4.5 Step 5 – Implementation and Monitoring Plan

C.R.S. 37-60-126(4) Requirement: Steps provider will use to implement and monitor its water efficiency plan.

Step 5 involves the development of an implementation and monitoring plan. These two plans are necessary for effective water efficiency planning and are required by C.R.S. 37-60-126(4) for all State approved plans. The plans should lay out basic guidelines on how to effectively implement the activities selected in Step 4 and monitor their overall effectiveness. The plans should also acknowledge that water efficiency requires ongoing, adaptive management efforts where modifications may be necessary as the water efficiency activities are carried forward.

4.5.1 Implementation Plan

An implementation plan defines the process necessary to carry out the selected water efficiency activities. Worksheet J may be used as a template for presenting the implementation plan. Plans should include the following components:

- *List of selected water efficiency activities* – These are the activities selected in Step 4.
- *Anticipated period of implementation* – This period may be for the entire planning horizon or for only a portion of the planning horizon.
- *Actions necessary to implement each activity and associated milestones* – List specific actions that are needed to start and/or administer the activity. For instance, a rebate program could require the following actions:
  - Obtain legislative approval.
  - Secure annual funding and verify number of rebates available for the year.
  - Train staff to administer program.
  - Advertise the rebate program through the website and through emails and bill inserts three times a year.
- *Entities/staff responsible for implementation* – This should be specified for each activity or appropriate groups of activities.
- *Coordination among staff/other entities and public involvement* – Note any coordination activities that must be carried out to ensure success of the activity. Public involvement includes educational campaigns, feedback, direct participation in certain actions, etc.
- *Annual water provider costs and avoided costs* – This may be provided for each SWSI Level Framework level or by individual activity.

Implementation plans may also address how each of the activities is going to be funded. While water efficiency activities are traditionally funded through a provider's annual revenue, certain

funds/reserves may be set aside for specific activities and outside funding sources such as CWCB's water efficiency grants can be applied for.[1]

Additionally, specific factors or contingencies that might affect or prevent the implementation of specific water efficiency activities should be noted. For example, if an activity cannot be implemented prior to obtaining a special permit, this fact should be noted along with an explanation of the strategy for obtaining the necessary permit. Some activities might require actions that take place over several years (in order to sustain water savings). The plan should provide sufficient detail to understand the provider's strategy with regard to implementing such activities.

Revenue Implications

Implementation plans should not only budget for the costs to implement the activities, but also consider the effects water efficiency can have on revenue and future expenditures. Water efficiency can contribute to the reduction of a provider's variable costs such as energy, treatment chemicals, and purchased water costs. In the long term, water efficiency can result in significant savings in capital expenditures and water purchases. However, in the short term, reductions in water sales due to water efficiency can lead to a shortfall in revenues needed to cover operational and capital costs, if not properly planned for. Both long term and short term perspectives should be weighed in relation to the overall water resource management planning of the water provider so as to mitigate the possible negative effects.

Potential shortfalls in revenues need to be prepared for and properly managed in order to reduce or completely avoid detrimental impacts. Implementation plans should describe how water efficiency activities can affect water utility revenues and expenditures. Collaboration between water conservation specialists and their own finance group is critical to planning for these revenue impacts. Strategies should be planned to avoid such adverse impacts to ensure the provider meets its revenue requirements. This could include temporary or permanent increases in water rates, which could in turn impact customers and may not be politically popular. In these cases, it is critical to develop a well thought out public education campaign to prepare the public and clearly explain the reasons for the change.

4.5.2 Monitoring Plan

The science of water efficiency and water resources planning is continually evolving and water saving technology and evaluation/modeling techniques continue to improve. Water efficiency planning is most effective when it is managed as an adaptive continuous process where routine monitoring and adjustments are made to the implementation plan and activities. This could include adjustments to the water efficiency goals and overall direction of the water efficiency program. Due to these factors, the data presented in water efficiency plans may be outdated before the plan is scheduled for update.

This instance emphasizes the importance of establishing a routine monitoring program that assesses the effectiveness of the water efficiency activities within the context of changing

[1] Implementation of the plan should not hinge on whether or not the provider can secure a water efficiency grant from the CWCB.

conditions. Monitoring provides the necessary information for decision–makers to make the appropriate adjustments to a water efficiency program.

A monitoring plan defines the process to carry out the monitoring and make appropriate adaptive changes to the implementation of the water efficiency activities. Monitoring plans should include the following components: 1) data collection; 2) the evaluation and communication processes; and 3) documentation. These are discussed in further detail below.

Data collection – This consists of demand data as well as other relevant data specific to implementation. Worksheet K provides a list of demand data which may be selected for monitoring water savings through the demand management activities. Ideally these data should be of a scale to capture changes in demand as a result of water efficiency activities. However, some providers may find that they will need to make improvements to their billing systems and/or invest additional staff time to collect sufficient data which could be difficult due to funding limitations. Demand data specifically required per C.R.S. 37-60-126 (4.5) for annual reporting to the State is specified in Worksheet K. It is recommended that at a minimum, these data are incorporated into monitoring plans.

Worksheet L provides a template to record demand data selected for monitoring as well as a means to specify other relevant data specific to the implementation of the water efficiency activities. At a minimum, monitoring data for each water efficiency activity should include:

- Annual costs and avoided costs.
- Lessons learned.
- Water saving estimates.
- Water efficiency activity tracking data (e.g. number of annual rebates, number of infractions, etc).
- Relevant weather data.
- Relevant public feedback.
- Records of significant changes.

In addition to these data, the entity/staff responsible for data collection and frequency of data collection should be specified. Monitoring data should be collected on a frequent enough basis to ensure that data is properly recorded.

Evaluation and communication to decision-makers – An evaluation of the collected data is necessary to determine the overall effectiveness of each water efficiency activity. This evaluation can significantly vary in level of sophistication depending on available staff time and financial resources. Section 4.2.3 discusses how the water savings of water efficiency activities may be evaluated. These techniques involve the estimation of water savings using time-series of customer demand data. Water savings information may be coupled with other data collection

and analyses efforts (e.g. customer opinion surveys and cost-benefit analyses) to evaluate the effectiveness of water efficiency activities.

The evaluation results and any recommended changes necessary to improve the effectiveness of the water efficiency program should be presented to decision-makers. These evaluation and communication processes should be summarized in the monitoring plan including the frequency of when they will occur. It is recommended that this occurs at least every two years.

Documentation of monitoring results and of adaptive adjustments – The lessons learned and changes made to the implemented water efficiency activities should be well documented following the evaluation and decision making processes. Documentation can enhance the quality of the future updated water efficiency plans as well as provide continuity among staff and the public.

Worksheets M and N may be used by the provider for monitoring. Worksheet M provides a template to record monthly water demands on an annual basis. Worksheet N provides a means to record information on the other monitoring data.