

# Saver's Switch 2019 Evaluation Report

Minnesota, 2019 Program Year

Prepared for:



**Submitted by:**  
Navigant, A Guidehouse Company  
1375 Walnut Street  
Suite 100  
Boulder, Colorado 80302

303.728.2500  
guidehouse.com

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## **DISCLAIMER**

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<sup>1</sup> On October 11, 2019, Guidehouse LLP completed its previously announced acquisition of Navigant Consulting, Inc. In the months ahead, we will be working to integrate the Guidehouse and Navigant businesses. In furtherance of that effort, we recently renamed Navigant Consulting, Inc. as Guidehouse, Inc.

## EXECUTIVE SUMMARY

Xcel Energy's Saver's Switch program provides residential and business customers in Minnesota the opportunity to earn an incentive by allowing Xcel Energy to remotely control customers' air conditioning (AC) in the summer months during times of seasonal peak demand. These instances are known as demand response (DR) events. In this report, Navigant, a Guidehouse Company, documents its independent evaluation of Xcel Energy's Saver's Switch program. The evaluation addressed program processes only; it did not address load impacts, except to the extent that process elements such as recruitment, participant attrition, and event opt-outs affect kilowatt load reduction capability.

### Methodology

The principal evaluation objective is to aid program managers by supplying information to enhance program design, delivery, and administration. Through discussion with Xcel Energy staff, the evaluation team identified the following five priority research objectives: recruitment, interaction with the AC Rewards program, pre-event notifications and participant awareness, and participant satisfaction. Navigant also includes the incentives research objective in this report because there are valuable findings resulting from the research conducted.

The evaluation included the following major activities:

1. Conducting *staff interviews* to inform research planning and scope refinement
2. Defining primary and secondary *research objectives*
3. Conducting the following research activities:
  - a. Residential participant *post-event surveys*, including a placebo survey
  - b. Residential and business participant *end-of-season survey*
  - c. Peer utility *program benchmarking*
4. Developing *key findings* related to defined research objectives
5. Providing *suggestions for program improvement*

Navigant sought feedback and collaboration with Xcel Energy at each step throughout the evaluation.

### Key Findings

Table 1 highlights Navigant's key findings based on the defined research objectives; the Suggestions for Program Improvement section is based on these findings.

**Table 1. Key Findings**

Research Objectives	Key Findings
Recruitment	<ul style="list-style-type: none"> <li>• Many customers respond to marketing outreach only to find that they are ineligible.</li> <li>• Due to high program saturation, a marketing strategy that focuses on high - potential market segments and offers easy, immediate enrollment will be most effective.</li> </ul>

Research Objectives	Key Findings
Interaction with AC Rewards	<ul style="list-style-type: none"> <li>• Attitudes toward smart thermostats vary across the benchmarked utilities; some prefer smart thermostat DR programs over switch programs, while others prefer switch programs due to lower event opt-out rates.</li> <li>• AC Rewards program awareness is low among recent Saver's Switch enrollees. Elements of program design may motivate the selection of Saver's Switch over AC Rewards for those customers who know about both programs.</li> </ul>
Pre-Event Notifications and Participant Awareness	<ul style="list-style-type: none"> <li>• Some Saver's Switch customers would appreciate notifications; pros and cons to offering pre-event notifications and increasing customer awareness exist.</li> <li>• Benchmark utilities that offer pre-event notifications have not broadly marketed the option and have not noticed changes in attrition or opt-out rates. Other utilities do not offer notifications because they prefer low awareness of events.</li> </ul>
Participant Satisfaction	<ul style="list-style-type: none"> <li>• Customers are satisfied with the way the program operates including the bill credits, comfort during events, length of events, number of events, and the program in general.</li> <li>• Customer satisfaction and sentiment may change if events are called more frequently or for longer periods; benchmarked utilities find that longer and more frequent events, including back-to-back event days, are correlated with higher attrition rates.</li> </ul>
Incentives	<ul style="list-style-type: none"> <li>• Bill credits are a primary motivation for customer enrollment in Saver's Switch and an ongoing driver for customer satisfaction.</li> </ul>

Source: Navigant

## Suggestions for Program Improvement

Based on the completed research activities and key findings, Navigant identified several suggestions for Xcel Energy to improve the Saver's Switch program.

- **Recruitment:** Focus recruitment efforts on high potential market segments and digital marketing. Offer customers easy and immediate opportunities to enroll in the program, with clear messaging on eligible central AC systems.
- **Interaction with AC Rewards:** Define target customer segments and geographic areas for Saver's Switch and AC Rewards to inform recruitment strategies. This segmentation can be achieved by conducting a billing analysis or geographic information system (GIS) participation mapping.
- **Pre-Event Notifications:** Explore opportunities to offer *opt-in notifications* to participants to meet customer interest. Limit marketing for this option to provide value to the small number of customers that request it while avoiding negative impacts on current customer sentiments and attrition rates.
- **Participant Satisfaction:** Begin to prepare customers for the potential change to the way events will be called, including event frequency and duration, once the *transition to two-way switches* is complete. Consider the customer experience, including changes to current customer satisfaction levels, when making decisions about event frequency and duration.
- **Incentives:** Standardize incentive structures across states such that bill credits are made monthly. Inform customers when the bill credit is applied to ensure customers are aware the bill reduction is linked to program participation.

## 1. BACKGROUND, OBJECTIVES, AND METHODOLOGY

Xcel Energy's Saver's Switch program provides residential and business customers in Minnesota the opportunity to earn an incentive by allowing Xcel Energy to remotely control customers' air conditioning (AC) in the summer months during times of seasonal peak demand. These instances are known as demand response (DR) events. In this report, Navigant documents its independent evaluation of Xcel Energy's Saver's Switch program. The evaluation addressed program processes only; it did not address load impacts, except to the extent that process elements such as recruitment, participant attrition, and event opt-outs affect kilowatt load reduction capability.

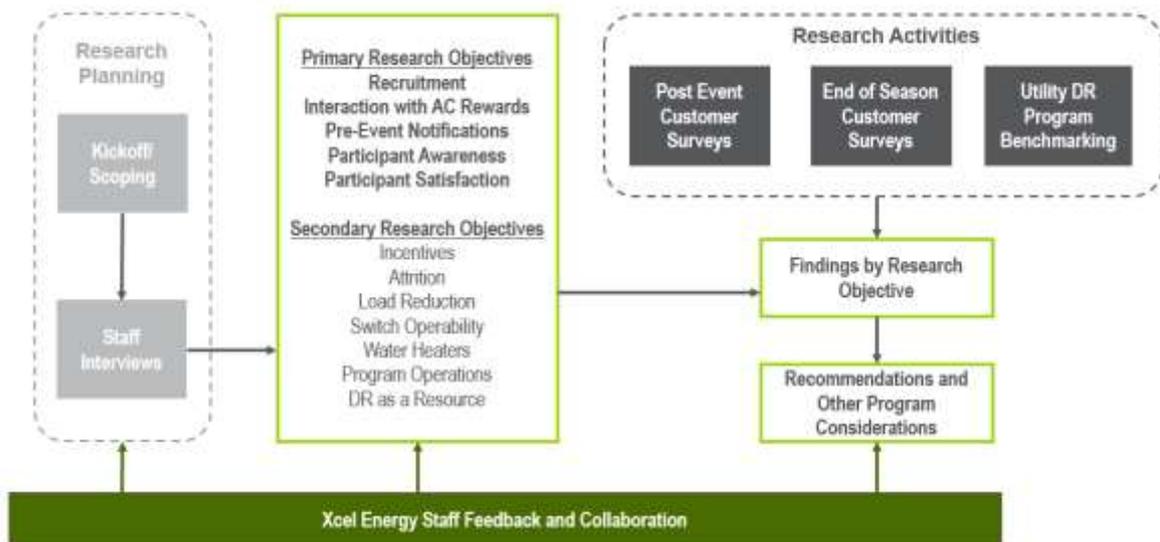
The remainder of this report is organized as follows:

- Methodology
- Findings through analysis
- Suggestions for improvement
- Supporting documentation contained in Appendices

The principal evaluation objective is to aid program managers by supplying information to enhance program design, delivery, and administration. Through discussion with Xcel Energy staff, the evaluation team identified the following five priority research objectives: recruitment, interaction with the AC Rewards program, pre-event notifications and participant awareness, and participant satisfaction. Navigant also includes the incentives research objective in this report because there are valuable findings resulting from the research conducted.

Figure 1 illustrates the evaluation process, linking the objectives to specific research activities and to development of findings/recommendations.

**Figure 1. Research Process**



Note: This figure represents the original prioritization of research objectives. In executing and discussing the research, Navigant and Xcel Energy subsequently chose to combine Participant Awareness with Pre-Event Notifications and included the incentives research objective as a primary objective.

Source: Navigant

More detail on the identified research objectives and activities employed to explore these objectives can be found in Appendix A.

**Post-Event and End-of-Season Surveys.** Navigant conducted customer surveys to investigate customer satisfaction, program awareness, and pre-event notifications and to better understand a customer's overall engagement with the program. The evaluation team fielded a **residential post-event survey**, including an **event** survey and a **placebo** survey. The team fielded the event survey on a day when Xcel Energy called a Saver's Switch event for all customers in the Saver's Switch population. Navigant later fielded the placebo survey on a non-event day with like conditions to the event date (the day Xcel Energy called a Saver's Switch event). A random sample of Saver's Switch participants who were called for the event received the event survey, while a random sample of those who were not called received the placebo survey.

Navigant also fielded an **end-of-season** survey to residential and business program participants after the DR season concluded. Table 2 lists details on the number of completed surveys and survey mode.

**Table 2. Summary of Completes for Each Survey and Mode**

Survey Type	Customer Type	Phone Completes	Online Completes	Total Completes
Post-Event: Event Survey	Residential	50	46	<b>96</b>
Post-Event: Placebo Survey	Residential	50	52	<b>102</b>
End-of-Season Survey	Residential	100	1,265	<b>1,365</b>
End-of-Season Survey	Business	25	67	<b>112</b>

Source: Navigant

**Utility DR Program Benchmarking.** Navigant investigated incentive levels and marketing strategies employed by other utilities, as well as whether other programs notify customers before an event. The evaluation team sought input from Xcel Energy to identify peer utilities that have similar programs and could best provide feedback on the defined research objectives. After defining the list of utilities, Navigant researched six peer utility programs (as detailed in Table 3).

**Table 3. Summary of Peer Utilities Benchmarked**

Peer Utility	Research Method
DTE Energy	Interview
Baltimore Gas and Electric Company	Interview
Pacific Gas and Electric Company	Interview
Duke Energy	Interview
Rocky Mountain Power – PacifiCorp	Interview
ComEd – An Exelon Company	Desk review

Source: Navigant

## 2. FINDINGS

This section summarizes key findings from the customer survey and peer benchmarking activities and is organized by research objective to provide a holistic discussion of research results. All findings included in this discussion relate to residential and business customers unless otherwise specified. Detailed interim deliverables for the post-event customer surveys and benchmarking tasks can be found in Appendix B and Appendix C.

### 2.1 Recruitment

The Saver's Switch program is reaching saturation in the Minnesota market, and Xcel Energy wants to develop an understanding of ideal program participants and recruitment strategies to inform future outreach efforts. Increased enrollment may be achieved through targeted outreach methods, with an emphasis on digital marketing for high potential market segments and by ensuring customers are offered easy, immediate enrollment.

**Customers are motivated to enroll due to financial and grid reliability benefits.** Recent Saver's Switch residential program enrollees (n=36) report being motivated to enroll in the program by an energy bill discount (n=29), a reduction in energy bills (n=28), and a desire to help Xcel Energy maintain reliable electricity supply (n=13).<sup>2</sup> Similarly, recent business program enrollees (n=9) report being motivated by a reduction in energy bills (n=7) and an energy bill credit (n=6).<sup>3</sup>

**Due to high program saturation, a marketing strategy that focuses on high potential market segments and offers easy, immediate enrollment will be most effective.** Most benchmarked utilities identify email and social media campaigns, door-to-door canvassing, and phone banking as their most successful recruitment strategies in recent years. In the marketing of the program, these utilities reported that a single cycling strategy offer is ideal because it makes understanding and enrolling in the program simple for the customer. In addition, benchmarked utilities are finding success with marketing to fixed income, residential new construction, and energy aware customers.

**Many customers respond to marketing outreach only to find that they are ineligible.** According to interviewed Xcel Energy staff, 60% of sign-ups do not result in enrollment. One factor related to failed enrollment is customer uncertainty about what qualifies as a central AC. Providing detailed information on qualifying equipment types at the point of enrollment can help increase enrollment rates.

### 2.2 Interaction with AC Rewards

Xcel Energy seeks to understand how Saver's Switch competes with or complements AC Rewards, and how customers decide between the programs.

**AC Rewards program awareness is low among recent Saver's Switch enrollees. Elements of program design may motivate the selection of Saver's Switch over AC Rewards for those customers who know about both programs.** Of recent residential enrollees in Saver's Switch (n=36), 19% reported being aware of the AC Rewards program in the end-of-season survey, indicating that most enrollees may not be directly choosing between the two programs due to lack of awareness. Among residential customers aware of the AC Rewards program (n=7), customer-

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<sup>2</sup> Respondents could provide multiple responses.

<sup>3</sup> Respondents could provide multiple responses.

reported reasons for enrolling in Saver's Switch instead of AC Rewards included not owning or wanting to buy a smart thermostat, owning an ineligible smart thermostat, and easier enrollment.

**Benchmarked utilities differ in their attitudes toward smart thermostats.** Two utilities reported that customers are more interested in smart thermostats than switches; one utility has not seen significant conversion of switch customers to its thermostat program, and the other utility promotes smart thermostats over switches as a participation pathway. Another utility stopped offering smart thermostats as part of their program due to the high event opt-out rate of thermostat users.

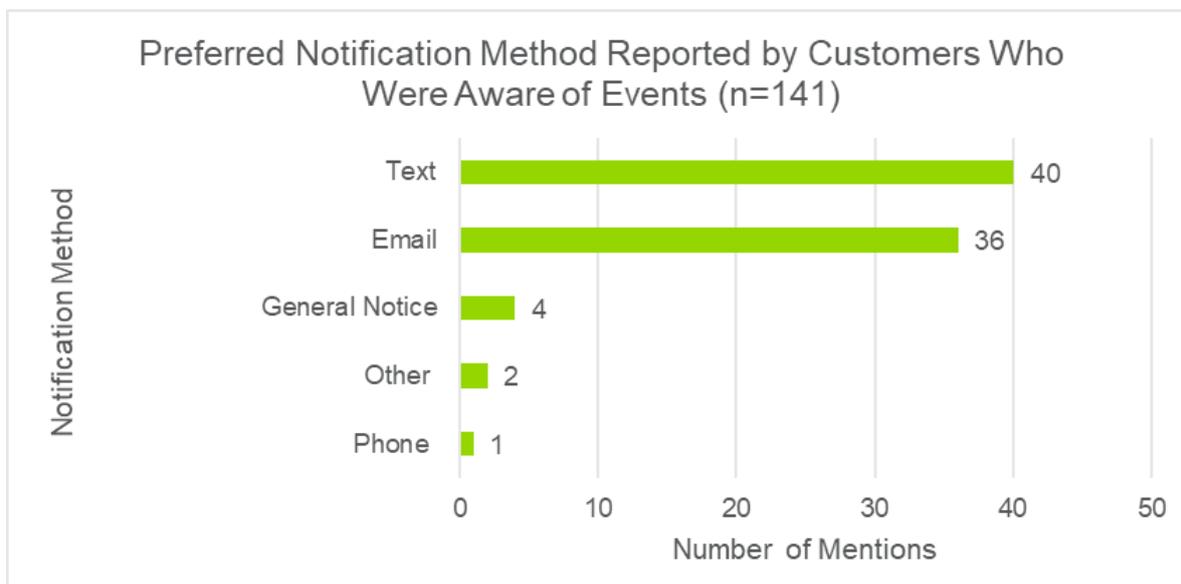
## 2.3 Pre-Event Notifications and Participant Awareness

Xcel Energy has historically found participant awareness of events to be low, and the Company does not currently have the capability to offer pre-event notifications. However, the Company is exploring the pros and cons of using pre-event notifications in the future. Consequently, Navigant sought to understand how increased awareness through notifications would affect the program. The mixed views of benchmarked utilities and the feedback from customers should be taken into careful consideration when making decisions around notifications.

**Benchmarked differ in their views on pre-event notifications.** The overwhelming sense from benchmarked utilities is that most switch customers do not realize an event is taking place. Benchmarking utilities that offer pre-event notifications do so on an opt-in basis and have not noticed major changes in attrition or event opt-out rates (n=3). Other utilities do not offer pre-event notifications because they prefer low awareness and have concerns about potential spikes in attrition associated with increasing awareness (n=3).

**Saver's Switch event awareness is low, and some customers would appreciate pre-event notifications.** Event awareness for Saver's Switch is low, with only 4% (n=96) of post-event survey respondents, 10% (n=1,342) of residential end-of-season respondents, and 9% (n=105) of business end-of-season respondents reporting being aware of control events. By providing an opportunity for customers to opt-in to receive notifications, Xcel Energy can focus on providing communication to the small number of end-of-season survey respondents who reported awareness of events that would prefer advance notice of events. Forty-nine percent (n=131) of residential end-of-season survey respondents and 50% (n=10) of business customers who were aware of events expressed interest in advanced notice, and customers also demonstrate sufficient interest to make changes and improve comfort during an event by opting in to notifications. Customer preferences for event notification lean heavily toward text and email, as shown in Figure 2.

**Figure 2. Preferred Methods of Event Awareness**



Notes: Responses are from respondents who stated they were aware that an event had occurred. Respondents provided open-end feedback and could be assigned to multiple response categories during analysis. Source: Navigant analysis of end-of-season survey data

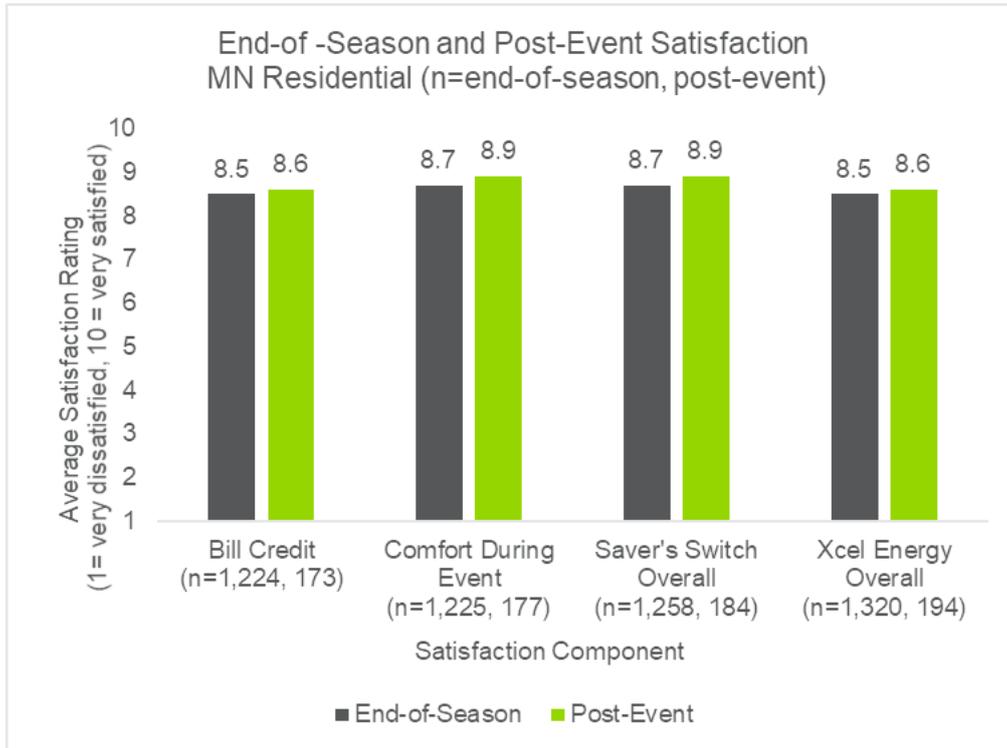
**The survey results suggest that customer behavior in response to pre-event notifications would largely revolve around an attempt to improve comfort without increasing energy demand during event times.** Navigant also sought to understand how event notifications, and the potential increase in customer awareness, might influence customer behavior during an event. Only 11% (n=198) of the residential post-event customers, 28% (n=131) of residential end-of-season customers, and 33% (n=10) of business end-of-season customers surveyed who were aware of events indicated they would change their actions after receiving a notification. These customers primarily suggested they would act to improve comfort without increasing demand during event times, such as by planning to be away from home or precooling the home. The responses do not suggest program attrition or an attempt to opt-out of the events, though it is possible customer sentiment and attrition rates could change in the future if notifications are implemented.

## 2.4 Participant Satisfaction

Xcel Energy wants to better understand current levels of participant satisfaction with the Saver's Switch Program and Xcel Energy overall to identify areas to improve satisfaction.

**Average satisfaction with all aspects of program participation is high**, as shown in Figure 3 and Figure 4, with little variation in satisfaction cross the specific topic areas. In addition to the satisfaction components shown below, the end-of-season survey gathered data on satisfaction with the number of events per season and the average length of events, as discussed further below. When asked, customers noted that their program satisfaction is driven by the bill credit and the minimal effect of participation on normal activities.

**Figure 3. Participant Satisfaction, Residential**



Note: Excludes respondents who indicated Don't Know or Prefer not to respond.  
Source: Navigant analysis of end-of-season and post-event survey data

**Figure 4. Participant Satisfaction, Business**



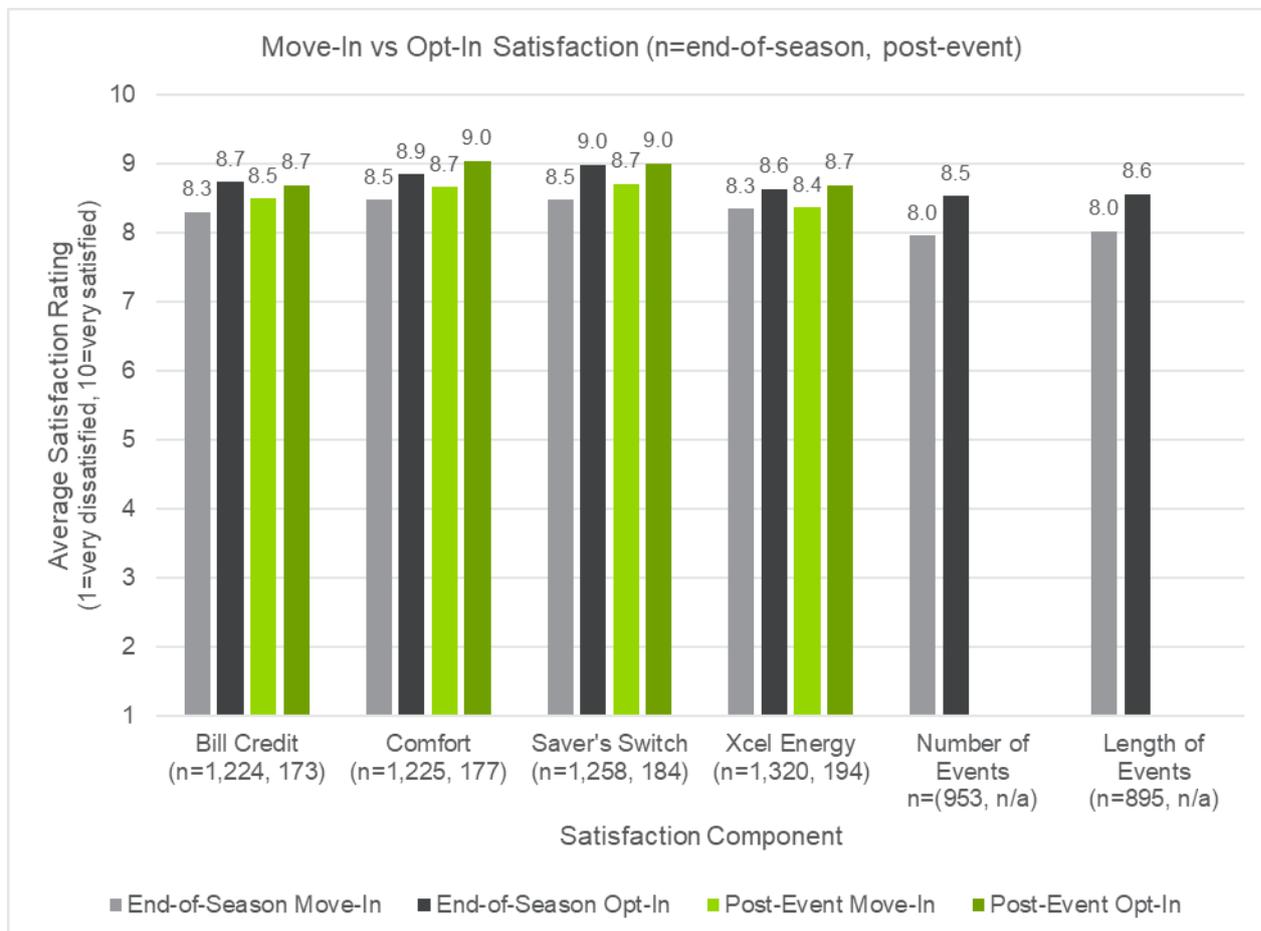
Note: Excludes respondents who indicated Don't Know or Prefer not to respond.  
Source: Navigant analysis of end-of-season and post-event survey data

Reported satisfaction differs slightly between residential move-in<sup>4</sup> respondents and opt-in respondents, with move-in respondents reporting somewhat lower satisfaction than opt-in

<sup>4</sup> Move-in respondents refer to respondents who moved into a home with a Saver's Switch previously installed, while opt-in respondents refer to respondents who actively enrolled in the program.

respondents<sup>5</sup> (shown in Figure 5). In the end-of-season survey, this difference was statistically significant. The difference in reported satisfaction highlights opportunities to communicate the benefits of a Saver's Switch installed in the home and improve education for move-in customers to improve satisfaction.

**Figure 5. Participant Satisfaction, Move-In vs. Opt-In**



Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of end-of-season and post-event survey data

**Saver's Switch customers are satisfied with the way the program operates, but this may change if events are called more frequently or for longer periods.** Residential customers reported the number of events called (n=953) and the length of events (n=895) had a positive or neutral impact on overall program satisfaction (both scored 8.3 on a 1-10 scale in the end-of-season survey). Similarly, business customers reported the number of events called (n=70) and the length of events (n=63) had a positive or neutral impact on overall program satisfaction (scored 7.9 and 8.2, respectively, on a 1-10 scale). Any changes to the program design, particularly the number and length of events, may affect overall program satisfaction.

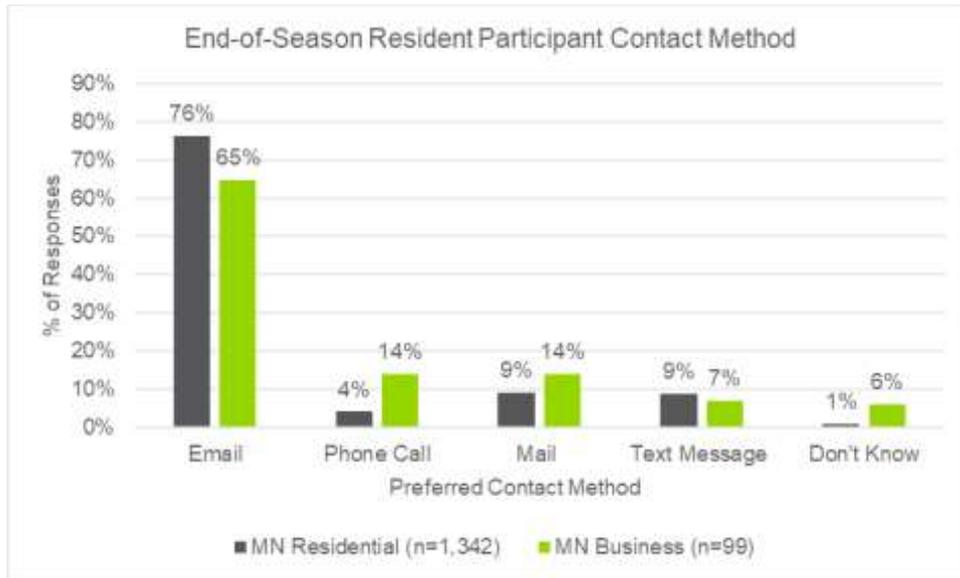
**Benchmarked utilities find that longer and more frequent events, including back-to-back event days, are correlated with higher attrition rates.** The utilities provided consistent feedback regarding retention rate, noting that attrition is correlated with the length and frequency of events; events that are several hours long or on back-to-back days cause an increase in customer attrition. One utility recently changed its strategy for calling events and now calls more frequent, but shorter events.

<sup>5</sup> Only residential customers received move-in or opt-in designations, so this data excludes business respondents.

These shorter events are much less noticeable to customers, and the utility has seen a significant decrease in attrition.

Residential customers from the end-of-season survey report they prefer to be contacted by Xcel Energy about the Saver's Switch program via email (76% of respondents; n=1,342) as seen in Figure 6. Business customers also report a preference for email communications (65% of respondents; n=99).

**Figure 6. Participant Contact Preference**



Note: Excludes respondents who indicated Prefer not to respond.  
Source: Navigant analysis of end-of-season survey data

## 2.5 Incentives

Xcel Energy offers a reduction on monthly bills from June to September for participation in the Saver's Switch program. The Company wants to better understand customer awareness of this incentive as well as customer satisfaction with the value of the bill credit.

**Bill credits are a primary motivation for customer enrollment in Saver's Switch and are an ongoing driver for customer satisfaction.** Participants reported high satisfaction with the bill credits, as shown in Figure 3 and Figure 4. When recent enrollees were asked in the end-of-season survey about their primary motivation for enrollment, the bill credit (81%) received the highest number of mentions, while reducing the customer's overall energy bill (78%), to which the credit contributes, received the second highest number of mentions (n=36).<sup>6</sup> When asked, customers noted that their program satisfaction is driven by the bill credit and customers report high satisfaction with the bill credit, as discussed in Section 2.4.

**One benchmarked utility recently changed its incentive structure and now pays incentives monthly during the DR season to remind customers of the program benefit and help offset higher bills during the summer months.** Given that the bill credit is a primary motivation for enrollment and contributes to high customer satisfaction, ensuring that customers are reminded of their incentive and do not overlook the credit on their bill is a simple but impactful way to maintain enrollment and high customer satisfaction.

<sup>6</sup> Respondents could provide multiple responses for this question.

### 3. SUGGESTIONS FOR PROGRAM IMPROVEMENT

Navigant's suggestions for program improvement are summarized in this section and are *organized by high, moderate, and lower priority*. All initiatives included in this discussion relate to both business and residential customers unless otherwise specified. Relative indications of cost and Xcel Energy staff time and effort for these initiatives can be found in Appendix D. Overall, the Saver's Switch program is well established; as such, many of these suggestions are minor modifications for improvement.

Table 4. High Priority Initiatives

Research Objective	Initiative
Recruitment	<p><b>Improve screening for central AC</b> during enrollment by:</p> <ul style="list-style-type: none"> <li>Assessing the call center script to identify opportunities to improve screening questions.</li> <li>Adding more detailed checkboxes and visual aids to the online enrollment form.</li> </ul> <p><b>Emphasize key program benefits in marketing messaging</b>, focusing on the benefits most important to recent Saver's Switch enrollees in Minnesota: financial benefits and helping Xcel Energy maintain grid reliability.</p>
Interaction with AC Rewards	<p><b>Define target customer segments and geographic areas</b> for Saver's Switch and AC Rewards through a billing analysis or GIS participation mapping.</p>
Participant Satisfaction	<p><b>Start to test Saver's Switch customers with different event characteristics</b> in advance of changes to the way Xcel Energy calls events, including event frequency and duration.</p> <p><b>Avoid back-to-back event days</b>; instead, attempt to call more frequent, shorter events to maintain high customer satisfaction and prevent attrition.</p>
Incentives	<p><b>Implement a fixed monthly incentive</b> throughout the cooling season.</p> <p><b>Use on-bill messaging to highlight when the bill credit is applied</b> to ensure customers are aware of when the bill credit is applied and can attribute the savings to Saver's Switch.</p> <p><b>Maintain one cycling strategy and incentive structure</b> to ensure the program is easy for customers to understand.</p>

Source: Navigant

**Table 5. Moderate Priority Initiatives**

Research Objective	Initiative
Recruitment	<b>Explain the benefits of a Saver's Switch-enrolled home to move-in<sup>7</sup> customers</b> when they turn on their electricity service, either by phone or online. Highlight that the customer has skipped the installation appointment, saved time, and is automatically signed up for the bill credit. Emphasize the bill credit and grid reliability.
	<b>Improve program education for move-in participants</b> by including a QR code on move-in outreach letters to direct move-in customers to the Saver's Switch Frequently Asked Questions webpage. Offer customers the option to provide their email address on this page for further engagement. Alternatively, a special webpage for move-in customers could be created and provided with move-in-specific communications.
	<b>Shift to digital media-heavy outreach</b> to attract customers who prefer email communication and online information, and to ensure easy, immediate enrollment.
Incentives	<b>Send a thank you letter to participants</b> at the end of the cooling season summarizing the program's collective savings.

Source: Navigant

**Table 6. Low Priority Initiatives**

Research Objective	Initiative
Pre-Event Notifications	<b>Explore opportunities to offer opt-in pre-event notifications and limit marketing for this option</b> to provide value to the small number of customers that request it while avoiding negative impacts on current customer sentiments and attrition rates.
	<b>Pair with customer education</b> on why the notification is being offered and suggested actions customers might take in response to the pending event.
	<b>Provide a program fact sheet or bill insert</b> (email for paperless customers) that includes the new opt-in notification process.
	<b>Update the call center script</b> to include the opt-in notification process.
Participant Satisfaction	<b>Provide customers a thank you gift</b> (e.g., a free LED light bulb, an Xcel Energy-branded LED night light) if there is customer pushback for being present during the switch upgrade.

Source: Navigant

<sup>7</sup> Move-in respondents refer to respondents who moved into a home with a Saver's Switch previously installed, while opt-in respondents refer to respondents who actively enrolled in the program.

**APPENDIX A. DETAILED RESEARCH OBJECTIVES**

Table A-1 lists the research questions from the Research Objectives Memo provided to Xcel Energy to consider for this evaluation, including those questions developed for optional research activities. These research questions were further informed and refined through interviews with Xcel Energy staff. Xcel Energy and Navigant agreed on objectives 1 through 5 as the primary research objectives for the evaluation. More detail on objectives for each approved research activity can be found in Table A-2, Table A-3, and Table A-4.

**Table A-1. Saver's Switch Program Research Objectives and Potential Research Questions**

Research Objectives	Saver's Switch Program Context	Research Questions
<b>1. Recruitment</b>	Program recruitment has slowed and is approaching saturation.	<ul style="list-style-type: none"> <li>• How can Xcel Energy increase enrollment?</li> <li>• How can Xcel Energy recruit nonparticipating eligible customers that have already been marketed to?</li> <li>• What types of customers typically enroll in Saver's Switch?</li> <li>• What customer characteristics should Xcel Energy target?</li> <li>• What program benefits are most important to the ideal target market segment?</li> <li>• How should those benefits be communicated—i.e., message, media?</li> </ul>
<b>2. Participant Awareness</b>	Program awareness is low.	<ul style="list-style-type: none"> <li>• What portion of participants are aware of their enrollment in the program?</li> <li>• What portion of participants are aware of specific DR events?</li> <li>• How can Xcel Energy increase awareness and engagement with the program?</li> <li>• How would increasing program awareness affect participant satisfaction?</li> <li>• How would increasing program awareness affect attrition?</li> <li>• How would increasing program awareness affect participant satisfaction with Xcel Energy overall?</li> </ul>
<b>3. Event Notifications</b>	Xcel Energy is considering pre-event notifications.	<ul style="list-style-type: none"> <li>• In what ways would event notifications affect participant satisfaction?</li> <li>• In what ways would participants benefit from event notifications?</li> <li>• Would event notifications lead to higher attrition?</li> <li>• Which other similar programs notify participants and what can be learned from them?</li> </ul>
<b>4. Participant Satisfaction</b>	Participants are relatively satisfied.	<ul style="list-style-type: none"> <li>• What portion of participants are satisfied with the program overall?</li> <li>• What portion of participants are satisfied with the control events?</li> <li>• How do participants feel about the length and frequency of control events?</li> <li>• What could Xcel Energy do to increase participant satisfaction?</li> <li>• How do participants feel about Xcel Energy overall?</li> </ul>

Research Objectives	Saver's Switch Program Context	Research Questions
<b>5. Interaction with AC Rewards</b>	AC Rewards is a new residential DR program and dual enrollment with Saver's Switch is not allowed.	<ul style="list-style-type: none"> <li>In what ways do AC Rewards and Saver's Switch complement or compete with each other?</li> <li>Do customers understand the differences?</li> <li>How does a customer decide which program is right for them?</li> <li>How can these programs work more effectively together?</li> </ul>
<b>6. Incentives</b>	Colorado participants are paid \$40 per season; Minnesota participants receive a 15% discount on June-September bills.	<ul style="list-style-type: none"> <li>What portion of participants are aware of their current incentive level?</li> <li>Are the current incentives appropriate?</li> <li>How would participants react to a decreased incentive?</li> <li>How would changing incentives affect Xcel Energy's ability to recruit new participants?</li> <li>Would decreasing incentives cause participants to drop out of the program?</li> <li>Would participants place greater value on alternative incentives? Would alternative incentives resonate with new participants?</li> </ul>
<b>7. Attrition</b>	Participant attrition is low.	<ul style="list-style-type: none"> <li>None (<i>captured in 5 and 7</i>)</li> </ul>
<b>8. Cycling Strategy</b>	All participants are cycled using a 50% adaptive algorithm.	<ul style="list-style-type: none"> <li>How would participants react to higher cycling strategies? Would they notice? Would they drop out of the program?</li> <li>How could Xcel Energy change the incentives structure if the program adopted varied cycling strategies?</li> <li>Which other similar programs use varied cycling strategies and what can be learned from them?</li> </ul>
<b>9. Switch Operability</b>	Xcel Energy is making hardware updates to facilitate two-way communications with switches.	<ul style="list-style-type: none"> <li>What is the current estimated rate of switch failure?</li> <li>Is the failure rate different between residential and commercial switches?</li> <li>How can Xcel Energy best maximize the value of two-way communications for identifying failed switches?</li> </ul>
<b>10. Water Heaters</b>	Minnesota residential participants can enroll an electric water heater along with their AC.	<ul style="list-style-type: none"> <li>How saturated are electric water heater enrollments in Minnesota?</li> <li>What would be the benefits of expanding the water heater program to Colorado? What might be the costs?</li> </ul>
<b>11. Program Operations</b>	The Saver's Switch program is cost-effective.	<ul style="list-style-type: none"> <li>What is the cost-effectiveness ratio?</li> <li>How could the program's operations be changed to (more) cost-effectively meet participant needs?</li> <li>How could operations be streamlined?</li> </ul>
<b>12. DR as a Resource</b>	Xcel Energy anticipates increasing the proportion of intermittent resources in its portfolio and pursuing use of DR for targeted locations.	<ul style="list-style-type: none"> <li>How can Saver's Switch be used as a tool for managing energy supply in the future?</li> <li>What program changes would need to be made?</li> <li>What would be the implications on existing participants?</li> <li>How are other utilities controlling their DR programs and what are the event triggers they use (e.g., systemwide vs. localized capacity constraints)?</li> </ul>

Source: Navigant

## A.1 Peer Benchmarking Research Objectives

The peer benchmarking task focused on the research objectives outlined in Table A-2.

Table A-2. Peer Benchmarking Research Objectives

Peer Benchmarking Research Objectives
<b>Program Design:</b> Determine key elements of program design including age of program, incentive levels, number of participants, average number of events, equipment cycled through program, switch type.
<b>Recruitment:</b> Understand customer demographics and segmentation, as well as recruitment, retention, customer education, marketing, and messaging strategies.
<b>Awareness and Event Notifications:</b> Assess customer awareness and how notifications affect the customer experience.
<b>Participant Satisfaction:</b> Collect customer feedback provided in past participant surveys, including key metrics such as program satisfaction.
<b>Cycling Strategies:</b> Understand the cycling strategies used by the program and key lessons learned.
<b>Interaction with Smart Thermostat Program:</b> Assess how the direct control program interacts with the smart thermostat program (if offered by the utility).
<b>Switch Operability:</b> Determine how the utility uses two-way switches to identify failures and the approach for replacing failed switches.
<b>DR as a Resource:</b> Understand the utility's strategy for triggering events and the program's role in managing energy supply in the service territory.

Source: Navigant

## A.2 Post-Event Customer Survey Research Objectives

The post-event customer survey focused on the research objectives outlined in Table A-3.

Table A-3. Post-Event Customer Survey Research Objectives

Post-Event Customer Survey Research Objectives
<b>Awareness:</b> Understand current levels of event awareness and how respondents become aware of events in the current program state.
<b>Event Notifications:</b> Collect feedback on how customers actions would have changed if they were to receive a pre-event notification from Xcel Energy.
<b>Comfort:</b> Collect data on event and placebo survey respondents' changes in comfort, how the changes in comfort aligned with the event hours or peak temperatures, and any changes to typical routines made as a result of changes in comfort.
<b>Participant Satisfaction:</b> Assess customer satisfaction with specific program characteristics, such as the incentive amounts, the program overall, and Xcel Energy in general.
<b>Demographics:</b> Collect data on Saver's Switch customer demographics to better understand what types of customers typically enroll in the Saver's Switch program and form an understanding of targeted customer characteristics for additional recruitment.

Source: Navigant

### A.3 End-of-Season Customer Survey Research Objectives

The end-of-season customer survey focused on the research objectives outlined in Table A-4.

**Table A-4. End-of-Season Customer Survey Research Objectives**

<b>End-of-Season Customer Survey Research Objectives</b>
<b>Motivations for Enrollment:</b> Understand how recent Saver's Switch enrollees first heard about the program and the primary motivations for choosing to enroll.
<b>Interactions with AC Rewards:</b> Understand Saver's Switch recent enrollee awareness of the AC Rewards program and the decision-making process to choose between the two programs.
<b>Awareness:</b> Understand customer awareness of events throughout the season and how respondents become aware of events in the current program state.
<b>Event Notifications:</b> Collect feedback on how customers would prefer to find out about control events and how customers actions would have changed if they were to receive a pre-event notification from Xcel Energy.
<b>Comfort:</b> Collect data on event and placebo survey respondents' changes in comfort, how the changes in comfort aligned with the event hours or peak temperatures, and any changes to typical routines made as a result of changes in comfort.
<b>Participant Satisfaction:</b> Assess customer satisfaction with specific program characteristics, such as the incentive amounts, number of control events, length and duration of control events, the program overall, and Xcel Energy in general.
<b>Demographics/Firmographics:</b> Collect data on Saver's Switch residential customer demographics and business customer firmographics to better understand what types of customers typically enroll in the Saver's Switch program and form an understanding of targeted customer characteristics for additional recruitment.

*Source: Navigant*

## APPENDIX B. INTERIM DELIVERABLE: POST-EVENT SURVEY MEMO

### B.1 Executive Overview

The Saver's Switch program allows Xcel Energy's residential customers in Minnesota to earn an incentive by providing the Company control of their air conditioning (AC). The Company controls customer's AC during times of seasonal peak demand when the Company calls demand response (DR) direct load control (DLC) events. In the summer of 2019, Navigant fielded an event survey on a day when Xcel Energy called a Saver's Switch event, and a placebo survey on a non-event day. A random sample of customers who were called in the event received the event survey, while a random sample of those who were not included in the event survey sample received the placebo survey.

This memo presents preliminary findings from the survey with an emphasis on the impact events have on customer comfort, the pros and cons of notifications and the associated increase in customer awareness, and drivers for current levels of satisfaction. A summary of key findings is presented in Table B-1.

**Table B-1. Key Findings from the Post-Event Survey**

Research Topic	Key Findings
<b>Comfort</b> (see p. B-2)	<ul style="list-style-type: none"> <li>The control events are not affecting comfort for most customers, with only about 1 in 10 event survey respondents reporting a change in comfort during the time of the event.</li> <li>Even among those event survey respondents who reported a change in comfort, 75 percent were not aware an event occurred and therefore could not possibly attribute any discomfort to their participation in Saver's Switch.</li> </ul>
<b>Awareness &amp; Event Notifications</b> (see p. B-4)	<ul style="list-style-type: none"> <li>Current event awareness is low, with only 4 percent of event survey respondents aware of the control event. The low awareness and the survey results suggest this may be beneficial for overall program satisfaction.</li> <li>Eleven percent of respondents anticipated changing their behavior in response to events if Xcel Energy sent a notification. Respondent changes to energy use in the home after receiving a notification would most likely be related to improving comfort, including either load shifting or increasing energy use during the event, and the results do not suggest notifications would lead to attrition. Some customers may even take additional action to support Xcel Energy's goals during the event.</li> </ul>
<b>Participant Satisfaction</b> (see p. B-5)	<ul style="list-style-type: none"> <li>On average, participants are highly satisfied with bill credits, comfort during events, Saver's Switch overall, and Xcel Energy overall.</li> <li>Respondent satisfaction with the Saver's Switch program tends to be driven by the minimal impact the events have on customers and by dollar savings from the bill credit.</li> </ul>

Source: Navigant

### B.2 Post-Event Survey Approach

Navigant designed the post-event surveys to assess participant awareness of events, satisfaction, participant comfort during events, and actions taken to stay cool during the event. Navigant fielded an event survey on a day when Xcel Energy called a Saver's Switch event, and a placebo survey on a non-event day. Navigant fielded the event survey on a day when Xcel Energy called a Saver's Switch event for all customers in the Saver's Switch population. Navigant later fielded the placebo survey on

a non-event day with like conditions to the event date (the day Xcel Energy called a Saver's Switch event). Xcel Energy made no adjustments to customer AC on this non-event day. Customer responses from the placebo survey provide a measure of baseline customer comfort, actions, and satisfaction against which the event survey customer responses can be compared. While the peak temperatures on the event and placebo days was the same, the heat index was much higher on the event day, making it difficult to draw conclusions when comparing comfort-related responses from the event survey to the placebo survey. Key details for the event and placebo survey can be found in Table B-2.

**Table B-2. Placebo and Event Survey Key Details**

Survey Type	Event Date	Event Time	Peak Temperature	Heat Index <sup>8</sup>
Event	August 20th	3 – 5 PM	79	89
Placebo	September 5h	4 – 6 PM	79	82

Source: Navigant

Navigant collected data from customers through both phone and online surveys, as described in Table B-3.

**Table B-3. Summary of Completes for Each Survey and Mode**

Survey Type	Phone Completes	Online Completes	Total Completes
Event	50	46	96
Placebo	50	52	102

Source: Navigant

In addition to analyzing differences between event and placebo survey respondents, Navigant analyzed responses to understand differences between respondents who actively enrolled in the program (opt-in respondents), and respondents who moved into a home with a Saver's Switch previously installed (move-in respondents).

Navigant designed the survey instrument to ask specific questions of certain respondents, dependent on whether the respondent received an event or placebo survey, as well as their responses to previous questions. Since the number of responses for each question varies, this memo includes "n" values in parentheses to indicate the total number of responses to a given question where appropriate.

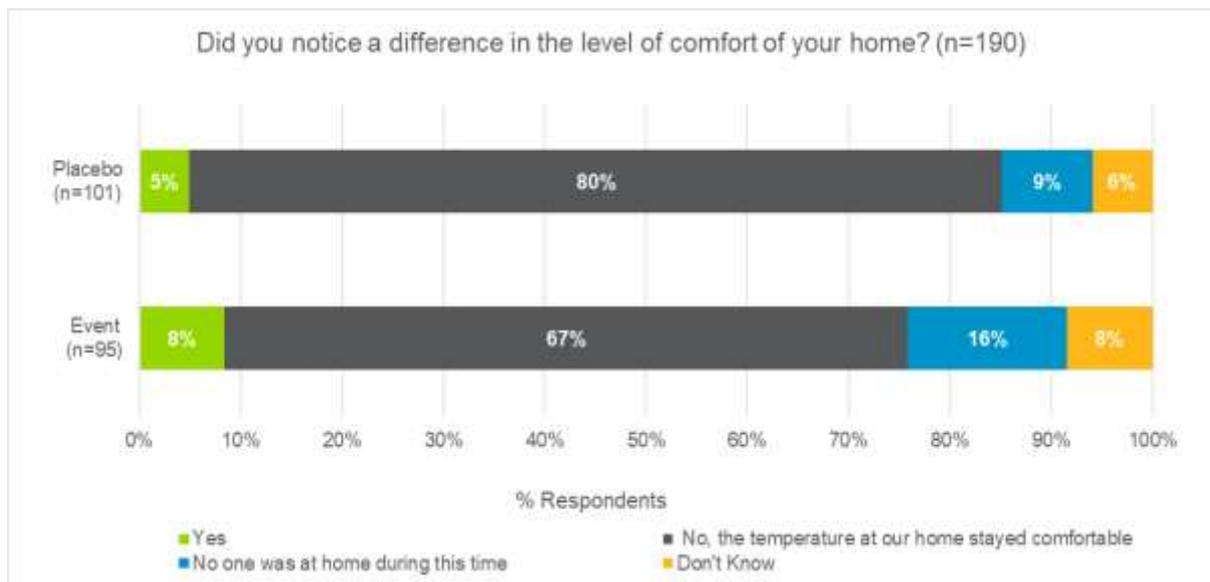
### **B.3 Post-Event Survey Analysis Findings: Comfort**

Navigant compared event and placebo survey respondent comfort during the event times to help Xcel Energy better understand the customer experience and satisfaction with the program. It is important to keep in mind that Navigant fielded the event and placebo surveys on different days, and the temperature on the placebo day was slightly lower than the event day. Both the variation in temperature between the two days and the adjustments to event survey respondent's AC during the Saver's Switch event will impact reported comfort differences between the event and placebo survey respondents. The vast majority of event survey respondents (92%) did not experience any change in comfort, and the presence of discomfort amongst the placebo survey respondents suggests the event may not be the only driver of discomfort.

<sup>8</sup> Heat index takes into account relative humidity in addition to temperature, therefore, providing a more accurate, real feel metric.

As shown in Figure B-1, only a small portion of event survey respondents, 8 percent, reported a change in comfort in their home during the time of the event (n=95). Of these event survey respondents, 75 percent were not aware an event occurred and therefore could not possibly attribute any discomfort to their participation in Saver's Switch. Even among placebo respondents who were not subject to an event, 5 percent reported a change in comfort during the peak temperatures of the placebo day (n=101). The difference between event and placebo survey respondents is not statistically significant, suggesting that any discomfort from event respondents cannot conclusively be partly attributed to the hot weather generally.<sup>9</sup> These results are also impacted by the higher heat index on the event day compared to the placebo survey day which make the placebo survey responses an imperfect proxy against which to compare changes in comfort experienced by event survey respondents.

**Figure B-1. Reported Changes in Respondent Level of Comfort**



Note: Excludes respondents who indicated Prefer not to respond.

Source: Navigant analysis of post-event survey data

Among respondents who noticed a change in comfort, this change appears to be insignificant, although the small sample size for this nested question limits the generalizability of the findings. Navigant received comfort ratings on a scale of 1 (“No Change in Comfort”) to 5 (“Very Uncomfortable”) from 8 event survey respondents and 5 placebo survey respondents who reported a change in comfort.<sup>10,11</sup> Of these respondents, 60 percent of event survey respondents and 75 percent of placebo survey respondents reported some level of discomfort (a 2-5 rating on the 1-5 scale).

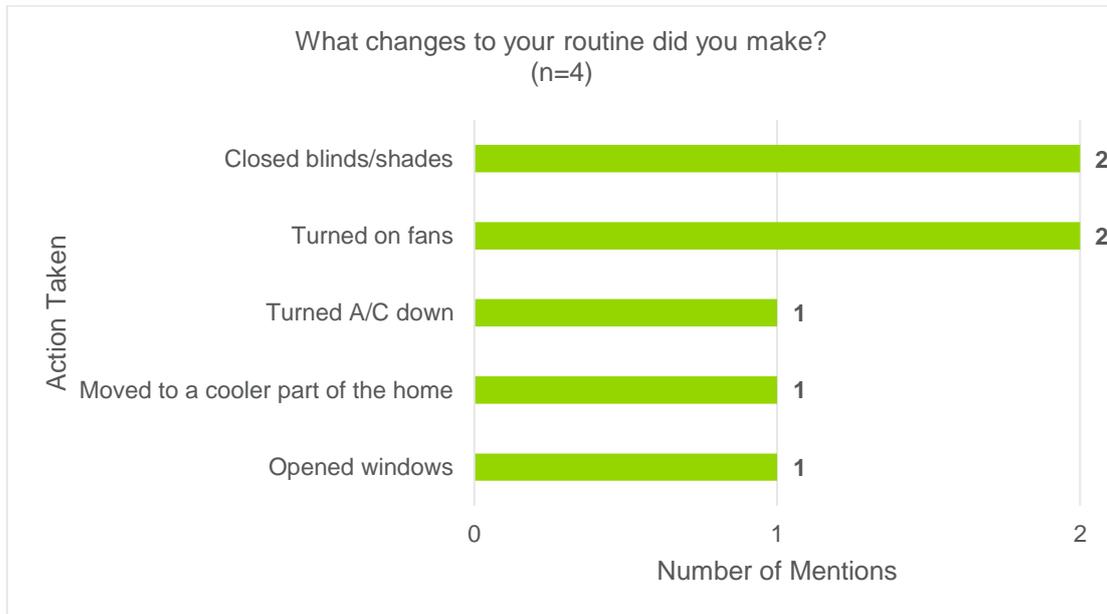
Of the respondents who reported discomfort, some event survey (n=2) and some placebo survey (n=2) respondents reported making a change to their typical daily routine or taking actions to keep cool. Figure B-2 shows the actions these respondents took in response to experiencing discomfort. Most respondents took actions to improve their comfort without increasing their demand during the event times.

<sup>9</sup> Pearson-Chi Square test used to determine significance at a 90% confidence level.

<sup>10</sup> Average comfort rating results exclude online survey responses due to data collection issues.

<sup>11</sup> The differences between event and placebo are not statistically significant based on the Pearson Chi-Square test at a 90% confidence level.

**Figure B-2. Actions Taken to Keep Cool**



Notes: Includes responses only from respondents who reported making changes to their routine.

Respondents were allowed to provide multiple responses.

Source: Navigant analysis of post-event survey data

## B.4 Post-Event Survey Analysis Findings: Awareness & Event Notifications

Xcel Energy has historically found participant awareness of events to be low and is now considering pre-event notifications. Consequently, Navigant sought to understand how increased awareness through notifications would impact the program. Based on survey responses, participant awareness of events continues to be low and most respondents would be unlikely to change their behavior during the event even if the Company provided a notification. Of respondents who would anticipate changing their behavior in response to a notification, respondent changes to energy use in the home would most likely be related to improving comfort with little change in energy use during the event and the results do not suggest notifications would lead to attrition. Some customers may even take additional action to support Xcel Energy's goals.

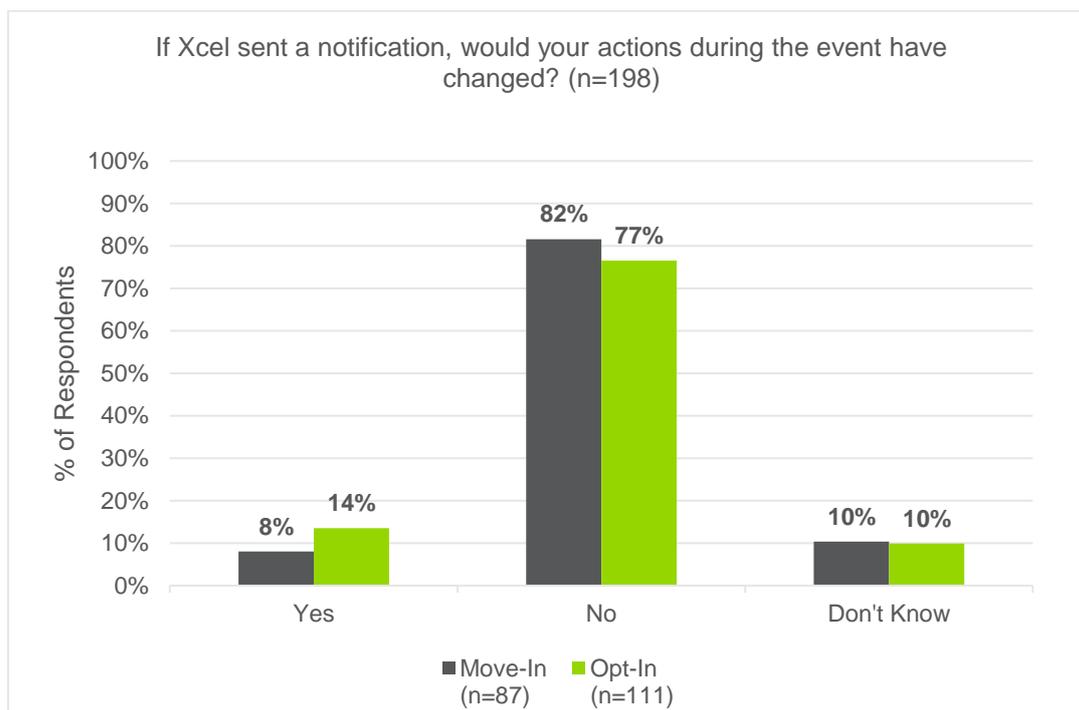
Just 4 percent of event survey respondents reported being aware that Xcel Energy had initiated a Saver's Switch event (n=96), supporting Xcel Energy's assessment that participant awareness is low. Navigant sought to understand how event notifications, and the anticipated potential increase in customer awareness, might influence customer behavior during an event. Only 11 percent of respondents anticipated making changes to their actions to stay cool during a control event if Xcel Energy sent a notification with information about why control events are important to ensuring reliability and reasonable energy prices. The most frequently reported anticipated changes (n=22) included not using large appliances or the AC during the event (2 mentions), avoiding cooking (2 mentions), using fans (2 mentions) and using another air conditioner (2 mentions).

Given this feedback, notifications likely will not impact the behavior of most customers. Of the customers whose behaviors would change, the responses tend to be comfort driven and would likely vary:

- Comfort-driven customers may attempt to pre-cool their home and consequently shift their energy use to an earlier time or increase energy use during the Saver's Switch event to improve their comfort.
- Customers who support Xcel Energy's efforts to ensure reliability and reasonable energy prices may seek additional actions to reduce their energy use.

As seen in Figure B-3, opt-in respondents more frequently reported their behavior would change if they received a notification.<sup>12</sup> Opt-in customers may have indicated this because they would like to be more engaged with the program and may pursue alternatives to using the AC to cool down if they were notified of events.

**Figure B-3. Potential Impact of Notifications on Customer Behavior**



Source: Navigant analysis of post-event survey data

## B.5 Post-Event Survey Analysis Findings: Participant Satisfaction

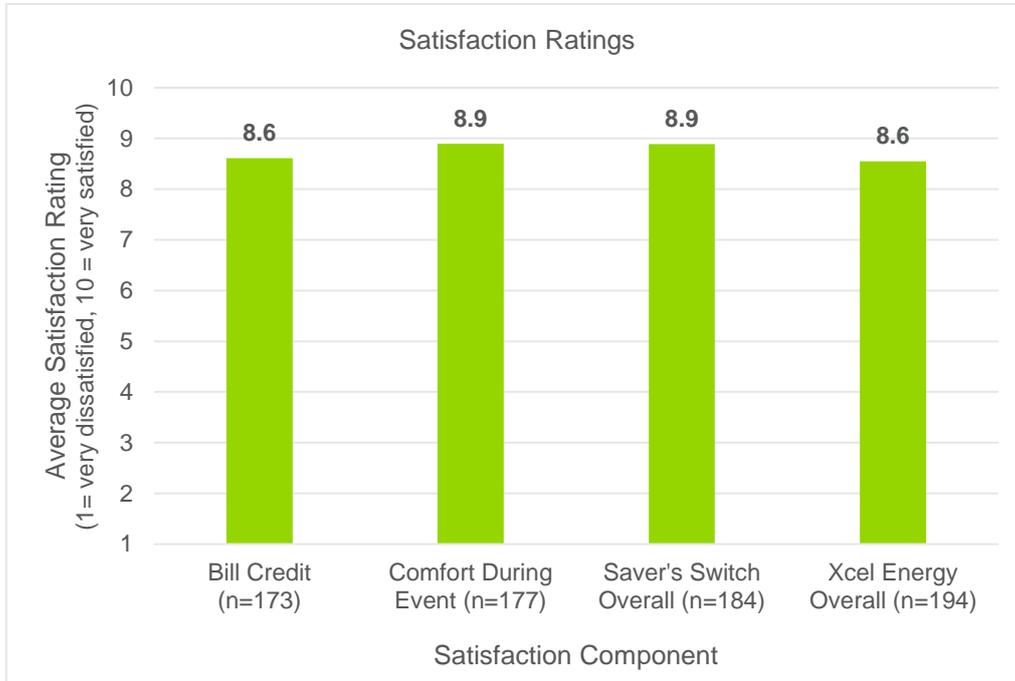
Xcel Energy wants to better understand current levels of participant satisfaction with the Saver's Switch Program and Xcel Energy overall and identify areas of improvement to improve satisfaction. In addition, Xcel Energy has different incentive levels across states and wants to understand whether current incentive levels are appropriate and how decreasing incentives might impact participant attrition. Respondents are satisfied with the program, including the bill credit, and Xcel Energy in general. The survey results suggest the bill credit is a driver for overall program satisfaction, so changes to the bill credit could impact general program satisfaction.

As shown in Figure B-4, participants are highly satisfied on average with bill credits, comfort during events, Saver's Switch overall, and Xcel Energy overall. Of respondents who provided a rating, very few customers reported a satisfaction rating below 5 on a 1 ("Very Dissatisfied") to 10 ("Very Satisfied") scale for all topics: bill credits (15 percent), comfort during events (5 percent), Saver's

<sup>12</sup> The differences between move-in and opt-in customers are not statistically significant based on the Pearson Chi-Square test at a 90% confidence level.

Switch overall (7 percent) and Xcel Energy overall (9 percent). Appendix B.8 includes the distribution of satisfaction ratings for each satisfaction component included in the survey.

**Figure B-4. Average Satisfaction Ratings**



Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

Respondents had the lowest average satisfaction rating with the bill credits and Xcel Energy overall. When respondents who reported low or neutral satisfaction with the bill credit (a rating of 1-6 on the 1-10 scale) were asked for feedback on the rating, they tended to report they preferred higher credit amounts (n=8).

According to verbatims (n=183), respondent satisfaction with the Saver's Switch program overall tends to be driven by the minimal impact the events have on customers (72 mentions) and dollar savings from the bill credit (51 mentions). Consequently, customer sentiment and satisfaction may change as a result of program design changes, such as increasing the length of events or a change to energy bill credits.

Xcel Energy's energy prices both positively (8 mentions) and negatively (12 mentions) influence satisfaction with Xcel Energy in general, according to verbatims (n=213). Respondent satisfaction with Xcel Energy is positively (17 mentions) and negatively (14 mentions) impacted by the number of power outages and the Company's response to power outages.

While the differences are not statistically significant, reported satisfaction differs slightly between move-in respondents and opt-in respondents as shown in Figure B-5, indicating respondent satisfaction is not strongly influenced by whether the current homeowner or participant actively made the decision to enroll in the Saver's Switch program.<sup>13</sup>

<sup>13</sup> Independent-Samples Mann-Whitney U Test used to determine significance at the 0.10 level.

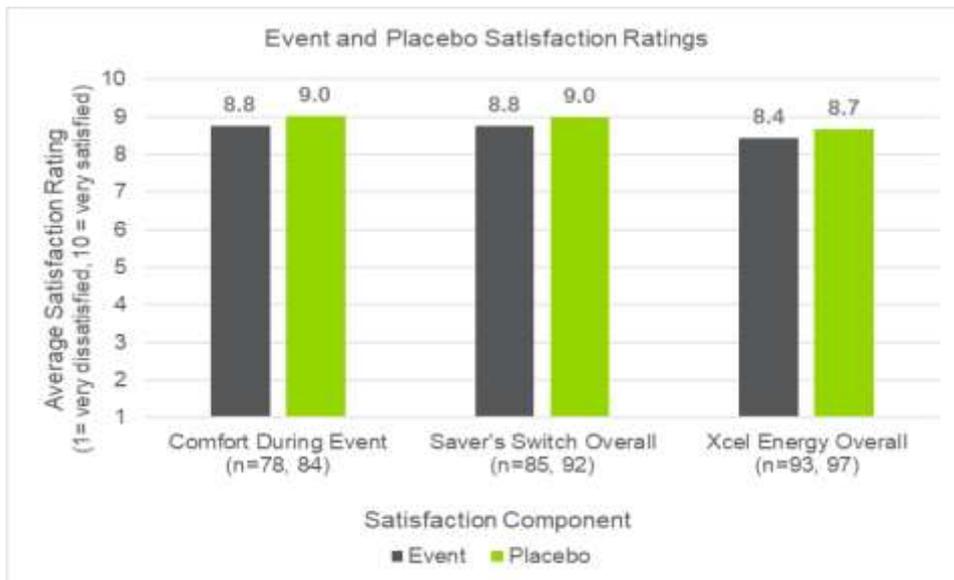
**Figure B-5. Average Satisfaction Ratings, Move-In versus Opt-In (n=move-in, opt-in)**



Note: Excludes respondents who indicated Don't Know or Prefer not to respond.  
Source: Navigant analysis of post-event survey data

Again here, the differences are not statistically significant, though event survey respondents and placebo survey respondents reported differences in satisfaction.<sup>14</sup> As expected, event respondents reported lower satisfaction with comfort during the event than did placebo respondents. This difference in satisfaction between event and placebo respondents also appears in participant satisfaction with Saver's Switch overall and Xcel Energy overall, shown in Figure B-6.

**Figure B-6. Average Satisfaction Ratings, Event versus Placebo (n=event, placebo)**

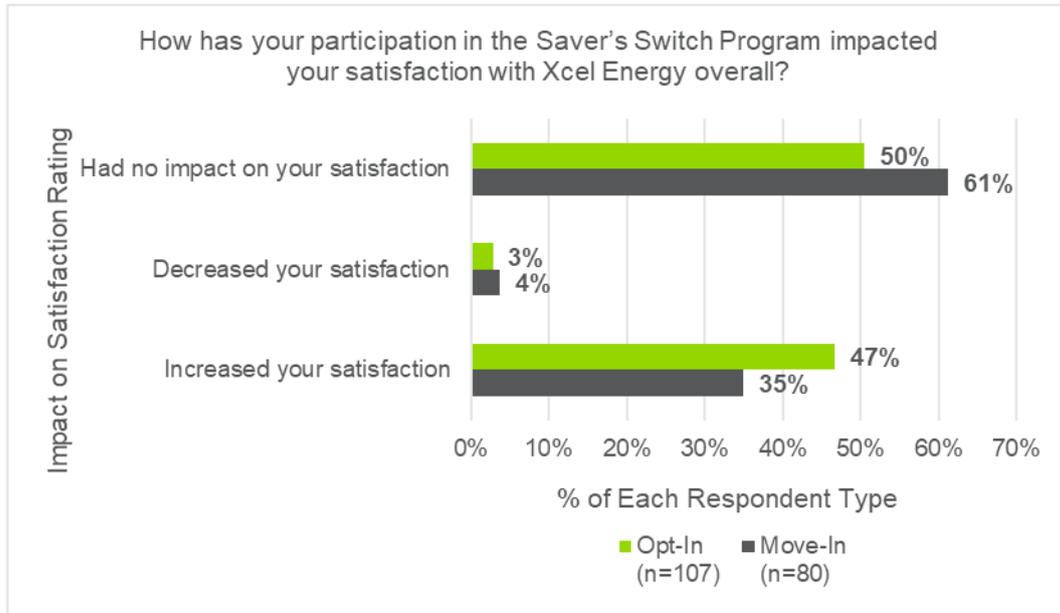


Note: Excludes respondents who indicated Don't Know or Prefer not to respond.  
Source: Navigant analysis of post-event survey data

<sup>14</sup> Independent-Samples Mann-Whitney U Test used to determine significance at the 0.10 level.

Some respondents indicated that their participation in Saver's Switch impacted their satisfaction with Xcel Energy overall. As shown in Figure B-7, over half of respondents indicated no impact, while nearly half indicated their participation in the program increased their satisfaction with Xcel Energy overall. While not statistically significant, opt-in respondents reported participation in Saver's Switch increased satisfaction with Xcel Energy overall more often than move-in respondents.<sup>15</sup>

**Figure B-7. Saver's Switch Participation Impact on Xcel Energy Overall Satisfaction**



Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

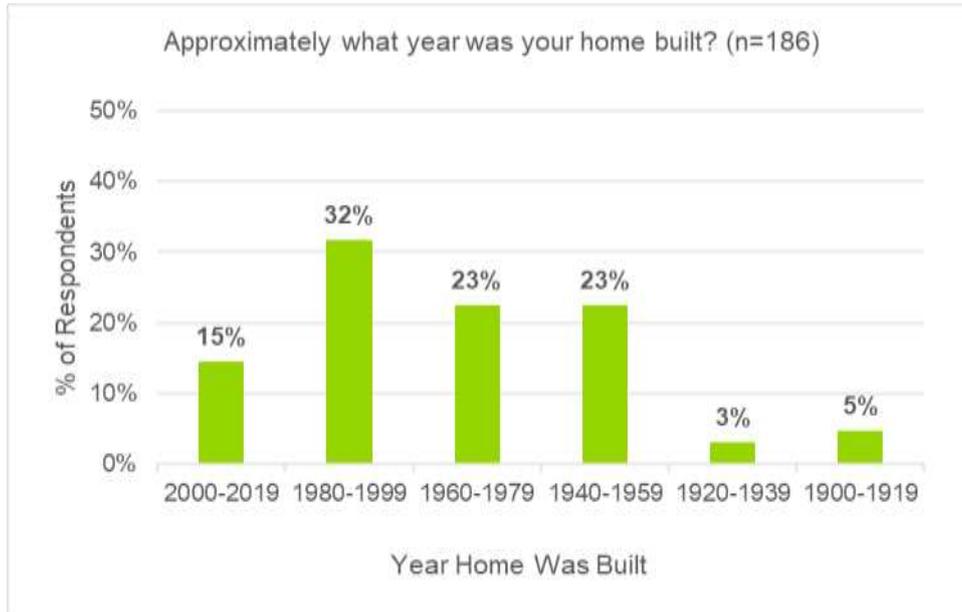
Source: Navigant analysis of post-event survey data

## B.6 Post-Event Survey Analysis Findings: Demographics

The Saver's Switch Program is reaching saturation and Xcel Energy wants to better understand the current participant population to help develop an understanding of ideal program participants and to inform recruitment strategies. Navigant gathered customer demographic information to understand the profiles of program participants. Most respondents, 82 percent (n=197), live in a single-family home. As shown in Figure B-8, 54% of respondents live in a home that is older than 40 years, while just 15 percent live in a home built in the last 20 years (n=186).

<sup>15</sup> The differences between move-in and opt-in customers who reported decreased satisfaction compared to those who reported increased or no effect on satisfaction are not statistically significant based on the Pearson Chi-Square test at a 90% confidence level.

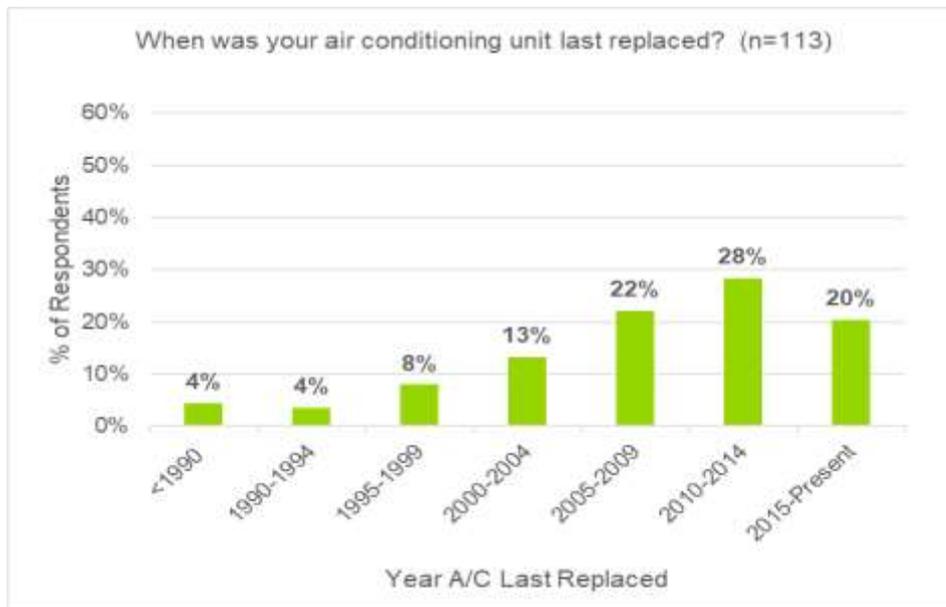
**Figure B-8. Age of Home**



Note: Excludes respondents who indicated Don't Know.  
Source: Navigant analysis of post-event survey data

Sixty-two percent (n=106) of respondents live with one to two people (including themselves) in their home at least six months out of the year. As shown in Figure B-9, 48 percent of respondents (n=55) replaced their AC units in the last 10 years, which may help inform decisions about recruitment not only for Saver's Switch but also for other AC-related programs.

**Figure B-9. AC Replacement**



Source: Navigant analysis of post-event survey data

The appendix includes additional demographics charts related to number of home occupants, approximate home square footage and home type.

**B.7 Post-Event Survey Research Objectives**

The post-event surveys were designed to collect data to inform insights on various topic areas, as outlined in Table B-4.

**Table B-4. Summary of Research Objectives**

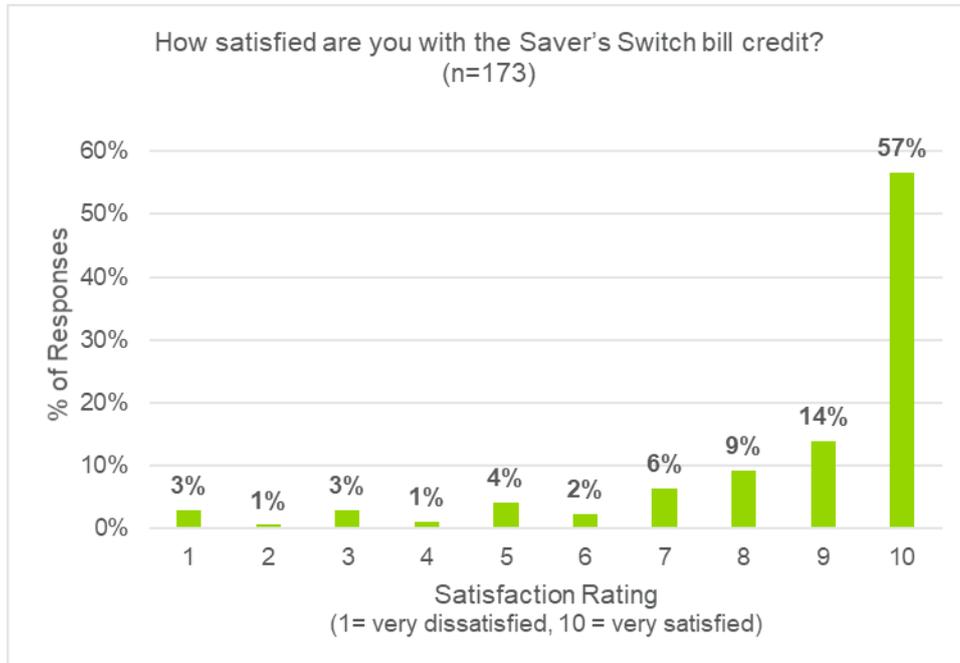
Topic	Research Objectives
<b>Comfort</b>	Navigant collected data on event and placebo survey respondents’ changes in comfort, how the changes in comfort aligned with the event hours and/or peak temperatures, and any changes to typical routines made as a result of changes in comfort. Respondent feedback on these elements can provide insight on the customer experience participating in the Saver’s Switch Program and the associated DR events and help assess the value of increased customer awareness and engagement.
<b>Awareness &amp; Event Notifications</b>	Navigant collected data on event survey respondent awareness of the event and how respondents became aware of the event. In addition, survey respondents provided feedback on how their actions would have changed if they were to receive a notification from Xcel Energy. Respondent feedback on these elements can help inform changes around customer awareness and engagement with the program. These objectives are also researched in more depth in the end-of-season survey.
<b>Participant Satisfaction</b>	Navigant assessed customer satisfaction with specific program characteristics, such as the incentive amounts, the program overall, and Xcel Energy in general. Respondent feedback on these elements can inform opportunities to improve customer satisfaction.
<b>Demographics</b>	Navigant collected data on customer demographics to help Xcel Energy understand what types of customers typically enroll in the Saver’s Switch Program and form a foundation of understanding for targeting customer characteristics for additional recruitment. These recruitment objectives are also researched in more depth in the end-of-season survey.

Source: Navigant

## B.8 Participation Score Distributions

The graphs below show the distribution of satisfaction ratings among respondents.

**Figure B-10. Satisfaction Rating Distribution, Bill Credit**

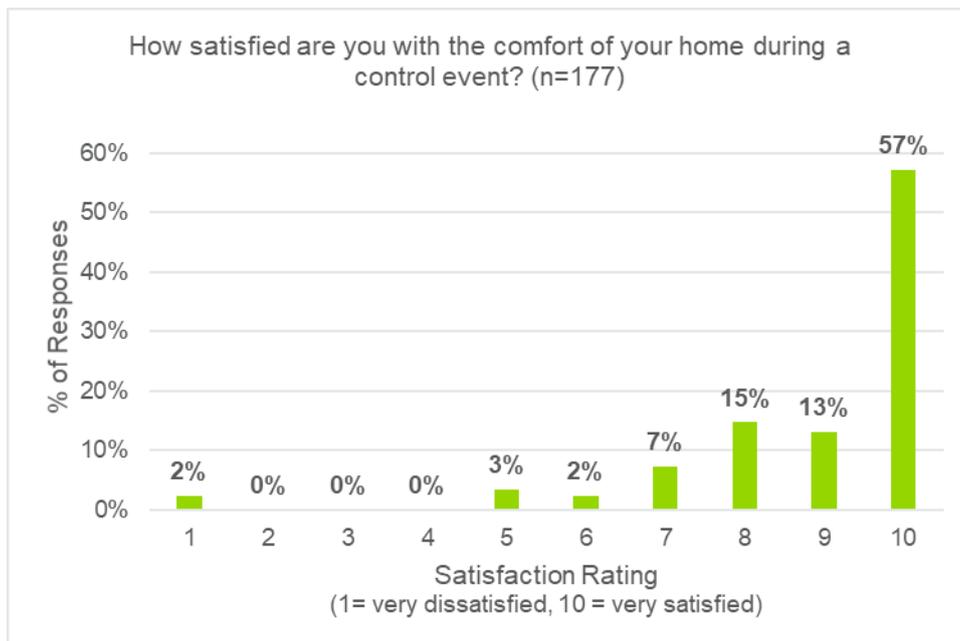


Average satisfaction rating for bill credit = 8.6.

Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

**Figure B-11. Satisfaction Rating Distribution, Comfort**

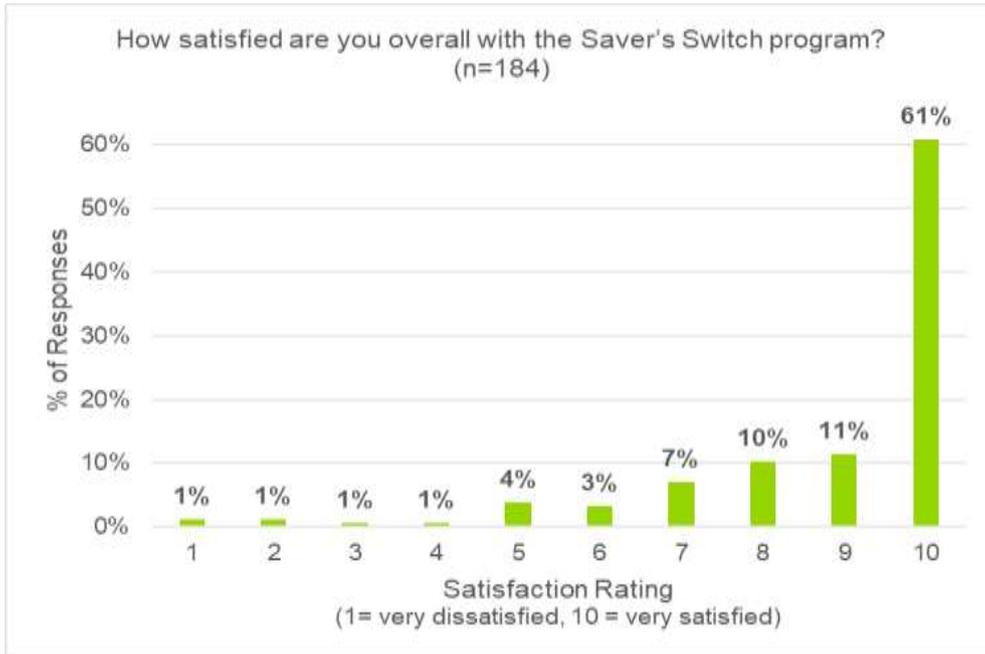


Average satisfaction rating for comfort = 8.9.

Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

**Figure B-12. Satisfaction Rating Distribution, Saver's Switch Overall**

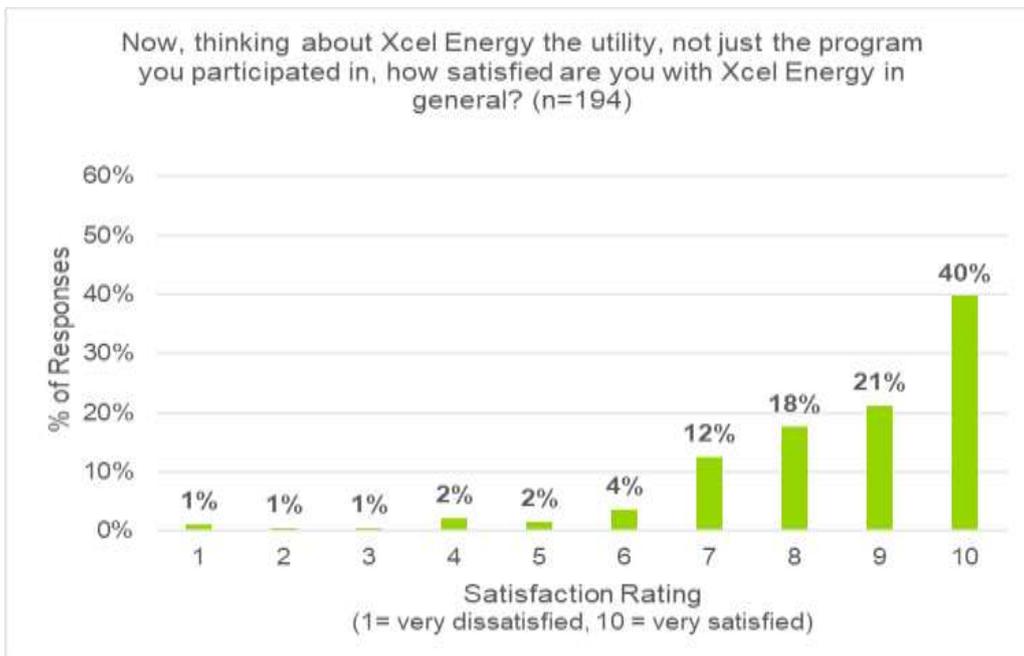


Average satisfaction rating for Saver's Switch overall = 8.9.

Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

**Figure B-13. Satisfaction Rating Distribution, Xcel Energy Overall**



Average satisfaction rating for Xcel Energy overall = 8.6.

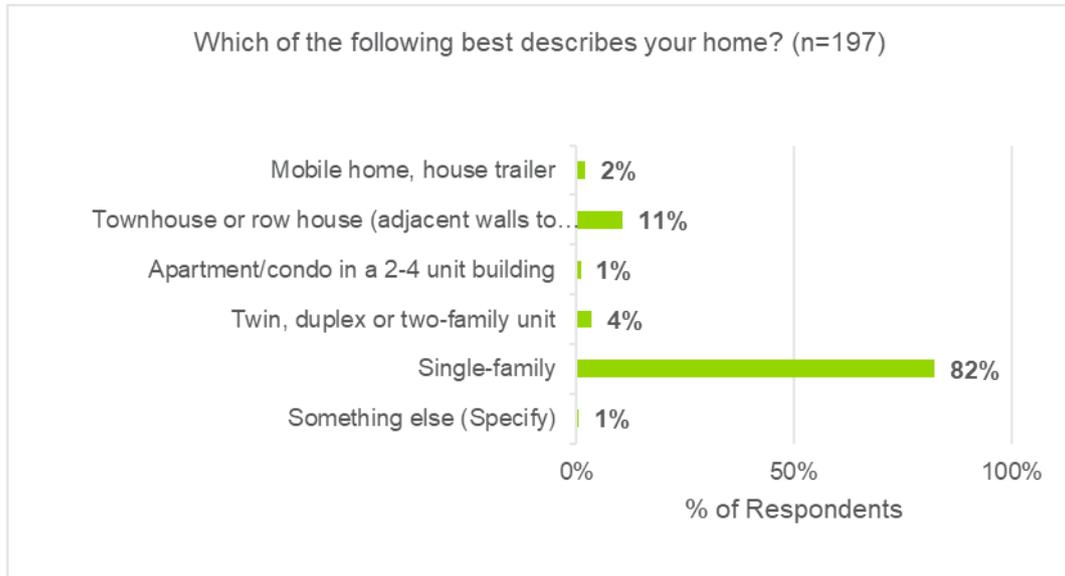
Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

## B.9 Demographic Graphs

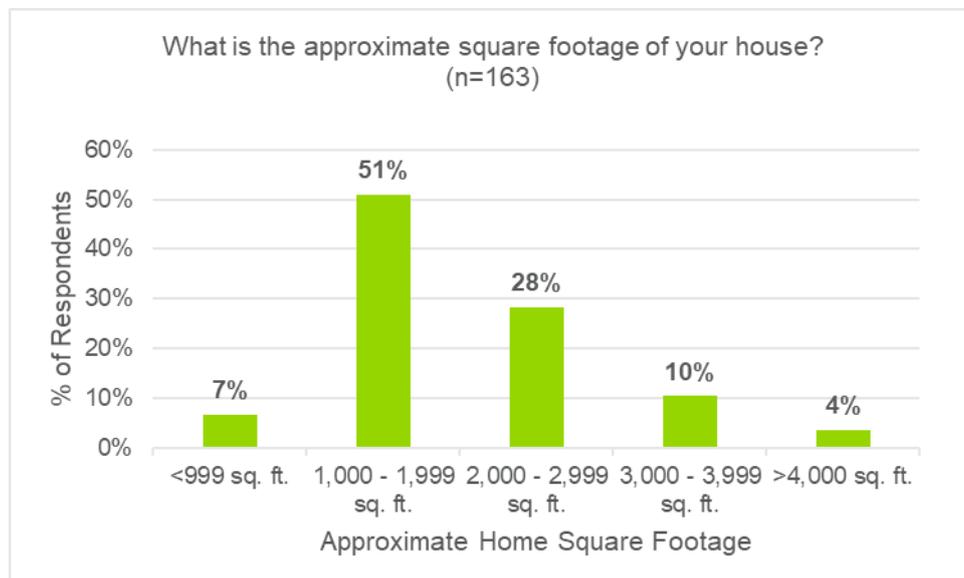
The following figures display demographic information among respondents.

**Figure B-14. Type of Home**



Source: Navigant analysis of post-event survey data

**Figure B-15. Home Square Footage**



Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

**Figure B-16. Home Occupants**



Note: Excludes respondents who indicated Don't Know or Prefer not to respond.

Source: Navigant analysis of post-event survey data

## **APPENDIX C. INTERIM DELIVERABLE: BENCHMARKING SUMMARY**

Navigant conducted five benchmarking interviews and one desk review of peer companies with programs like Xcel Energy's Saver's Switch program, a demand response (DR) direct load control (DLC) program. This document provides a summary of the key findings on program design, recruitment strategies, participant satisfaction, participant event awareness, utilities' cycling strategies, DLC switch operability, and how utilities see DR as a resource now and in the future.

### **C.1 Program Design**

- The DR DLC programs that Navigant analyzed are mature programs, ranging from 9 to 40 years in age.
- In terms of size, the programs vary from 70,000 to 925,000 participants.
- Half of the utilities analyzed serve residential customers, while the other half serve a mix of residential and small commercial.
- The incentive levels of the programs mainly include a combination of a one-time enrollment incentive (ranging from \$25-\$100) and/or yearly bill credits.
- Other program design elements, such as number and duration of events, vary across utilities. Most benchmarked utilities call 2-5 events that last 1-4 hours.

### **C.2 Recruitment**

- Retirees on fixed incomes, residential new construction, and "energy aware" customers are the customer segments most likely to participate in benchmarked utilities DR DLC programs.
- Bill inserts have historically been the most successful recruitment method, with email and social media campaigns, phone banking, and direct mail also among the recruitment strategies used.
- Most utilities identify email and social media campaigns, door-to-door canvassing, and phone banking as their most successful recruitment strategies in recent years.

### **C.3 Participant Satisfaction**

- Residential DLC programs generally have high customer satisfaction. The benchmarked utility programs reported participant satisfaction rates between 75% and 98%.
- Clear communication about program structure in marketing and outreach materials contributes to program participant satisfaction.

### **C.4 Awareness & Event Notifications**

- Most benchmarked utilities prefer low awareness of events among program participants, as they believe this reduces dropout/opt-out rates.
- The utilities provided consistent feedback regarding retention rate, noting that the opt-out rate is correlated with the length and frequency of events; events that are several hours long or on

back-to-back days cause an increase in customer attrition. For one utility, switching to shorter, more frequent events resulted in a significant decrease in the opt-out rate for many of these utilities.

- Despite some attrition across these programs, the overwhelming sense is that most DR DLC customers do not realize an event is taking place. Thus, the utilities, with the exception of one, either do not notify customers of an event or offer notifications on an opt-in basis only.

## **C.5 Cycling Strategies**

- Cycling strategies vary across all six utilities. Utilities use adaptive strategies, cycling dependent on duration of events, fixed cycling percentages chosen by customers, and strategies selected by the utility based on need.
- A single cycling strategy offer provides clarity to customers, reduces administrative burden, and allows for a streamlined marketing approach. However, the utility has less control to scale up the resource if needed.
- While giving customers a choice in cycling strategy can give the utility more control to manage the resource dynamically, it adds complexity to the program design, making the program more difficult for customer comprehension. It also complicates administration and marketing activities.

## **C.6 Switch Operability**

- Four of the six benchmarked utilities have converted from one-way to two-way switches in recent years. Two-way switches provide increased capabilities for monitoring and repair strategy, plus flexibility.
- Of the utilities that reported active identification of switch failure, each utilizes a different monitoring system. Two benchmarked utilities incorporate dashboards or real time data to gauge issues with two-way switches, while another leverages post-event AMI data.

## **C.7 DR as a Resource**

- Event triggers for deploying DR events are similar across the utilities. The most common triggers are emergency, economic, capacity constraints, system integrity, and test events.
- Most of the benchmarked utilities believe DR DLC can play an important role in the age of the modernizing grid, with one utility viewing DR DLC as an insurance program, providing stability to the grid as needed.

## APPENDIX D. DETAILED SUGGESTIONS FOR PROGRAM IMPROVEMENT

The following tables summarize Navigant's suggestions for program improvement organized by high, moderate and low priority. For each initiative, the table lists relative indications of cost and Xcel Energy staff time and effort. The Saver's Switch program is well established; as such, many of these suggestions are minor modifications for improvement.

Table D-1. High Priority Initiatives

Research Objective	Initiative	Cost <sup>1</sup>	Staff Time/ Effort <sup>2</sup>
Recruitment	<b>Improve screening for central AC</b> during enrollment by: <ul style="list-style-type: none"> <li>Assessing the call center script to identify opportunities to improve screening questions.</li> <li>Adding more detailed checkboxes and visual aids to the online enrollment form.</li> </ul>	\$	†
	<b>Emphasize key program benefits in marketing messaging</b> with a focus on the benefits most important to recent Saver's Switch enrollees in Minnesota: financial benefits and helping Xcel Energy maintain grid reliability.	\$	† †
Interaction with AC Rewards	<b>Define target customer segments and geographic areas</b> for Saver's Switch and AC Rewards through a billing analysis or GIS participation mapping.	\$\$	†
Participant Satisfaction	<b>Start to test Saver's Switch customers with different event characteristics</b> in advance of changes to the way Xcel Energy calls events, including event frequency and duration.	\$	† †
	<b>Avoid back-to-back event days</b> ; instead, attempt to call more frequent, shorter events to maintain high customer satisfaction and prevent attrition.	\$	† †
Incentives	<b>Implement a fixed monthly incentive</b> throughout the cooling season.	\$	† †
	<b>Use on-bill messaging to highlight when the bill credit is applied</b> to ensure customers are aware of when the bill credit is applied and can attribute the savings to Saver's Switch.	\$\$	† †
	<b>Maintain one cycling strategy and incentive structure</b> to ensure the program is easy for customers to understand.	\$	† †

<sup>1</sup>Cost Estimate

\$ = Little or no financial outlay required

\$\$ = Modest expenditure

\$\$\$ = Major investment

Source: Navigant

<sup>2</sup>Staff Time/Effort Estimate

† = Minimal effort required

† † = Moderate time commitment

† † † = Significant impact on staff responsibilities

**Table D-2. Moderate Priority Initiatives**

Research Objective	Initiative	Cost <sup>1</sup>	Staff Time/ Effort <sup>2</sup>
Recruitment	<b>Explain the benefits of a Saver's Switch-enrolled home to move-in<sup>16</sup> customers</b> when they turn on their electricity service, either by phone or online. Highlight that the customer has skipped the installation appointment, saved time, and is automatically signed up for the bill credit. Emphasize the bill credit and grid reliability.	\$	†
	<b>Improve program education for move-in participants</b> by including a QR code on move-in outreach letters to direct move-in customers to the Saver's Switch Frequently Asked Questions webpage. Offer customers the option to provide their email address on this page for further engagement. Alternatively, a special webpage for move-in customers could be created and provided with move-in-specific communications.	\$-\$	† †
	<b>Shift to digital media-heavy outreach</b> to attract customers who prefer email communication and online information.	\$\$	† †
Incentives	<b>Send a thank you letter to participants</b> at the end of the cooling season summarizing the program's collective savings.	\$\$	†

<sup>1</sup>Cost Estimate

\$ = Little or no financial outlay required

\$ \$ = Modest expenditure

\$ \$ \$ = Major investment

Source: Navigant

<sup>2</sup>Staff Time/Effort Estimate

† = Minimal effort required

† † = Moderate time commitment

† † † = Significant impact on staff responsibilities

<sup>16</sup> Move-in respondents refer to respondents who moved into a home with a Saver's Switch previously installed, while opt-in respondents refer to respondents who actively enrolled in the program.

**Table D-3. Low Priority Initiatives**

Research Objective	Initiative	Cost <sup>1</sup>	Staff Time/ Effort <sup>2</sup>
Pre-Event Notifications	<b>Explore opportunities to offer opt-in pre-event notifications and limit marketing for this option</b> to provide value to the small number of customers that request it while avoiding negative impacts on current customer sentiments and attrition rates.	\$\$	† †
	<b>Pair with customer education</b> on why the notification is being offered and suggested actions customers might take in response to the pending event.	\$	†
	<b>Provide a program fact sheet or bill insert</b> (email for paperless customers) that includes the new opt-in notification process.	\$	†
	<b>Update the call center script</b> to include the opt-in notification process.	\$	†
Participant Satisfaction	<b>Provide customers a thank you gift</b> (e.g., a free LED light bulb, an Xcel Energy-branded LED night light) if there is customer pushback for being present during the switch upgrade.	\$	† †

<sup>1</sup>**Cost Estimate**

\$ = Little or no financial outlay required

\$ \$ = Modest expenditure

\$ \$ \$ = Major investment

Source: Navigant

<sup>2</sup>**Staff Time/Effort Estimate**

† = Minimal effort required

† † = Moderate time commitment

† † † = Significant impact on staff responsibilities