementer, KEMA, during your program participation? Did the program implementer keep you informed on the progress of your projects?
13. Were there any issues with the program implementer? If so, please describe.
14. Has a representative from KEMA or AEP visited to verify the installation of energy efficient equipment? How did that process work? Was any equipment installed to measure the usage of the equipment?

Program Improvements

15. How do you think the program can be improved?

PROBES: Are there elements in the program that should be modified to make the Self Direct program work better? If so, what would you recommend? Why do you think this change is needed? Are you satisfied with the response time of the program?

16. Are the current economic conditions affecting the program? If so, how?

Awareness of Other EE Programs

17. Aside from the Self Direct Program that we have been discussing today, are you aware of other programs or resources that are designed to promote energy efficiency for businesses like yours?
18. What types of programs or resources can you recall?

PROBES: Do you know what organization/company administers that program? After each response prompt with "Can you recall any others?"

19. IF CUSTOMER HAS NOT PARTICIPATED IN AEP OHIO BUSINESS LIGHTING PROGRAM OR CUSTOM PROGRAM AND DID NOT MENTION THE PROGRAMS ABOVE IN 2.

- a. Are you aware of AEP Ohio's Business Prescriptive Rebate Program? [PROBE – describe program if necessary.] Description of program:

AEP Ohio's Prescriptive Incentive Program offers businesses set financial incentives for the implementation of energy-efficient improvements and technologies that reduce energy consumption.

- b. Are you aware of AEP Ohio's Business Custom Rebate Program? [PROBE – describe program if necessary.] Description of program:

The Custom Program is designed to address any cost-effective electricity saving measure not addressed or offered yet through other AEP Ohio programs, including prescriptive incentives. Projects in the Custom Program are more complex and address a system or process most often requiring unique design and technology solutions for each participant, so specific savings and incentives are determined when the project is specified.

- c. Did you participate in the Self Direct Program in 2009 and 2010?

20. Was the application easier to complete in 2010 than in 2009?

21. Was the level of support from AEP Ohio the same/higher or lower in 2010 than in 2009?

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Customer Background

We are almost finished. I'd just like to get some general background information about <COMPANY> and your responsibilities there.

22. Can you briefly summarize your role at your company? What are your main responsibilities?

23. What is <COMPANY>'s primary business activity at this particular facility (<SERVICE ADDRESS>)? [RECORD ONE]

- 1 Office
- 2 Retail (non-food)
- 3 College/University
- 4 School
- 5 Grocery Store
- 6 Restaurant
- 7 Health Care
- 8 Hospital
- 9 Hotel or Motel
- 10 Warehouse/Distribution
- 11 Construction
- 12 Community Service/Church/Temple/ Municipality
- 13 Industrial Process/ Manufacturing/ Assembly – type?
- 14 Condo Assoc./Apartment Mgmt.
- 15 Other (Please specify) _____
- 98 Refused
- 99 Don't Know

24. About how many full-time employees work at this location?

- &EMP # of employees
- 98 Refused
- 99 Don't Know

25. Does <COMPANY> own or lease this facility?

- 1 Own
- 2 Lease
- 98 Refused
- 99 Don't Know

26. Is the company headquarters in Ohio or elsewhere?

- 1 HQ in Ohio
- 2 HQ elsewhere, outside of OH

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7

- 98 Refused
- 99 Don't Know

A few last questions...

- 27. What types of services, information, or other support would you like to receive from AEP Ohio in the future?
- 28. Do you have any other comments or suggestions for us?

That's all of the questions I have for you today. Thank you so much for your time, your insights are extremely valuable to AEP Ohio. Have a great day!

Thank you very much for taking the time in assisting us with this evaluation. Your contribution is a very important part of the process.

We might follow-up with you by phone later, if additional questions arise.

AEP Ohio Evaluation for the Business Self Direct Program

Solution Providers Interview Guide

October 28, 2010

Name of Interviewee: _____ Date: _____

Title: _____ Company: _____

[Note to Reviewer] The Interview Guide is a tool to guide process evaluation interviews. This guide helps to ensure the interviews include questions concerning the most important issues being investigated in this study. Follow-up questions are a normal part of these types of interviews. Therefore, there will be sets of questions that will be more fully explored with some individuals than with others. The depth of the exploration with any particular respondent will be guided by the role that individual played in the program's design and operation, i.e., where they have significant experiences for meaningful responses. The interviews will be audio taped and transcribed.

QUESTION: WILL SOLUTION PROVIDERS BE ACTIVE MAINLY IN ONE SERVICE AREA OR ANOTHER? SHOULD WE USE THE SERVICE AREA INSTEAD OF AEP OHIO?

Introduction

Hi, may I please speak with [NAME]?

My name is ____ and I'm calling from Navigant Consulting, we are part of the team hired to conduct an evaluation of AEP-Ohio's gridSmart Business Self Direct Program. We're currently in the process of conducting interviews with lighting contractors and equipment suppliers to improve our understanding of AEP-Ohio's programs.

Our records show you have been named as a lighting contractor or equipment or service provider by one or more of AEP Ohio business customers that have participated in the Business Self Direct Program. At this time we are interested in asking some questions of the person most experienced with the Business Self Direct program. [CONFIRM THAT THIS IS THE PERSON MOST KNOWLEDGEABLE AT THEIR BUSINESS OR GET ALTERNATE NAME].

The questions will only take about half an hour. Information you provide will be kept anonymous in our reports. General observations and findings will appear in our final report, but they will not be attributed to any named person or company. Is this a good time to talk? [IF NOT, SCHEDULE A CALL BACK.]

Background

1. Can you briefly describe the company you work for and the type of business it conducts? How many are employed at the company? Who are your primary business customers? What type of equipment did you install for the Self Direct Program?
2. Can you briefly summarize your roles and responsibilities at your company? For how long have you carried these out?
3. How would you describe your familiarity with AEP Ohio's Business Self Direct Program? Have you personally worked with any of your customers who have participated in this program?
4. Do you work mainly in the Ohio Power or Columbus Southern Power service area? Or both?

Solution provider Participation

The following questions are based on the 2009 or 2010 program or both?

5. Did you begin participation in the program in 2009 or 2010? How was your firm recruited to participate in this program?
6. What are the reasons your firm decided to participate in this program? What are the main benefits to your firm?
7. About how many lighting or equipment projects was your company involved with in 2010 that qualified for the Self Direct Program? (If few) Is there a reason you have not been involved with more projects? In your opinion, has the Self Direct Program increased your business?

[CONFIRM THAT THERE IS A SOLUTION PROVIDER REGISTRATION PROCESS]

8. Can you describe the application process for program ally registration? *[Probe for qualifications or training requirements.]* What kind of training is provided as part of the registration process? Was the training useful?
9. What is expected of program allies? Are there any specific responsibilities that come with registering? Do you know of any quality control procedures in place for solution providers? (for example, removing an ally from the program if complaints are received about them)
10. How satisfied are you with your experiences with the Self Direct Program?

Marketing and Promotion to Customers

11. How does your company become involved with projects associated with the program? Do you actively promote participation or do customers bring projects they want to submit to the Self Direct Program?
12. How do customers find out about this program? Has your company promoted the program through its own marketing collateral? Who, outside of your company and the customer, has been influential in getting customers to participate?
13. What kind of support, if any, does AEP Ohio provide to you for marketing the program to your customers? Do you distribute utility-produced marketing materials? Have you requested any other types of support/collateral, etc. If so, what have you requested and how has AEP Ohio responded to your requests?
14. Do you think AEP Ohio's level of marketing and promotion of the Self Direct Program has been appropriate so far? Do you think promotional efforts are successful? Do you think they reach the right audience?
15. Do you have suggested changes to AEP Ohio's marketing efforts for next year? If so, please describe these changes.
16. Are you aware of the addition of mercantile or retail customers to the program by the Ohio Public Utility Commission (PUCO)? Has this ruling had any impact on your customers? Does the automatic approval process where the project is approved on the 61st calendar day after filing speed up your projects? What is your opinion of the standard application template? Is it easy to use? Does it expedite the projects?

Customer Participation

17. What reasons do customers give for participating in the program?
18. Do customers understand the participation process? How do you get program information to them? What improvements can be made?
19. What activities does your company perform to help customers identify opportunities to participate? Do customers need your help with the program after the equipment is installed?
20. What is the review time between completing the pre-approval application and letter of approval from AEP Ohio? Has this had any impact on your sales process?

21. Does the timing required for submitting documentation (within 60 days of project completion) present a challenge? How? Does it affect certain types of projects or customers more than others? If so, how and why?
22. Have you encountered any challenges in helping customers participate in this program? If so, please describe. Have you had any challenges providing qualifying products?
23. What are the reasons that customers might not participate in this program? Do customers complain about any particular aspects of the program? Do customers cancel their participation or drop out of this program? If so, why?

Rebates/Incentives

24. What is your opinion of the incentive options faced by Self Direct Program participants: an energy-efficiency credit payment of 75% of the calculated incentive amount under the Prescriptive or Custom Program; or an exemption from the Energy Efficiency/Peak Demand Reduction (EE/PDR) rider for a specified number of months?
25. Are program participants satisfied with these incentive options?
26. Are the incentives effective at encouraging customers to pursue projects they would not have considered without the program?

Quality Assurance and Quality Control

27. Have you had to answer questions or provide additional information as a result of a program-sponsored quality inspection to verify equipment quantities and eligibility? Has any equipment you installed been rejected for an incentive? Why?

Call Center

28. Do you know whom to contact for help with this program?
29. Are customers or your company staff making use of the KEMA phone number listed on the application form? At what point during the participation process are calls usually made? What are the main issues raised and are these issues resolved to your satisfaction? Typically, how long does it take to resolve inquiries to the call center?

Program Adjustments and Enhancements

30. What type of information could the utility provide you to increase your familiarity and understanding of the program?
31. What could be modified to make the program(s) work better (e.g., incentive levels, eligible equipment, etc)? If so, what would you recommend? Why do you think this change is needed?
32. Would more training be useful? What types?

Success and the Future of These Efforts

33. In your opinion, how successful is the program? Why? What are the strengths? What are the weaknesses? Do you feel that some customers would be installing the same lighting/equipment products without the incentives of the Self Direct Program? [Please explain.]
34. Do you think the current economic conditions are affecting program participation? If so, how?

Other

35. Do you have any other comments or suggestions for us?

Thank you very much for taking the time in assisting us with this evaluation. Your contribution is a very important part of the process.

We might follow-up with you by phone later, if additional questions arise.

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AEP Ohio Evaluation for the Self Direct Program

Program Staff and Program Implementer In-Depth Interview Guide

AEP-Ohio Program Manager:

Program Implementers:

October 28, 2010

Name of Interviewee: _____ Date: _____

Title: _____ Company: _____

[Note to Reviewer] The Interview Guide is a tool to guide process evaluation interviews with utility staff and implementation contractors. The guide helps to ensure the interviews include questions concerning the most important issues being investigated in this study. Follow-up questions are a normal part of these types of interviews. Therefore, there will be sets of questions that will be more fully explored with some individuals than with others. The depth of the exploration with any particular respondent will be guided by the role that individual played in the program's design and operation, i.e., where they have significant experiences for meaningful responses. The interviews will be audio taped and transcribed.

Introduction

Hi, may I please speak with [NAME]?

My name is ___ and I'm calling from Navigant Consulting, we are part of the team hired to conduct an evaluation of AEP-Ohio's gridSmart Business Energy Efficiency programs. We're conducting interviews with program managers and key staff in order to improve our understanding of AEP-Ohio's programs. At this time we are interested in asking you some questions about the Self Direct program. The questions will only take about an hour. Is this a good time to talk? [IF NOT, SCHEDULE A CALL BACK.]

Ok, great. If you don't mind, I would like to do a voice recording our conversation to speed up the note taking. Is that OK? I'm going to switch you to speaker phone. I am in an enclosed, private office.

Roles and Responsibilities

1. Can you briefly summarize your role and responsibilities in the Self-Direct program? For how long have you carried these out? Has your role changed over time?

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2. Can you explain the roles of those involved in the program implementation? *[Probe for all significant actors with responsibility in program delivery including implementer, account managers, and program allies.]*
3. Can you explain the division of program responsibilities between AEP Ohio and the two operating utilities?
4. What other departments at AEP Ohio are involved in the back-office program services?
 - PUCO Application submittal?
 - Manage Data? / Tracking Targets?
 - Planning and oversight
5. Roughly, how many people are assigned to work on this program?
6. What are the formal and informal communication channels between these groups (between AEP Ohio and KEMA; between AEP and OP/CSP; within AEP)? Do you feel information is shared in a timely manner?
7. We have the KEMA Operations Manual dated January 25 2010. Are there any other documents that outline the roles and responsibilities of program staff for the program?
8. How closely is the KEMA Operations manual followed?

Overall Goals and Objectives

9. Outside of the quantitative goals (e.g., \$, \$/kWh, savings and participation rates), in your own words, what are the key goals and objectives of this program?
10. What performance metrics are you currently using to measure the performance of the program? According to these metrics, has the program met 2010 goals? *[If necessary, probe for number of rebate applications, energy savings realized.]* Why or why not? If yes, have the goals been met on time?

Marketing and Promotion

11. Please describe your program marketing campaign in your own words *[If necessary: Do marketing activities vary by prescriptive and custom? By customer size?]*
 - What are the marketing channels for each program component?
 - (bill inserts, TV, newspaper, radio, community events?)
 - How often does each activity occur?
 - Who is in charge of developing materials?
 - Who is in charge of marketing activities?
 - Do you have a written marketing plan?

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- Who has been most influential in getting customers to participate? Who else has been influential?

12. Can we arrange to get copies of your marketing plan and all marketing collateral you have used?
13. Do you think the level of marketing and promotion of the program(s) has been appropriate so far? Do you think promotional efforts are successful? Do you think they reach the right audience? *[Probe for differences between customer and trade ally target markets.]*
14. Did you make any changes to marketing efforts for Program Year 2 based on the results from the previous evaluation (2010)? If so, please describe these changes. Do you have documentation of these changes? If so, can we arrange to obtain copies?

Program Participation

We are also trying to learn of any process related issues that may arise from the current design of the program(s).

15. Could you briefly describe the process for participation in the program from the customer perspective?
16. How do customers identify opportunities to participate in this program? How active are Account managers? Solution Providers or ECSO's? KEMA?
17. Do you have a sense of how satisfied customers are with various aspects of the program (e.g., ease of application, verification process, timing of incentives)?
18. What do customers do if they have questions about the participation process? Is there a systematic process in place for responding to customer inquiries? How quickly are their questions answered? What improvements can be made?
19. What is the target review time between receipt of the application and completion of review? What is the average review time? What, if anything, slows down review time?
20. What is the target processing time between completion of review and submission to PUCO? What is the average processing time? What, if anything, slows down this process?
21. What are the reasons that a project is labeled "Does Not Meet Qualifications"? How are customers informed? Is there an "appeal process" for customers?
22. What are the reasons that a project is "CANCELLED"? Are any cancelled projects likely to resubmit?

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Solution Providers (Trade Allies)

23. Have solution providers or ESCOs been involved in recruiting customers for the program? Do they submit applications at the customer's request? Why are they involved? Which types of solution providers are choosing to participate in the program(s) and which are not? Do you have a sense of solution providers' satisfaction with their participation in this program? Are solution providers meeting your expectations?
24. Will solution providers be active mainly in one service area or another or both?
25. What impact has the PUCO ruling establishing the Mercantile Pilot Program had on participation in this program? Has the implementation of the program with mercantile customers proceeded more quickly with the use of the standard application template? How did the program change to meet the needs of customers? Does the automatic approval process where the project is approved on the 61st calendar day after filing speed up your projects? What is your opinion of the standard application template? Is it easy to use? Does it expedite the projects?

Rebates/Incentives

26. What do you perceive to be the level of satisfaction among program participants with the incentive payment and exemption options? Do customers seem to have a preference for one option or the other? Why is that?
27. Are program participants satisfied with the current rebate amounts (75% of regular program) and incentive limit caps (50% of total cost, 1 to 7 year payback window)? Are these limits being checked for all projects?

Call Center

28. Are customers making use of the phone number listed on the application form? [*Probe for call volume.*] What are the main issues raised by customers/contractors?

Data Tracking

29. What systems are in place for data tracking? Who captures the data and how?
30. Can you briefly describe what data are tracked for the program(s)? What about application attachments and calculations? What about review history and revisions to savings or incentive amount? Were any of the recommendations from the previous evaluation implemented? Was a database created to store data?
31. Do you feel all important information is captured and stored in a way to best support program efforts? Is the information accurate and current? Are there additional types of

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reports or information that you would find beneficial? Is there a process for requesting additional data?

32. Is the system used for data tracking linked with any other systems such as databases with customer account information or ones that track marketing activities? Is it possible to link data from KEMA with data from AEP Ohio?

Quality Assurance and Quality Control

33. Are the quality procedures documented in the KEMA operations manual followed closely?
34. Can you provide a brief description of your quality procedures? What kind of quality procedures are in place to verify equipment quantities and eligibility? Project completion? What is the process for verifying savings?
35. Approximately, what percentage of all projects are pre-inspected and post-inspected? How do you determine if a project requires inspection (both pre and post)? *[Probe for random check guidelines (10% of \$10K or less, 25% of \$10K-\$50K, 100% of \$50K+), geographical location, contractor]*
36. Who conducts pre and post inspections and how are they documented? How can we arrange to obtain these documents?
37. When are on-site measurements conducted as part of the pre and post verification? Which measures and business types?
38. I may have more questions about Quality Assurance and Quality Control procedures once I've had the chance to review the documented quality procedures. Who is the appropriate person (or persons) to contact with future questions?
39. Do you have a sense of customer satisfaction with the verification process?

Program Adjustments and Enhancements

40. Have the design of the program(s) or the program processes changed since inception? If so, how? Why were the changes made?
41. Will there be any changes made to program offerings in Program Year 2011 (e.g., program offerings, marketing approach, targets, incentive levels, etc)? If so, please describe these additions or deletions.
42. Are there elements in design, structure, and/or operation that should be modified to make the program(s) work better? If so, what would you recommend? Why do you think this change is needed?

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43. From your perspective, is staffing adequate for this program to meet its goal? (If not): What areas/functions do you feel are not adequately staffed?

Success and the Future of These Efforts

44. Do you think the current economic conditions are affecting the program? If so, how?
45. In your opinion, how successful are the program? Why? What are the strengths? What are the weaknesses? How could the program be improved?
46. Do you have any other comments or suggestions for us?

Thank you very much for taking the time in assisting us with this evaluation. Your contribution is a very important part of the process.

We might follow-up with you by phone later, if additional questions arise.



**AEP - Ohio
Energy Efficiency/Demand Response Plan:
Year 2 (1/1/2010-12/31/2010)**

**Evaluation Report: Express Install
Pilot Program for Small Business**

Presented to



A unit of American Electric Power

March 9, 2011

Prepared by:
Randy Gunn
Managing Director
Navigant Consulting
30 S. Wacker Drive, Suite 3100
Chicago, IL 60606

Phone 312.583.5700
Fax 312.583.5701

www.navigantconsulting.com





Submitted to:

AEP Ohio
850 Tech Center Drive
Gahanna, Ohio 43230

Submitted by:

Navigant Consulting, Inc.
30 S. Wacker Drive, Suite 3100
Chicago, IL 60606
Phone 312.583.5700
Fax 312.583.5701

Contact:

Randy Gunn, Managing Director
312.938.4242
randy.gunn@navigantconsulting.com

Stu Slote, Associate Director
802-526-5113
stu.slote@navigantconsulting.com

Prepared by:

Roger Hill, Managing Consultant
206.292.2583
roger.hill@navigantconsulting.com



Table of Contents

Section E.	Executive Summary	1
E.1	Evaluation Objectives	1
E.2	Evaluation Methods	2
E.3	Key Findings	2
Section 1.	Introduction and Purpose of the Study	4
1.1	Evaluation Questions	4
1.1.1	Impact Questions:	4
1.1.2	Process Questions:	4
Section 2.	Express Install Pilot Program for Small Business	5
2.1	Program Description	5
2.1.1	Implementation Strategy	5
2.1.2	Measures and Incentives	6
Section 3.	Evaluation Methods	8
Section 4.	Program Level Results	9
4.1	Impact Results	9
4.1.1	Verification and Due Diligence	9
4.1.2	Tracking System Review	9
4.2	Process Evaluation Results	9
4.2.1	Process Themes	9
Section 5.	Conclusions and Recommendations	11
5.1	Conclusions	11
5.2	Recommendations	11
Section 6.	Appendices	12
6.1	Data Collection Instruments (Imbedded)	12



Section E. Executive Summary

This document is the first evaluation of the Express Install Pilot Program (Express) for Small Business offered by AEP Ohio. While the program is considered a part of the Custom Program, it has unique characteristics that warrant a separate evaluation.

E.1 Evaluation Objectives

The goal of this report is to present a summary of the findings from the evaluation of the 2010 Express Install Pilot Program for Small Business¹ offered by AEP Ohio under the gridSMARTohio (gridSMART) program umbrella. The program was launched as a pilot in Program Year 2010 and only two projects were completed prior to the close of the program year; therefore, there will not be an impact evaluation of the Express Install Pilot Program for Small Business (Express Install Pilot Program) in Program Year 2010. The primary objectives of this evaluation are to determine key process-related program strengths and weaknesses and identify ways in which the program can be improved.

The Express Install Pilot Program is one of four program elements available to non-residential customers of AEP Ohio's two retail companies, Ohio Power (OPCo) and Columbus Southern Power (CSP) during 2010:

- » The **Express Install Pilot Program for Small Business** is a pilot that provides one-stop, turn-key service to small businesses (less than 200,000 kWh annual consumption) for lighting, HVAC, and refrigeration measure upgrades. Savings estimates are based on prescriptive formulas for simplicity and audit-ability.
- » The **Prescriptive Program** provides an expedited application approach for nonresidential customers interested in purchasing efficient technologies. The 2010 program targeted discrete new construction, retrofit, and replacement opportunities in lighting, HVAC, motors, drives and refrigeration systems, etc. Savings estimates are based on prescriptive formulas for simplicity and audit-ability.
- » The **Custom Program** offers incentives to customers for less common or more complex energy-saving measures installed in qualified retrofit and equipment replacement projects. Savings estimates are based on site-specific parameters and more complex engineering models.

¹ Program Year 2010 (PY 2010) began January 1, 2010 and ended December 31, 2010.



- » The **Self-Direct Program** rewards qualifying customers who submit previously installed projects through one of two energy efficiency credit options: an energy efficiency credit payment of 75% of the calculated incentive amount under the Prescriptive or Custom Program; or an exemption from the Energy Efficiency/Peak Demand Reduction (EE/PDR) rider for a specified number of months. The types of projects and savings estimation might be either more prescriptive or more custom in nature.

Some tasks within the Prescriptive, Custom, Express, and Self-Direct program evaluations involve close coordination between the efforts, but the evaluations were otherwise conducted through separate approaches. The Prescriptive, Custom, Express and Self-Direct Programs have evaluation results reported separately.

E.2 Evaluation Methods

Since the program only recently launched, this evaluation is fairly limited in scope. Many program processes are only now being tested by increased participation.

Table E-1. Principal Data Sources Contributing to the PY 2010 Evaluation

Tracking Data Analysis	Express Customers, Projects and Measures	AEP-Ohio Tracking Database	-	All	Ongoing
In-depth Phone Interviews	AEP-Ohio Express Program Staff	Contact from AEP-Ohio	C&I Express Program Coordinator	1	February 2011
	Express Program Implementers	Contact from AEP-Ohio	KEMA Program Implementation Staff	2	February 2011

E.3 Key Findings

The processes put in place during this pilot seem well-suited to the demands of the program. This will be a relatively high-volume pilot program so systems should be streamlined and robust to minimize process breakdowns that might impede the program. Program savings goals for Program Year 2011 are about 34 million kWh. If participants save an average of 15,000



kWh each², almost 2,300 customers must participate in the program with an *average of 45 applications completed and paid per week.*

Aspects of the program that further these goals include:

- Aggressive outreach to recruit contractors throughout the AEP Ohio service territory to become Express Registered Contractors;
- Marketing through Express Registered Contractors to rapidly expand the reach of the program;
- Providing training opportunities, as needed, for interested contractors to learn the mechanics of the program and data tracking;
- Direct data entry of application materials and proposals. Express Registered Contractors enter their own project data, so there is no bottleneck. The same data tracking system is used for reporting and managing the applications;
- Target turn-around times at key stages of program participation to keep projects moving; and
- Incentives that are generous enough to draw in participants and move projects toward implementation fairly rapidly.

² Navigant provides this estimate for illustration only. It is based on 10% savings from an annual consumption of 150,000 kWh.



Section 1. Introduction and Purpose of the Study

The goal of this report is to present a summary of the findings and results from the evaluation of the 2010 Express Install Pilot Program for Small Business³ offered by AEP Ohio under the gridSMARTohio (gridSMART) program umbrella. The primary objectives of this evaluation are to determine key process-related program strengths and weaknesses and identify ways in which the program can be improved. Given only limited participation in Program Year 2010, no impacts will be claimed or reported in this evaluation report.

1.1 Evaluation Questions

This section discusses the questions the evaluation sought to answer, and the methods and data sources used to answer those questions. The evaluation sought to answer the following key research questions.

1.1.1 Impact Questions:

- Are data tracking systems set up to support a full impact evaluation in future years?

1.1.2 Process Questions:

The process evaluation questions for PY 2010 focused on the following key areas:

- Program design and implementation in PY 2010 and prospects for future changes
- Factors affecting contractor participation
- Effectiveness of program design and processes
- Effectiveness of program implementation
- Effectiveness of program marketing and outreach
- Barriers to and benefits of participation
- Participant and contractor satisfaction

The evaluation plan for the Express Install Pilot Program for Small Business has two main elements: in-depth interviews with program managers and implementation contractors.

³ Program Year 2010 (PY 2010) began January 1, 2010 and ended December 31, 2010.



Section 2. Express Install Pilot Program for Small Business

2.1 Program Description

The Express Install Pilot Program for Small Business seeks to facilitate energy efficiency and energy conservation among a cohort of customers that historically lacks the access to capital, time or expertise to achieve energy savings. The Express Install Pilot Program is available to non-residential customers with annual electricity consumption less than 200,000 kWh. National accounts are excluded from participation as these customers do not face the market barriers previously noted.

The Express Install Pilot Program provides a streamlined, one-stop, turn-key service delivered through registered local contractors. Incentives for projects are paid directly to contractors to speed payment and incentive levels are generally higher than the Prescriptive and Custom Programs, with a cap of 100% of the project costs.

2.1.1 Implementation Strategy

Roles of the Implementation Contractor

The Implementation Contractor, KEMA Services, Inc. runs the day-to-day administrative side of the program. KEMA is active in contractor recruitment; runs contractor training for online data systems; and conducts project proposal review, pre-installation inspections and post-installation inspections, and payment review. KEMA also staffs a contractor and customer phone line for questions and communicates program participation to AEP on a weekly basis.

Program Timeline

The Express Install Pilot Program launched as a pilot in 2010 and is fully underway in Program Year 2011. Rapid project completion is a hallmark of the program design. The program has several timing milestones to keep the projects moving toward completion. For example, participating contractors must commit to finishing projects 60 days after getting a signed contract from the customer. KEMA reviews proposals within 3 days of contractor submission, and completes pre-installation and post-installation inspections within 10 days of completed prerequisite paperwork. Checks are cut to contractors weekly for finished projects with completed data.

Program Delivery Mechanisms and Marketing Strategy

The Express Install Pilot Program is delivered to customers by Express Registered Contractors who have been vetted by KEMA and trained on the program and its database. KEMA and AEP



Ohio program staff are actively trying to expand the approved contractor network by talking to trade associations and chambers of commerce.

Express Registered Contractors market projects to their customers and include AEP incentives in their proposals to perform work. AEP Ohio and KEMA have provided Express Registered Contractors with a one-page Express Install Pilot Program Fact Sheet. The document answers basic questions from customers and contractors seeking to participate with the program. Contractors each have their own marketing strategies, but some simply canvas a commercial street for likely, qualified AEP Ohio customers and promote the Express Install Pilot Program through proposals to do work. In this manner, the program has a very targeted marketing plan. The more Express Registered Contractors, the more marketers the program has. Based on experience with similar programs, KEMA expects that word-of-mouth will generate many leads as the program progresses through its first year.

AEP Ohio also plans to launch a public web-page for the program linked to the suite of other gridSMART business programs. There currently is a website, but it is not linked to other AEP Ohio sites.

Contractor Participation

As of early March 2011, there are about 65 contractors participating in the program. KEMA conducts additional training as needed. In order to become a registered contractor, contractors need to fulfill certain requirements, including:

- Licensed Ohio contractor
- Insurance coverage complying with, or exceeding, AEP Ohio requirements,
- Actively working in Ohio
- Back equipment warranties for installed equipment
- Complete a two-page contractor application
- Supply references for 3 or more energy efficiency projects
- Capable of completing projects within 60-day timeframe
- Commit to disposing of all removed equipment to take materials out-of-service
- Maintain good standing in all of these areas

The program has a policy for probationary standing if a contractor lapses in respect to these requirements.

2.1.2 Measures and Incentives

The Express Install Pilot Program targets measures that are widely applicable in the small business market segment. Efficient lighting comprises a vast majority of all proposed and installed equipment. The program incentives also support HVAC equipment and refrigeration



equipment, such as display case lighting, electronically commutated motors (ECMs), anti-sweat heater controls and strip curtains.

Incentives are generally higher in the Express Install Pilot Program as compared to similar measures installed through the Prescriptive and Custom Programs. Incentives vary based on the measure installed, but an analysis of active and paid projects in the program tracking database shows that incentives cover approximately 49% of total proposal costs on average, and the incentive is about 14.5 cents/per first year kWh saved.



Section 3. Evaluation Methods

The evaluation involved in-depth telephone interviews with two members of the KEMA Express Install Pilot Program team and the Express Program Manager at AEP Ohio. A copy of the interview questions is included as an attachment in an in Section 6.

The evaluation team also reviewed Express Install Pilot Program materials including the Fact Sheet, Pre-installation and post-installation inspection forms, an export of the program tracking database, and the procedures manual for the program.



Section 4. Program Level Results

4.1 Impact Results

4.1.1 Verification and Due Diligence

The Express Install Pilot Program has a very active process for verification and due diligence. Data entry is completed by the participating contractor during the proposal phase and throughout the project until completion. The AEP Ohio program manager reports that there are sufficient data validation controls to ensure complete and appropriate data entry.

KEMA is implementing rigorous due diligence on projects thus far. KEMA is supposed to complete pre-inspection and post-inspection reviews on 100% of projects. Inspections include measure counts but no power measurements or datalogging. Accuracy between proposed, pre-installation inspection, installed, and post-installation inspection must be maintained within limits for projects to proceed to incentive payment.

4.1.2 Tracking System Review

The evaluation team reviewed the program data and did not find any data or data types that would impair future evaluations. The database is three primary tables with appropriate fields to make relational links among tables. The following tables comprise the database:

- **Project** table with customer contacts, contractor information, site information, application status and savings.
- **Measure** table with details about baseline and proposed equipment, quantities and measure-by-measure savings. Standard measure names are used to facilitate future reporting for the statewide evaluator.
- **Contractor** table with each contractor listed and contact information.

The data will be adequate for future impact evaluations and for drawing samples for process evaluations.

4.2 Process Evaluation Results

4.2.1 Process Themes

There are many themes to explore during a process evaluation. The evaluation team engaged the implementation contractor and the AEP Ohio program manager in in-depth interviews to explore the issues that were foremost in their minds. The Express Install Pilot Program is in its



first year of implementation, and no major changes are envisioned until AEP Ohio and KEMA have more experience with the program as it is currently planned.

Program Marketing and Outreach

Both the Implementation contractors and AEP Ohio see marketing and outreach as key aspects of the program in its first year. There is a strong push to contact trade groups such as National Electrical Contractors Association (NECA) and the International Brotherhood of Electrical Workers (IBEW) to spread the word about the program and recruit new Express Registered Contractors. Contractors participating in the other gridSMART programs are also being recruited for the Express Install Pilot Program. AEP Ohio is concerned about the regional diversity of the contractors in order to meet program goals. KEMA is holding webinar events and directing more marketing to contractors to expand the pool of Express Registered Contractors.

Program Communication

Both AEP Ohio and KEMA think the current level of communication is right for the program at this stage. There are formal weekly calls for status updates, and there are frequent *ad hoc* contacts between KEMA and AEP Ohio program staff. A monthly report of eligible customers produced by AEP Ohio also seems to work well for both KEMA and AEP Ohio.

Program Timeline Administration

The fast pace of the program is a benefit to all. Customers like the turn-key service and the rapid approval. Contractors like the quick turn-around on inspections and cutting checks for completed work. KEMA and AEP Ohio don't have to wait as long to count projects toward goals compared to other business sector programs.

The inspection procedures may become a bottleneck as more proposals are active. The implementation contractor needs to make two trips for each project, and the AEP Ohio service territory is widespread throughout Ohio. As more projects are in the queue, multiple inspections will be easier to coordinate in one day for travel optimization.

Customer and Contractor Satisfaction

There is no formal feedback mechanism for customers or Express Registered Contractors. Anecdotal reports suggest that customers and Express Registered Contractors are satisfied with the program and incentives. The AEP Ohio program manager notes that there has not been any negative feedback from either group. KEMA is also considering recognition for exceptional projects and contractor performance.



Section 5. Conclusions and Recommendations

5.1 *Conclusions*

1. Navigant's fundamental conclusion from this evaluation is the Express Install Pilot Program for Small Business has been thoroughly planned and AEP Ohio and KEMA need to see those plans play out in the first year. No major changes are planned at this time.
2. On-going efforts should be maintained to recruit more contractors. The evaluation team thinks the size of the REC network will be the most significant impediment to achieving Program Year 2011 goals. The number of projects that must be completed to meet the 2011 program goal is a daunting challenge. When the pace of projects does ramp up to meet the annual goals, the next bottleneck will be conducting inspections in a timely manner.

5.2 *Recommendations*

1. Continue aggressive marketing to contractors. The current targets for marketing efforts seem appropriate. KEMA might also try to identify locations that have a high traffic volume of eligible contractors such as: parts supply companies or permitting locations such as county courthouses. Making flyers available at these locations might yield interest from contractors.
2. AEP Ohio and KEMA should also anticipate bottlenecks in the administration especially as the program year progresses and there is a rush to process projects before December 31, 2011.



Section 6. Appendices

6.1 *Data Collection Instruments (Imbedded)*

The following guides were used to conduct the surveys with program staff.



Final AEP Ohio Bus
direct install Y2 PM_S



**AEP Ohio
Energy Efficiency/Demand Response Plan
Year 2 (1/1/2010-12/31/2010)**

**Program Year 2010 Evaluation Report:
Demand Response Program**

Presented to



A unit of American Electric Power

March 7, 2011

Prepared by:
Argene McDowell
Senior Consultant
Navigant Consulting, Inc.
230 Horizon Drive
Verona, WI 53593



Phone 608.497.2330
www.navigantconsulting.com



Submitted to:

AEP Ohio
850 Tech Center Drive
Gahanna, Ohio 43230

Submitted by:

Navigant Consulting, Inc.
30 S. Wacker Drive, Suite 3100
Chicago, IL 60606
Phone 312.583.5700
Fax 312.583.5701

Contact:

Randy Gunn, Managing Director	Stu Slote, Associate Director
312.583.5714	802.526.5113
randy.gunn@navigantconsulting.com	stu.slote@navigantconsulting.com

Prepared by:

Argene McDowell, Senior Consultant
608.497.2330
argene.mcdowell@navigantconsulting.com

Section E.	Executive Summary	1
E.1	Evaluation Objectives	1
E.2	Evaluation Methods.....	1
E.3	Key Findings and Recommendations.....	1
Section 1.	Introduction to the Program.....	2
1.1	Program Description.....	2
1.1.1	Implementation Strategy	3
1.1.2	Potential Incentives.....	3
Section 2.	Evaluation Methods.....	4
2.1	Evaluation Questions.....	4
	Process Questions.....	4
2.2	Process Evaluation Analytical Methods	5
2.1.1	Program Material Review	5
2.1.2	Program Staff Interviews.....	5
Section 3.	Program-Level Results	6
3.1	Process Evaluation Observations.....	6
3.1.1	Understanding of the Program	6
3.1.2	Implementation Strategy	7
3.1.3	Potential Incentives.....	7
3.1.4	Program Marketing and Outreach	8
3.1.5	Strategic Review of the Demand Response Program	8
3.1.6	Quality Assurance/Quality Control	9
3.1.7	Tracking and Reporting.....	9
Section 4.	Conclusions and Recommendations	10
4.1	Program Processes	10
4.2	Process Recommendations.....	10

List of Tables

Table 2-1. Data Collection Activities	5
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Section E. Executive Summary

This report presents a summary of the findings and results from the evaluation of AEP Ohio's Program Year 2010 (PY 2010) Demand Response Program.

E.1 Evaluation Objectives

Because of the unique nature of the program, only a subset of evaluation questions was applicable during the 2010 evaluation effort.

E.2 Evaluation Methods

Program process research was based upon program application review, PUCO orders and stipulations, and interviews with program staff involved in the delivery of the Demand Response Program.

E.3 Key Findings and Recommendations

The process portion of the evaluation reveals that the Demand Response Program may serve a short-term need in the context of the overall EE/PDR goals but may not serve the long-term needs of AEP Ohio.

Key recommendations from the process evaluation are as follows:

1. During PY3, Navigant should evaluate and confirm the demand response potential for the load reduction that is outside the PJM Program.
2. AEP Ohio should proceed with the strategic evaluation of the Demand Response Program and develop a plan for the program to continue or sunset.
3. For 2011, AEP Ohio staff should develop a formal marketing plan that documents the program details, sets goals, and defines how the goals will be met in the short term.
4. The Demand Response Program should be assigned a part-time or full-time Program Manager to manage the strategic evaluation of the program, to develop the marketing plan, and to implement the program, as appropriate.

Section 1. Introduction to the Program

This section provides an overview of the AEP Ohio 2010 Demand Response Program. The section begins with a brief description, followed by a summary of various aspects of the implementation strategy and marketing.

1.1 Program Description

The purpose of the Demand Response Program is to allow AEP Ohio to integrate peak demand savings from mercantile customers, with curtailable load contracted to PJM, to reach compliance with the EE/PDR benchmarks required by Senate Bill 221 (SB 221). AEP Ohio has a legacy curtailable rate that captures a significant amount of the curtailable demand reduction available. The rate has been more successful in the Ohio Power Company (OPCo) service territory due to a larger industrial customer base, but has been undersubscribed in the Columbus Southern Power (CSP) service territory.

The agreement reached with the Public Utilities Commission of Ohio (PUCO) allows a utility such as Columbus Southern Power and a mercantile customer to jointly petition the Commission to count certain Peak Demand Response or Energy Efficiency resources toward the utility's compliance with the EE/PDR benchmarks. Demand can be counted toward SB 221 benchmarks in one of two ways:

1. The PDR Agreement provides that a mercantile customer can 'enter a reasonable agreement' to allow an agreed upon amount of load previously registered with the PJM Demand Response Program to be integrated into a utility's PDR benchmarks. The utility cannot incent the mercantile customer as it is already receiving compensation from PJM for the callable load. PJM has not needed to call for demand reductions in the recent past but it confirms the availability of the demand curtailment.
2. The mercantile customer can also commit electric demand reduction from energy savings, achieved by installing energy-efficient replacement equipment, to the utility. Under these circumstances, the customer receives the usual program incentive. Currently, contracts are entered into for one PJM planning year. The utility and customer must show that the mercantile projects are part of a demand response, energy efficiency, or peak demand reduction program. The project must either provide for the early retirement of functioning equipment or achieve reductions in energy use and peak demand that exceed the

reductions that would have occurred had the customer used standard new equipment, as defined by statute.¹

Customers can be compensated for any demand response that is available in excess of the PJM commitment. The PUCO must review and approve each joint application. The utility has permission to measure and verify energy savings and/or peak-demand reductions resulting from customer-sited projects and resources.

Three CSP mercantile customers entered into agreements to participate in the Demand Response Program for the 2010-2011 PJM planning year.

1.1.1 Implementation Strategy

Program Delivery Mechanisms and Marketing Strategy

The delivery strategy for AEP Ohio's Demand Response Program is simple but resource intensive. The Manager of Energy Efficiency and Demand Response (EE/PDR) identifies large mercantile customers registered with the PJM demand response program and meets with management to explore the potential for a mutually beneficial agreement.

Marketing efforts for the Demand Response Program involve upper management from the mercantile customer negotiating with the Manager of EE/PDR at AEP Ohio. Formal contracts are jointly developed, agreed upon and filed with the PUCO.

Role of AEP Ohio Staff

The AEP Ohio Manager of EE/PDR works with AEP Ohio customer service account managers to identify specific large, mercantile customers who might be interested in this special program. The key to the success of the program is to identify large customers who plan to register with PJM and have a special need the utility can fulfill. It is of note that AEP Ohio filed a Demand Response tariff in April 2010 that has not yet been approved by the PUCO.

1.1.2 Potential Incentives

The Demand Response Program provides incentives to customers for demand reduction that can be delivered outside their PJM commitment and for demand savings related to energy efficiency measures that qualify for AEP Ohio EE/PDR programs. In addition, some customers may have special needs that AEP Ohio can meet. For instance, one customer received an incentive through the Self-Direct Program for a significant energy-efficiency project consisting of furnace modifications and process improvements. Another customer wanted to participate in the Renewable Energy Certification market and its commitment for PDR helped them win certification. Another customer had some additional peak demand response and AEP Ohio was able to help it economically with program incentives.

¹ JOINT APPLICATION FOR APPROVAL OF TWO SPECIAL ARRANGEMENT AGREEMENTS BETWEEN COLUMBUS SOUTHERN POWER COMPANY AND AMSTED RAIL COMPANY, INC (Case No. 10-594-EL-EEC).

Section 2. Evaluation Methods

This section describes the analytic methods and data collection activities implemented as part of the PY 2010 process evaluation of the Demand Response Program. The following evaluation questions were developed for the process evaluation plan. Because of the unique nature of the program, only a subset of evaluation questions was applicable during the 2010 evaluation effort.

2.1 Evaluation Questions

Process Questions

Marketing and Participation

1. Is the marketing effort sufficient to meet current and future program participation goals?
2. How do customers become aware of the program? What marketing strategies could be used to boost program awareness?
3. Is the program outreach to customers effective in increasing awareness of the program opportunities?
 - a. What is the format of the outreach?
 - b. How often does the outreach occur?
 - c. Are the messages within the outreach clear and actionable?

Program Characteristics and Barriers

4. How do participants perceive the incentives and costs related to this program?
 - a. Are customers satisfied with the number of interruptions, length of interruptions, adequacy of the notification period and settlement of rewards and penalties?
 - b. Are program incentives sufficient to encourage participation?
 - c. Should the budget allocation between incentive spending and marketing spending be adjusted to meet participation goals?
 - d. Are there particular program characteristics that could be changed to improve customer satisfaction while maintaining program effectiveness?
 - e. What are key barriers to participation in the program for eligible AEP Ohio customers who do not participate, and how can they be addressed by the program?
5. Are drop-outs an issue? If so, what causes participants to drop out of the program?

Administration and Delivery

6. Has the program as implemented changed from the original plan? If so, how, why, and was this an advantageous change?

2.2 Process Evaluation Analytical Methods

Program process research was based upon program application review, PUCO orders and stipulations, and interviews with program staff involved in the delivery of the Demand Response Program. AEP Ohio and the evaluation team agreed that given the small number of program participants (3) and the contractual nature of the relationship between AEP Ohio and each participant, interviewing Demand Response Program participants would not be appropriate for the PY 2010 process evaluation.

2.1.1 Program Material Review

The evaluation team has reviewed all materials provided by AEP Ohio on the Demand Program, which included PUCO orders and joint applications for approval to the PUCO. Currently, there is no written marketing plan for the program.

2.1.2 Program Staff Interviews

The AEP Ohio Manager of EE/PDR was interviewed by phone in February 2011. The interview focused on program administration. Table 2-1 provides a summary of the data collection activities conducted to support the process evaluation.

Table 2-1. Data Collection Activities

Data Collection Type	Targeted Population	Sample Frame	Sample Design	Sample Size	Timing
In-Depth Telephone Interview	AEP Ohio Program Staff	Contacts from AEP Ohio	Manager of EE/PDR	1	Feb. 2011

Interview guides were developed but were not used with the interview of the program manager because of the unique nature and marketing of the demand response program.

Section 3. Program-Level Results

This section presents detailed findings of the process evaluation of the 2010 Demand Response Program.

3.1 Process Evaluation Observations

The process evaluation of the Demand Response Program focused on understanding how the program was administered and how the program fits into the AEP Ohio's overall goal to comply with the SB 221 peak demand savings targets in the future.

3.1.1 Understanding of the Program

The purpose of the Demand Response Program is to allow AEP Ohio to integrate peak demand savings from mercantile customers with curtailable load contracted to PJM to reach compliance with the EE/PDR benchmarks required by Senate Bill 221. AEP Ohio has a legacy curtailable rate that captures a significant amount of the curtailable demand reduction available. The rate has been more successful in the OPCo service territory due to a larger industrial customer base, but has been undersubscribed in the CSP service territory.

The agreement reached with the PUCO allows a utility such as CSP and a mercantile customer to jointly petition the Commission to count certain Peak Demand Response or Energy Efficiency resources toward the utility's compliance with the EE/PDR benchmarks. A mercantile customer may also independently petition the Commission. Demand can be counted toward SB 221 benchmarks in one of two ways:

1. The PDR Agreement provides that a mercantile customer can 'enter a reasonable agreement' to allow an agreed upon amount of load previously registered with the PJM Demand Response Program to be integrated into a utility's PDR benchmarks. The utility cannot incent the mercantile customer as it is already receiving compensation from PJM for the callable load. PJM has not needed to call for demand reductions in the recent past but it confirms the availability of the demand curtailment.
2. The mercantile customer can also commit electric demand reduction from energy savings, achieved by installing energy-efficient replacement equipment, to the utility. Under these circumstances, the customer receives the usual program incentive. Currently, contracts are entered into for one PJM planning year. The utility and customer must show that the mercantile projects are part of a demand response, energy efficiency, or peak demand reduction program. The project must either provide for the early retirement of functioning equipment or achieve reductions in energy use and peak demand that exceed the

reductions that would have occurred had the customer used standard new equipment, as defined by statute.²

Customers can be compensated for any demand response that is available in excess of the PJM commitment. The PUCO must review and approve each joint application. The utility has permission to measure and verify energy savings and/or peak-demand reductions resulting from customer-sited projects and resources.

Three mercantile customers entered into agreements to participate in the Demand Response Program for the 2010-2011 PJM planning year.

3.1.2 Implementation Strategy

Program Delivery Mechanisms and Marketing Strategy

The delivery strategy for AEP Ohio's Demand Response Program is simple but resource intensive. The Manager of EE/PDR identifies large mercantile customers registered with the PJM demand response program and meets with management to explore the potential for a mutually beneficial agreement.

Marketing efforts for this program involve upper management from the mercantile customer negotiating with the Manager of EE/PDR at AEP Ohio. Formal contracts are jointly developed, agreed upon and filed with the PUCO.

Role of AEP Ohio Staff

The Manager of EE/PDR works with AEP customer service executives to identify specific large, mercantile customers who might be interested in this special program. The key to the success of the program is to identify large customers who plan to register with PJM and have a special need the utility can fulfill. It is of note that AEP Ohio filed a Demand Response tariff in April 2010 that has not yet been approved by the PUCO.

3.1.3 Potential Incentives

The program provides incentives to customers for demand reduction that can be delivered outside their PJM commitment and for demand savings related to energy efficiency measures that qualify for AEP Ohio PDR/EE programs. In addition, some customers may have special needs that AEP Ohio can meet. For instance, one customer received an incentive through the Self-Direct Program for a significant energy efficiency project consisting of furnace modifications and process improvements. Another customer wanted to participate in the Renewable Energy Certification market and their commitment for PDR helped them win certification. Another customer had some additional Peak Demand Response to commit beyond their PJM commitment and AEP Ohio was able to help it economically through program incentives.

² JOINT APPLICATION FOR APPROVAL OF TWO SPECIAL ARRANGEMENT AGREEMENTS BETWEEN COLUMBUS SOUTHERN POWER COMPANY AND AMSTED RAIL COMPANY, INC (Case No. 10-594-EL-EEC).

3.1.4 Program Marketing and Outreach

The program is difficult to market because:

- » Customers do not receive an incentive from the utility for demand response load committed to PJM
- » The population of mercantile customers is limited to a few large customers that can provide significant demand reductions and that have other needs that AEP Ohio can meet
- » Mercantile customers may be reluctant to invest the time needed to negotiate an agreement with the utility without the benefit of an incentive
- » In 2010 the Manager of EE/PDR had limited time to spend marketing the program because of other responsibilities
- » Negotiations between the utility and the mercantile customer may take months to finalize
- » The budget for the program is limited

3.1.5 Strategic Review of the Demand Response Program

In 2011 AEP Ohio plans to subject the Demand Response Program to an in-depth strategic review. One AEP Ohio staff member will be assigned to oversee the implementation of the program and to evaluate the strategic role of the Demand Response Program in the continuing need for peak demand response in order for AEP Ohio to be in compliance with SB 221. The strategic review will consider issues surrounding the marketing of the program and plan for contingencies such as:

- PJM is planning to significantly reduce the incentive for contracting for curtailable load. Will mercantile customers continue to contract with PJM under these conditions or will participation be significantly reduced, thereby further shrinking the number of customers who qualify for the AEP Ohio Demand Response Program?
- AEP Ohio will evaluate the potential risk that is born by a large amount of peak demand savings controlled by a small number of mercantile customers. The program should be oversubscribed to reduce the risk of the failure of one customer to meet its demand response contract requirements.

- AEP Ohio currently has a new demand response rate that has been under consideration by the PUCO for more than a year. Should this new rate be approved, the need for a special contract with mercantile customers to meet SB 221 goals may be reduced or disappear.
- The Demand Response Program is resource intensive for AEP Ohio, the mercantile customer and the PUCO. Each contract must be specifically negotiated and approved by management from both parties and must then be reviewed and approved by the PUCO. AEP Ohio should consider if the program exceeds the value of the time and resources that need to be invested by all parties.
- AEP Ohio has a request before the PUCO to merge the Ohio Power Company and Columbus Southern Power operating companies. The impact of this change on the necessity for the Demand Response Program will need to be strategically evaluated.
- Another option is to expand the Demand Response Program by supporting it with more resources, including a dedicated Program Manager. This option would be most viable if the program contributed substantially to AEP Ohio meeting its SB 221 MW goals.

The need for the Demand Response Program also rests on the success of the 2009-2011 EE/PDR Portfolio Plan in total. As the EE/PDR programs developed under the Portfolio Plan mature, the need for a difficult to market program with mercantile customers may be reduced.

3.1.6 Quality Assurance/Quality Control

Quality assurance and quality control is performed by PJM for the majority of load contracted for in the AEP Ohio Demand Response Program. AEP Ohio expressed a high level of confidence that the PJM quality assurance and quality control standards are more than acceptable to confirm that load is available. Peak demand reductions in addition to the load committed to PJM have not been confirmed to date.

3.1.7 Tracking and Reporting

No formal tracking and reporting systems are in place for the Demand Response Program although informal reporting occurs. Each customer contract is monitored and tracked individually.

Section 4. Conclusions and Recommendations

4.1 Program Processes

1. The Demand Response Program is resource intensive and may be of limited value to AEP Ohio over the long term.
2. In the short term, the Demand Response Program appears to help AEP Ohio meet its SB 221 commitments.
3. Many strategic issues must be considered during planning for the future of the program.
4. Some of the uncertainty surrounding the Demand Response Program depends on the decisions of other entities, such as PJM or the PUCO, that are beyond the control of AEP Ohio.
5. The future of the Demand Response Program is unknown at this time.

4.2 Process Recommendations

1. During PY3, Navigant should evaluate and confirm the demand response potential for the demand response load that is outside the PJM Program.
2. AEP Ohio should proceed with the strategic evaluation of the Demand Response Program and develop a plan for the program to continue or sunset.
3. For 2011, AEP Ohio staff should develop a formal marketing plan that documents the program details, sets goals, and defines how these goals will be met in the short term.
4. The Demand Response Program should be assigned a part-time or full-time Program Manager to manage the strategic evaluation of the program, to develop the marketing plan, and to implement the program as appropriate.