

DTSC Findings and Comments
Outreach Plan for the Collection of Mercury Added Thermostats in California
And
Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

Purpose and Background

On May 10, 2016, the Thermostat Recycling Corporation (TRC), on behalf of the thermostat manufacturers (and Respondents) to the Consent Order signed by the manufacturers and DTSC effective February 10, 2016, submitted an "Outreach Plan" and a "Pilot Project Plan" prepared by S. Groner Associates, Inc. (SGA). The plans were submitted as required by the Consent Order.

The Outreach Plan and Pilot Project Plan are discussed in detail in Exhibit B of the Consent Order. As excerpted from the Consent Order:

B-1.3. Outreach Plan.

B-1.3.1. Within ninety (90) days of the Effective Date of this Order, Respondents shall develop and submit to the Department for its review and approval a draft Outreach Plan. The goal of the plan is for the Respondents to make contact with persons, entities or businesses that may generate or collect mercury-added thermostats (at a minimum, the list in Exhibit A) for purposes of increasing Program participation so that the number of collected mercury-added thermostats increases. The activities in the Outreach Plan shall be designed to provide education about the Respondents' collection program and to engage and secure the participation of additional Program participants from the potential Program participant groups listed in Exhibit A. The outreach activities described in the Plan are to include provision of materials and program engagement tools developed for each potential Program participant and outreach timelines for each participant, and must seek the placement of additional bins to collect mercury-added thermostats from the identified Program participants. The draft Outreach Plan shall include a proposed implementation schedule which shall begin no later than sixty (60) days after submittal of the draft plan to the Department.

B-1.4. Pilot Project Plan.

B-1.4.1. Within ninety (90) [days] of the Effective Date of the Order, Respondents shall develop a Pilot Project Plan that includes a sufficient variety and number of pilot projects designed to assess the effectiveness of the use of monetary and other incentives to increase Program participation and the number of mercury-added thermostats collected. The Pilot Project Plan shall be informed by the results of Respondents' implementation of its Outreach Plan to the extent practicable. The Plan shall include a reasonable assortment of pilot projects that assess the use of monetary and nonmonetary incentives of different values with different program participants, and may differentiate the timing of the receipt of the incentive (immediate versus delayed). Examples of possible pilot projects include: (a) a cash payment or purchase price discount for large HVAC contractors eligible to receive a TRC collection box (those with seven or more technicians); (b) a cash payment or purchase price discount for consumers on any item purchased at the retail location for every mercury-added thermostat returned; or (c), a cash payment for each mercury-added thermostat submitted to household hazardous waste collection facilities. The Pilot Project Plan shall also include a proposed schedule for implementation of the pilot projects described therein which shall begin no later than sixty (60)

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

days after submittal of the draft plan to the Department. The pilots specified in this subsection shall continue for a minimum of one year, to take into account any seasonal changes associated with mercury-added thermostat replacements.

DTSC's Comments

DTSC's comments on the Outreach Plan and the Pilot Project Plan are presented as both general comments that pertain broadly to both of TRC's/SGA's submitted plans, as well as specific comments related to the plans and their component elements.

General Comments

The plans were clearly influenced by a number of factors that formed the basis for assumptions that were made and the strategies that were chosen, and the basis for those assumptions may not have been based on an accurate understanding of the Consent Order or DTSC's expectations. DTSC's first comments pertain to these apparent influences.

Influence of Available Time and Resources

The development of the plans appears to have been primarily influenced by the time available to develop the plans. There were repeated references in the plans to the deadlines and timelines listed in the Consent Order, as well as concerns about the concurrent deadlines for delivery of both plans. There were also a number of references to the strategies presented in the plans being dictated by limits on available resources. The effects of these influences appears to have resulted in several decisions by TRC/SGA that DTSC believes severely limited the scope of the plans and the potential effectiveness of the planned efforts. For example, due to the constraints, TRC/SGA apparently decided to combine or meld the outreach and pilot activities into a single plan, with the outreach plan largely centered on research of a single geographic area, focused on pilot approaches designed to focus on specific groups.

Another concern expressed about time was the perceived need to implement and complete all activities in both the Outreach Plan and the Pilot Project Plan in time for the Program Modification Plan to be prepared (required within 240 days of the effective date of the Consent Order). DTSC notes that the required Program Modification Plan is mandated to include only those modifications that TRC is proposing that it can justify, but is only required to take into consideration the information and data gathered in implementing the Outreach Plan and the Pilot Project Plan, "to the extent such data are available." Given the timing of the Pilot Project Plan (with pilot projects mandated to be implemented for one year) and the Outreach Plan (with an as yet undetermined and unproposed timing or schedule), it is likely that the mandated Program Modification Plan will need to be developed using information that may not have come through the implementation of the Outreach Plan or the Pilot Project Plan (see Paragraph B-1.5.1 of Exhibit B of the Consent Order). To the extent that information from the implementation of the Outreach Plan or the Pilot Project Plan becomes available after the Program Modification Plan, DTSC could require TRC to modify its program to incorporate the additional information (see Paragraph B-1.5.3 of Exhibit B of the Consent Order). Essentially, while establishing a schedule for implementation of the plans is important, it is not as severe a limitation as may be perceived.

DTSC Findings and Comments
Outreach Plan for the Collection of Mercury Added Thermostats in California
Pilot Project Plan for the Collection of Mercury Added Thermostats in California
July 8, 2016

Timing and Schedule

Although both draft plans referred to “tactical” activities, neither plan provided any information on the timing of the activities or a schedule for implementation of the activities presented. Absent information as to the timing or sequencing of the activities proposed in the plans, it is impossible for DTSC to fully evaluate what might be expected in terms of outputs or outcomes, and it is also impossible for DTSC to forecast whether implementation activities are occurring in accordance with the plan.

Combination of Plans

The draft Outreach Plan is presented as a proposal for implementing the Pilot Project Plan rather than a comprehensive statewide effort to engage, at a minimum, the potential participants listed under Exhibit A of the Consent Order. It is also interesting to note that in the draft Outreach Plan, TRC/SGA essentially dissected the Consent Order provisions related to the Outreach Plan (paragraph *B-1.3. of Exhibit B*) into 11 discreet objectives, then immediately disregarded the set of objectives. The objectives were then replaced with an objective for outreach that is much narrower than the Consent Order intended: “to make contact and initiate partnerships with potential program participants **to create effective pilot projects.**” While it is accurate to say that the Pilot Project Plan is intended to be related to the Outreach Plan, the submitted plans essentially present the relationship backwards. TRC/SGA presents the Outreach Plan as assisting in creating the pilot projects, rather than, as stated in the Consent Order, the pilot projects being informed by “**the results of Respondents’ implementation of its Outreach Plan**” [emphasis added]. DTSC recognizes the challenges that the concurrent timing within the Consent Order presents, essentially allowing no time to implement the Outreach Plan before the Pilot Project Plan was to be submitted. However, the strategy of presenting the plans as a combined effort and product, with no separate outreach efforts presented that were not related to the pilot projects, is not only inconsistent with the requirements in the Consent Order, but it also resulted in a difficult to understand set of activities, timelines, and metrics relative to each plan. This concern was discussed with TRC/SGA earlier in the year, before the plans were prepared and submitted. DTSC suggested at that time that the Pilot Project Plan might be presented in phases, where the first phase might involve data gathering for incentive programs that TRC/SGA already has in place, testing different monetary values or testing other variables to determine the effectiveness of those programs.

Program Participants

Based on the information presented in the Outreach Plan (including and especially the “questionnaires” provided in the plan Appendix) it appears that TRC/SGA is too narrowly defining or applying the term “program participant.” In a strict sense, DTSC agrees that program participants would be those who directly engage with the program and either generate mercury containing thermostats or host a TRC collection bin to receive those thermostats. However, as evidenced by the types of entities that are listed in Exhibit A of the Consent Order, DTSC envisioned program participation much more broadly, to include any entity that might influence the management of mercury thermostats. The list in Exhibit A includes a variety of different participant types, including entities whose activities might serve to take them out of service and

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

become available for collection (e.g., utility companies) and entities that may develop or enter contractual or other types relationships with those who might manage thermostats (e.g., any of the listed entities that outsource installation or removal, including school districts, property management companies, hotel/motel managers, universities and colleges, or others) and therefore be in a position to influence their management, and those who could serve as conduits of TRC information (e.g., local building departments or retailers). TRC's narrow focus is most notable in the Questionnaires developed for engagement with potential program participants. In a large number of these tools, the question was posed as to whether the person providing the information "outsourced" thermostat management. If the respondent replied affirmatively, the interview or survey ended rather than following up with more specific questions related to the nature of the contractual agreement, the specific terms of the contract, whether requirements for the management of thermostats or other hazardous materials is directly addressed within the contract, and whether and how compliance with contract requirements was monitored or documented. DTSC encourages TRC to incorporate a broader perspective in its development of its outreach efforts and ultimately in the implementation of its collection program. DTSC believes that for TRC to be successful in collecting the required number of thermostats, it will need to more fully and aggressively engaged with all entities that in any way influence decision making related to mercury thermostats.

Data and Metrics

DTSC, not only in its past comments on TRC's Annual Reports, but also repeatedly throughout its discussions with the manufacturers during the negotiation of the February 10, 2016 Consent Order, stressed the importance of gathering data and metrics that could be used to inform program decisions. The data that DTSC explained would be most helpful would be data that related the performance of the overall collection program (i.e., collection of thermostats) with the discreet program elements being performed. In the tables entitled "Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans," TRC has presented metrics that can be related only to the plan activity itself, and not to the overall operation of the program. For instance, metrics listed include number of potential program participants contacted, number of brochures/information distributed, associations contacted, and number of web site "hits." This type of "metric" may be useful in a limited sense, to document the level of effort in implementing the plan, but it is largely of no value in understanding whether any of the efforts in implementing the outreach or the pilot activities has a measurable effect on the number of thermostats being collected, or the number of participants willing to host TRC/SGA bins. Taken a step further regarding the Pilot Project Plan, none of the metrics listed measures the incentive variable that is the subject of the pilot. The plans will not succeed in providing TRC the information it needs to validate its program efforts, or to serve as a basis for program modifications. As such, implementation of both plans as presented will not provide TRC the information it will need to prepare the required Program Modification Plan.

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

Level of Effort and Urgency

The Consent Order did not affect or displace DTSC's collection rate requirements in its mercury thermostat collection regulations (see California Code of Regulations, Title 22, Section 66274.5 Annual Collection Rate Performance Requirements, subdivision (a)). Since 2013, when DTSC's regulations became effective, TRC and the manufacturers have not collected the required number of thermostats. The Consent Order was negotiated and entered into as a result of TRC's failure to collect sufficient thermostats in 2013 or 2014 (TRC reported collecting 13,655 thermostats in 2013, as compared to the requirement to collect 32,550 thermostats for that year, and reported collecting 22,453 thermostats in 2014, as compared to the requirement to collect 95,400 thermostats for that year). It is also important to note that on April 1, 2016, TRC reported collecting 18,260 thermostats in 2015, as compared to the requirement to collect 113,850 thermostats for that year (DTSC is developing a separate response to TRC's 2015 collection performance). TRC's collection of thermostats has not only been significantly below the required number each year, but the number it collected in 2015 is well below the number it collected in 2014. Absent a dramatic change in direction and/or approach by TRC, its collection of thermostats in 2016 is forecasted to again be significantly below its requirement to collect 131,300 thermostats. Given the past performance of the program and the continuing collection requirement, DTSC expected the submitted plans to propose activities that would be more aggressive and dramatically different from historic activities and level of effort.

The plans presented are largely focused on TRC's stated intention to fulfil compliance with the Consent Order, but failed to present activities that acknowledged the significant past deficiencies in collections performance and the increasing performance requirement in the current and future years. The draft plans submitted by the manufacturers were severely limited in scope (geographically as well as in proposed engagement activities with potential participants, discussed further below) and lacked schedules or implementation timelines that could be used to gauge when and how the information to be obtained through outreach would be available to help guide subsequent efforts (also discussed further below). DTSC's concern is that TRC, if it is limiting its efforts to the activities described in the plans as well as the activities described in its Annual Report for 2015, is highly unlikely to achieve an appreciable increase in program participants or ultimately in the number of mercury-added thermostats collected. It may continue the trend of decreased collections reported for 2015.

While DTSC does appreciate that the approach presented in the plans could serve to gather some useful information that may be needed to guide collection program decisions (discussed further below), the activities are not robust or aggressive enough to achieve compliance with the regulations. An incremental and methodical approach, focusing on limited geography at first to gather information that can be used to inform subsequent decisions to expand efforts more broadly may be a valid approach for the development of a new program with no prior experience either in California or other states. However, it is an approach that TRC cannot afford to take now, nearly 8 years after California's statute has been enacted, and over 3 years since the collection regulations have taken effect. In revising the plans, TRC/SGA must present strategies that can fulfill multiple goals simultaneously rather than sequentially or incrementally,

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

and must look not only to its past experience and efforts in California and other states, but also to other end-of-life product collection programs for insights and examples.

Additional Potential Plan Elements

DTSC also suggests that TRC/SGA review the Product Stewardship Institute's recently released best practices guide (entitled "LESSONS LEARNED: Voluntary Mercury Thermostat Take-Back Programs") for ideas to integrate into its plans.

Detailed Comments

DTSC offers the following detailed comments first for the Outreach Plan, followed by detailed comments on the Pilot Project Plan. The comments are presented in the order of the component sections of the presented plans. All of the detailed comments should be read in the context of the General Comments provided above.

Comments on the Draft Outreach Plan

Approach to Overall Program Design

- The plan defines the overriding goal of the Program (which DTSC interprets to mean TRC's collection program and not the outreach or pilot studies) as "creating a systematic approach for finding effective ways to educate and move to action multiple audiences to recycle mercury thermostats in California," and lists four component design tasks to achieve the goal. Only two of the design tasks TRC/SGA has identified (audience identification and outreach to audiences to yield increased collection sites and greater awareness of their availability) are in line with that goal. The other two (determining locations with higher-than-average probability of having as-yet-unrecycled mercury thermostats and determining which of the potential program participants are most likely to yield significant numbers of mercury thermostats for the purpose of designing appropriate pilot projects) do not align with this overarching goal, but serve to narrow the focus in line with the later decisions made to limit the outreach efforts and the geographic focus for the pilot projects.
- The plan presents a determination made by TRC/SGA "that outreach would be best guided by a two pronged approach (broadly to engage potential program participants at the state, regional, and county associations/organizations level, and concentrated at a targeted city level)," but does not provide the reasoning behind that determination nor how that determination would serve to contribute to TRC's overall collection requirement for 2016 and future years.
- The broad engagement referenced above is limited to only HHW collection facilities and large contractors (HVAC, General and Demolition), so it in actuality it is not as broad as represented. DTSC believes that all of the 14 potential program participant groups are present and broadly distributed throughout the state, not only the HHW facilities and contractors, and any "broad engagement" needs to include all of the groups.

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

Single City vs. Multi-City Approach/Location Criteria

The plan discusses the selection of the geographic location, and ultimately the single city, that TRC intends to target with its “integrally woven” outreach and pilot efforts. DTSC does not dispute the method by which TRC has derived the target city, and does not disagree with the identification of San Bernardino as fitting the criteria presented. DTSC does not agree, however, with the plan’s proposed focus on a single city given the need of TRC’s collection program to not only comply with the Consent Order, but also with the 2016 and future years’ collection requirements. The incremental, single city approach to learn about participant groups and participant behavior being proposed will take a significant amount of time to implement, learn from and reach a point of expansion to other geographic areas; TRC’s collection requirements do not afford the time for TRC/SGA to slowly and methodically implement this strategy. Discussed later, a targeted geographic approach may be more appropriate in conducting pilot projects and measuring differences between incentives and participant groups.

Purpose of the Outreach Plan

The Outreach Plan states that its purpose is to explain the engagement component of the Program (again unclear as to whether this term refers to TRC’s collection program as a whole, or only the outreach activities being described in the plan), to show how the Outreach Plan is to be conducted in tandem with the Pilot Project Plan. This stated purpose is inconsistent with the Consent Order and the purpose for the Outreach Plan that is described in Paragraph B.1.3 of Exhibit B. TRC/SGA chose to redefine the purpose of the Outreach Plan, and limit its scope to its operation in relationship with the Pilot Project Plan, rather than develop a plan that meets the requirements of the Consent Order.

Figure A - Outreach and Pilot Project Plan Sequencing

Figure A is confusing and inconsistent with information presented prior to the Figure. On one hand, throughout the sections leading up to the introduction of the Figure, the plan discusses how the Outreach and Pilot Project Plans are “integrally woven,” yet the Figure presents the activities as separate and distinct, and the sequences in each of the parallel tracks displayed show no indications of intersection or interrelationship, let alone integral weaving.

Goals of the Outreach Plan

The Outreach Plan duplicates Paragraphs B-1.3.1 and B-1.3.2 from Exhibit B of the Consent Order, without further discussion or offering any additional information or explanation. It is unclear whether DTSC should infer from this presentation that the goals of the Outreach Plan are defined by the language in the Consent Order.

Objectives of the Outreach Plan

The plan breaks out the elements of Paragraphs 1.3.1 and 1.3.2 of Exhibit B of the Consent Order, which appears to be a reasonably accurate restatement of those paragraphs. This listing is not used or referenced, so the purpose for its inclusion is not apparent.

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

Outreach Development and Implementation

This section of the Plan appears to disregard the Objectives listed in the prior section, but rather serves to severely narrow the purpose of the outreach development and implementation to “creating effective pilot projects.” Essentially, the presentation of this information confirms that the Outreach Plan, as presented, is a significant departure from the objectives for the Outreach Plan that were readily identifiable, as presented in the previous section, within the Consent Order language.

Activities

A list of “step-by-step” activities is presented as having already been performed, or that are to be performed when the plan is implemented. None of the activities are noted as to which may have already been performed or have yet to be. None of the activities includes any indication of timing or scheduling, or how long any of the proposed steps will take to complete. The activities are not presented with sufficient detail to be able to determine the level of effort they represent, or to be able to gauge their anticipated effectiveness. DTSC understands that TRC/SGA could not have anticipated the amount of time needed for DTSC to communicate its response to the Outreach Plan, but DTSC has no way to evaluate the remainder of the “steps” presented or to what extent they will be effective at fulfilling the goals of the Outreach Plan as established in the Consent Order.

Scope of Plan

The scope of the plan is stated as an objective of the project (or should this be “Program” as referenced previously, or the Plan?), not as a scope. This section affirms that its “objective” is to increase the collection of mercury thermostats and to target potential program participants that DTSC provided to TRC and the manufacturers in Exhibit A of the Consent Order. The remainder of the plan and the activities listed do not align with this stated “scope,” so its inclusion in the Plan is unclear.

Location Criteria

The Plan discusses the criteria used to identify the single city that TRC/SGA intends to target through the Plan’s implementation. DTSC has previously discussed its concerns with TRC’s/SGA’s intention to target its outreach on a single city for the large proportion of potential program participants. DTSC’s only additional comment on TRC’s/SGA’s presentation of information in this section is that the purpose for including ethnicity as a criterion for selection is not clear. Apart from assisting in the understanding of different languages it may be necessary for TRC to communicate in or to produce educational materials, the inclusion of ethnicity is not supported nor does it appear warranted.

Strategy

The Plan includes a set of five strategies that it presents as components. The strategies are basic elements, and contain no details as to how each will be executed, the timing by which each is to be accomplished, or whether each strategy applies to the group as a whole or to individuals

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

within the group. The Plan goes on to present tactical breakdowns (as tables) for each of the potential program participants.

Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans (as presented in Tables)

The plan presents tables, which appear to combine the activities from both the Outreach and the Pilot Plans. Tables were presented for the following “target audiences:”

- Household Hazardous Waste Collection Facilities
- HVAC Contractors
- Demolition Contractors
- General Contractors
- Local Building Departments
- Utility Companies
- School Districts
- Property Management Companies of Multi-Family Housing Developments
- Property Management Companies of Commercial / Industrial Properties
- Hotel / Motel Managers and Maintenance Companies
- Consumers
- Retailers
- Universities and Colleges
- Any other group who may handle mercury-added thermostats

DTSC has numerous comments and observations on each of these tables, but the content of many of those specific comments are largely found in DTSC’s various general comments presented in this document. The primary overarching comments that DTSC offers on these tables include:

- 1) None of the information in the tables provides sufficient detail to be able to understand or assess the activities presented, nor to predict the impact or effectiveness of the activities they represent.
- 2) The metrics identified are primarily implementation metrics (how many contacts made, how many brochures distributed, etc.) very few (with the exception of Household Hazardous Waste Collection Facilities, Consumers, and Retailers) identify quantity or number of thermostats collected as a pilot project metric. The metrics identified are measurements of the progress of efforts related to each program participant.

Tactic-related Specifics

These are presented as pertaining solely to the outreach activities, but as described below, many are specific to the incentive elements that are proposed to be implemented. More critical is that these items are presented, and incentives proposed, without providing rationale, and without proposing outreach steps that would serve to educate and inform TRC/SGA of who to contact, how they may or may not be involved in thermostat management, what their decision making process is as it relates to thermostat management, and from that information, how to

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

influence their management of thermostats to divert them to TRC's collection program. The information that follows is very general and not useful, given its lack of basis or informed rationale.

- **Messaging**
The plan lists "messaging themes" that are intended to be used to "engage and secure participation," and states that these themes must "resonate with the potential program participants." The plan goes on to list eight different themes (essentially incentives) that are to be used, although only one (Cash-by-mail) is associated with any of the potential program participants (General, HVAC and Demolition Contractors). No method is presented for assigning or aligning the identified messaging themes to any potential program participant group, nor are the messaging themes specifically mentioned or referenced in the tactical breakdown tables.
- **Program Materials**
A list of examples of program materials is provided. The materials listed are very generic, and include typical advertising and information dissemination materials. No examples of any of these materials was provided, nor were any examples shown for how the materials would or could be tailored to specific potential program participants. Again, no method is presented for assigning or aligning the identified program materials to any potential program participant group, nor are the program materials specifically mentioned or referenced in the tactical breakdown tables (other than as a general reference).
- **Engagement Tools**
A list of engagement "tools" is provided, but depending on what the term "engagement" is intended to mean, the list is a combination of materials that are simply reference materials (e.g., Contact lists), methods or tools that can be used to either collect information or communicate information, or more formal relationship establishment tools (e.g., TRC Participation Form/Agreement). The reference materials are so generic and absent of details as to be of no value in the plan. The TRC Participation Form/Agreement does not appear to be engagement related, but would be used at a later stage in the interaction between TRC/SGA and the participant. Finally, again no method is presented for assigning or aligning the identified engagement tools to any potential program participant group, nor are the engagement tools specifically mentioned or referenced in the tactical breakdown tables (other than as a general reference).

Proposed Overview Schedule for Implementation

The proposed "overview" schedule is just that, extremely high level and overview. Apart from a very general reference to the activities in the plan as a whole, it contains no detailed information or schedule for where, when and how any of the plan's components will be implemented.

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

Limitations

The Outreach Plan lists a number of limitations that serve to inform its development and subsequent implementation.

- The first two limitations listed are one and the same – both reflect the concerns with the inability to conduct outreach first that would serve to inform the Pilot Project Plan. DTSC recognizes this challenge, but has also communicated with TRC/SGA that in light of the schedule, there are other strategies that TRC/SGA could employ in developing the plans, especially the Pilot Project Plan, to reconcile the simultaneous schedules. DTSC had suggested that the Pilot Project Plan could be phased, with the first phase including methods to test or evaluate incentives already in place and operating (either in California or elsewhere), and a later phase (or phases) to be developed using information gathered through implementation of the Outreach Plan. DTSC has previously asked TRC how the values of existing incentives were established (what data was used) and whether the incentive would be more or less effective if the value were changed. Why \$5 and not \$6? \$10? \$2.50? Absent data, and a plan developed to generate this type of data, program design and implementation decisions will continue to be arbitrary or based solely on instinct and anecdote.
- The plan states that the pilot projects would “be implemented in the summer months between the shoulder seasons.” This is in direct contradiction with the language in Paragraph B-1.4.1 of Exhibit B of the Consent Order, which states that the pilots are to continue for a minimum of one year to take into account the seasonal differences that this “limitation” points out.

Appendix: Qualitative Interviews

The Outreach Plan, as an Appendix, presents “Qualitative Interview Questions” assumingly designed to be administered by someone unspecified, to unspecified persons in listed “target audiences.” No method is presented for how interviewees will be selected or identified, how many individuals within the specified audiences will be selected (or what proportion of responses would be needed to represent a statistically valid sampling), how or where the interview will take place, or whether other lines of questions would be pursued if responses indicated relevant information was available or being shared that was not in alignment with the questions. Questions were provided for the following potential program participants:

- Department of Building Inspection Qualitative Interview Questions
- DIY Consumers Qualitative Interview Questions
- Utility Company Qualitative Interview Questions
- Colleges/University Facility Managers Qualitative Interview Questions
- School District Facility Managers Qualitative Interview Questions
- Retailer Qualitative Interview Questions
- Property Managers of Multifamily Housing Qualitative Interview Questions
- Property Managers of Commercial/Industrial Qualitative Interview Questions
- HVAC/General Contractor Qualitative Interview Questions

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

- Household Hazardous Waste Collection Center Qualitative Interview Questions
- Demolition Contractor Qualitative Interview Questions
- Hotel and Motel Managers Qualitative Interview Questions

DTSC has a large number of specific comments and feedback it would suggest for all of the sets of questions, most of which would be consistent with much of the general feedback or plan element feedback that DTSC has already provided in other sections. More general comments regarding the Questions themselves:

- 1) In most instances, the first interview question appears to start at the wrong place, likely influenced by a limited understanding of thermostats, thermostat management, or definition of program participant of the one preparing the questions.
- 2) None start the interview at the most logical place: knowledge of mercury containing thermostats, or ability to identify one: Does the target audience know the difference between mercury containing and non-mercury thermostats.
- 3) Most of the sets of questions miss the opportunities to gather more comprehensive information that would be relevant to the entity being interviewed. For example, the interview of building departments fails to ask whether their jurisdiction requires permits for the replacement of thermostats; whether, in the process of issuing new permits, they require upgrading of thermostats or other energy saving technology; whether those performing thermostat replacement would necessarily have reason to consult with or contact the building department (to assess whether the local building departments would be a viable partner in disseminating information about TRC). The interview of DIYers fails to ask the obvious question about incentives, and whether a monetary incentive (or a particular form of monetary incentive) would have influenced their thermostat management decisions. The interview of utility companies fails to ask questions about their energy efficiency and load reduction programs, whether the installation of programmable thermostats was an element of their program, and what proportion of their service jurisdiction was estimated to have already been targeted by their energy efficiency/load reduction program.
- 4) As previously discussed, for those target audiences that outsource their HVAC related work, their interview abruptly ends. Additional information could be pursued that could be extremely valuable, even if the HVAC related work is outsourced. Many of those entities could provide information on the number of thermostats under their control, how many have been upgraded (or remain to be upgraded). Information could be gathered on the value or utility of incentives (quantity discounts on purchases for larger scale projects, available of alternative disposal/costs for mercury thermostats). Questions could be asked to determine whether waste management is controlled through the contract, whether they understand that they are still responsible for the proper management of hazardous waste, regardless of the contractual relationship, or whether they would be interested including such contract provisions.

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

DTSC can and will, if requested, offer many more comments and feedback of this type on the remainder of the sets of questions, but for purposes of these findings and comments, will abbreviate its list.

Comments on the Pilot Project Plan

Approach to Overall Program Design

While the Pilot Project Plan repeats the same goal stated in the Outreach Plan “to create a systematic approach for finding effective ways to educate and move to action multiple audiences to recycle mercury thermostats in California,” the Pilot Project Plan identifies two “parts” of the effort which are different than the four design tasks presented in the Outreach Plan. This type of discrepancy and inconsistency between the two plans, which are claimed to represent “intertwined” activities to be conducted simultaneously, not only create confusion, but could also represent conflicting or contradicting goals and objectives for TRC/SGA to carry out effectively.

Purpose of the Pilot Project Plan

The Plan lists three purposes:

- 1) To lay out the strategy and design of the pilot project portion of the thermostat collection program;
- 2) To show how the Outreach Plan is to be conducted in tandem with the Pilot Project Plan; and
- 3) To outline how the Pilot Project Plan addresses the Consent Order.

No additional details or information are offered in this section as to further inform the purpose or how it is to be achieved, and DTSC notes that the concern is again expressed as to the difficulty of developing pilot projects without the benefit of the outreach activities, and introduces that idea that responses from the audiences engaged will be used to refine the outreach efforts.

Figure A - Outreach and Pilot Project Plan Sequencing

The Pilot Project Plan again offers Figure A as an explanation of the outreach and pilot project plan activity sequencing. No additional information or clarity is provided in the Pilot Project Plan, so DTSC again finds this figure confusing and inconsistent with information presented prior to the Figure. As stated previously, although both plans discuss how the Outreach and Pilot Project Plans are “integrally woven,” the Figure presents the activities as separate and distinct, and the sequences in each of the parallel tracks displayed give no indications of intersection or interrelationship.

Pilot Project Planning and Implementation/Activities

DTSC considers the information presented in this section to be a general or conceptual outline of the steps to be taken by TRC/SGA. As general steps, they appear to be understandable, but they are lacking in detail, so it is impossible to assess how TRC/SGA intends to implement them or how the steps would apply to any particular proposed pilot project. Elements are also mentioned in this section that are not defined or explained elsewhere, such as “collateral

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

material” and “pilot project assessment tools” making it difficult to be able to predict their effectiveness for achieving the overall goal or purpose of the pilot projects or the pilot project plan.

Scope of the Pilot Project Plan

The scope of the plan is defined as the 14 potential program participants listed in Exhibit A of the Consent Order, and goes on to restrict the implementation of the pilot projects to the City of San Bernardino. The Pilot Project Plan refers to the location selection criteria presentation in the Outreach Plan for the rationale in selecting the City of San Bernardino.

Goals of the Pilot Project Plan

The Pilot Project Plan duplicates Paragraphs B-1.4.1 and B-1.4.2 from Exhibit B of the Consent Order, without further discussion or offering any additional information or explanation. It is unclear whether DTSC should infer from this presentation that the goals of the Pilot Project Plan are as defined by the language in the Consent Order, and if so, how to gauge or assess any departure from the language in the Consent Order.

Strategy [for the development of the Pilot Project Plan]

The plan states that SGA made assumptions and specified objectives in the absence of any outreach derived information. As DTSC stated previously, TRC/SGA could have employed other strategies in developing the plans, especially the Pilot Project Plan, to reconcile the simultaneous schedules. DTSC previously suggested to TRC/SGA that the Pilot Project Plan could be phased, with the first phase including methods to test or evaluate incentives already in place and operating (either in California or elsewhere), and a later phase (or phases) to be developed using information gathered through implementation of the Outreach Plan. DTSC has previously asked TRC how the values of existing incentives were established (what data was used) and whether the incentive would be more or less effective if the value were changed. Why \$5 and not \$6? \$10? \$2.50? Absent data, and a plan developed to generate this type of data, program design and implementation decisions will continue to be arbitrary or based solely on instinct and anecdote.

Assumptions

The Pilot Project Plan lays out the assumptions that form the basis for its design. No explanation was provided as the basis for these assumptions. No evidence of information gathering to validate or “ground truth” the assumptions was offered. Absent information supporting the assumptions, the proposed pilot projects would need to also test the validity of the assumptions at the same time it was testing other aspects of the incentive it was assessing.

Objectives

The Pilot Project Plans lists a number of objectives it portrays as derived from Paragraphs B-1.4.1 and B-1.4.2 from Exhibit B of the Consent Order. These objectives appear to have been derived using a combination of the language of the Consent Order and the set of assumptions that was laid out in the prior section. Some of the objectives stated are not

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

consistent with the Consent Order language. For example, the second Objective calls for suggesting pilot projects designed to educate and inform the potential program participants to increase the number of thermostats collected. The fourth Objective calls for suggesting pilot projects designed to assess the effectiveness of the creation of new collection sites to increase the number of thermostats collected. These particular objectives appear to have mixed the purpose of the outreach activities with the required development of pilots. This may also explain the Plan's attempt to create pilot projects that affect all 14 potential program participant categories. According to the Consent Order, the only mandated pilots are those that assess the effectiveness of monetary and nonmonetary incentives in increasing the number of thermostats collected and Program participation, not other variables that might impact program collections or operation. While TRC may do well to include this and other sorts of assessment techniques to identify additional improvements as part of its ongoing program implementation, those presented in this plan are not in alignment with the Consent Order requirements.

Strategic Components

The Pilot Project Plan identifies four components of its strategy:

- 1) Partner (as a collection site or as an educational conduit)
- 2) Inform and Educate
- 3) Incentivize
- 4) Increase Ease/Convenience of recycling

Given the level of detail provided here, it is difficult for DTSC to comment on whether or how well this identification of components are anticipated to operate. DTSC does note, however, that measuring the effectiveness of any given pilot project effort is not mentioned as a strategic component. Measurement or metrics is listed in the various tables provided that are intended to show the Tactical Breakdown by Potential Program Participant, although the measurements being taken are not related back to the goals or objectives of the Pilot Project Plan.

Consent Order Tactic-Related Specifics

Monetary Incentives

The Pilot Project Plan lists five monetary incentives that it states will be used to "drive" the pilot projects. This explanatory information is unclear, because the Consent Order requires TRC to assess the effectiveness of monetary incentives through the conducting of pilot projects, not use them to "drive" the pilot projects.

The plan lists a set of monetary incentives that is to be used but it is not entirely clear what is to be measured in any given pilot project in which the monetary incentives are to be used, nor is it clear what type of data will be derived from the incentives proposed, since none of them propose to assess the variability of value of the incentive. The only dimension that appears to be the subject of measurement would be timing of receipt of the incentive, and the offering (or not) of the monetary incentive. This becomes even more evident in the Tactical Breakdown by Potential Program Participant tables as Pilot Project Metrics are listed, with many possible metrics being omitted.

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

DTSC's only other comment is that except for those incentives that were based on existing incentive programs already being used elsewhere, none of them are based on information that TRC/SGA will have gathered prior to the pilot projects being implemented, which is consistent with the limitations and assumptions expressed by TRC/SGA. There is no way to determine whether any of the proposed incentives would be viewed as incentives or of value to any of the program participants.

Non-monetary Incentives

The Pilot Project Plan lists four nonmonetary incentives to be used. DTSC notes again that none of the listed incentives are based on information that TRC/SGA will have gathered prior to the pilot projects being implemented, again consistent with the limitations and assumptions expressed by TRC/SGA. There is no way to determine whether any of the proposed incentives would be viewed as incentives or of value to any of the program participants.

Collection Sites

The Pilot Project Plan notes that "several of the potential program participants represent opportunities for increasing the number of collection sites." DTSC agrees with this assessment, and also agrees that an increase in the number of collection sites is likely to increase the convenience to those who wish to place thermostats in those bins (although convenience, in and of itself, is also an untested element of the program, and worthy of further evaluation to measure its actual influence). However, DTSC cannot see how this assessment is related to identification or implementation of any of the proposed pilot projects. This item may be more relevant as an element or goal for the Outreach Plan.

Tactics (Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans [as presented in Tables])

The plan presents tables which amalgamate the activities from both the Outreach and the Pilot Plans. These tables are identical to those presented in the Outreach Plan. DTSC previously offered comments on these tables in its comments on the Outreach Plan.

Design Sustainability

This section is another example where the intertwining of the Outreach and Pilot Project Plans has led to confusion in the presentation of the plans. In this section, as part of the Pilot Project Plan, it is accurate to state that the pilot projects are to continue for one year. This does imply that the level of effort needed to accomplish the pilot projects would need to be sustained for no less than a year, but DTSC does not typically associate the concept of sustainability with a limited time duration effort. Although a year would be considered a relatively long time period, "sustainability" implies a more long-term duration, or perhaps of unlimited duration.

That said, the remainder of the section speaks very little to elements that would influence the ability of the pilot projects to be continued through the required one year. Rather, it focuses on

DTSC Findings and Comments

Outreach Plan for the Collection of Mercury Added Thermostats in California

Pilot Project Plan for the Collection of Mercury Added Thermostats in California

July 8, 2016

tactics that are associated with outreach efforts, and the ability to take advantage of other, existing communication networks to assist in disseminating information about the Program.

Pilot Project Metrics

The Pilot Project Plan lists the metrics that are to be used to measure pilot project results, primarily based on the seven Pilot Project Plan objectives listed previously: Number and list of new partners that educate/disseminate program information, number and list of new collection sites, and number of thermostats collected.

This list of three metrics is quite different from the metrics listed in the Tactical Breakdown by Potential Program Participant tables. The tables list a significant number of more minor metrics (e.g., brochures distributed, number of contacts, articles/blog posts placed, etc.) that appear to assess the progress of implementation more than the effectiveness of the pilot, or possibly the effectiveness of outreach efforts as compared to the pilot projects.

For the pilot projects in the table that do not list one of the three primary metrics, it is unclear how their success will be measured, or what the basis will be for continuing/discontinuing efforts.

Proposed Schedule for Implementation of the Pilot Projects

DTSC notes that the Pilot Project Plan contains a much more detailed implementation schedule, which may be a function of the combination of the Outreach Plan and Pilot Project Plan elements. DTSC does note that although TRC/SGA states that it presented both plans as integral to one another, both plans do not present information such as this schedule information in the same way (or in the case of the Outreach Plan, at all).

This section does present an inconsistency with, and a potential future violation of, the Consent Order. It speaks of proposing to discontinue pilot project efforts (or what should reasonably be considered pilot project efforts, since the information is presented in the Pilot Project Plan), prior to a pilot project's continuing for a full year, as mandated. DTSC discusses the potential misinterpretation of the dependency between the full implementation of the Outreach Plan and the Pilot Project Plan, and the Program Modification Plan, in its General Comments above.

Figure B: Pilot Project Planning and Implementation Timeline Overview

The Pilot Project Plan contains an overview of the implementation timeline, but, as with the Outreach Plan timeline, it provides insufficient information on the specific implementation efforts. DTSC cannot assess the implementation of any particular aspect of the plan with the level of detail provided.