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**MEMORANDUM**

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**TO:** IOWA TRM Oversight Committee  
**FROM:** Sam Dent, Technical Lead, VEIC  
**SUBJECT:** IOWA TRM DATA FILE DELIVERABLES  
**DATE:** 4/14/2016  
**Cc:** Daniel Evans, IUA

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**Goal:**

- The goal is to provide the Iowa TRM stakeholders with a data file that provides the key information from the TRM in a form that assists with the transfer of information into their various data systems.
- These deliverables are designed to assist in breaking down the logic of the measures such that the inputs to an algorithm and its variables are made more clear and transfer by cut-and-paste is more efficient.

**What we need from you:**

- Please provide feedback on the format of the files and anything that would improve the function of transferring data to your systems. We will do our best to incorporate this feedback.
- Email your comments to Sam by 04/22/2016.

**Overview:**

- It was clear from our interviews with you that there is not one particular format that would allow automatic upload of information.
- Most of the information provided in the TRM can, at least for some measures, be in a form that does not lend itself to a single flat format where one row represents one measure.

**Deliverables:**

1. Excel Data Files

We propose that VEIC will provide two Excel spreadsheet files (one for Residential measures and the other for Nonresidential measures). Our *goal* is to have all measures in this format by June 30<sup>th</sup> – but we commit to at least having all the High Impact Measures provided by this date.

Each file will contain the following:

A Summary table tab –

- This provides only the parts of the TRM that can relatively easily translate to a single table. It will include:
  - Measure Code
  - Measure Title (with link to measure tab below)
  - Applicable Programs
  - Loadshape(s)
  - Primary Algorithms (for all fuels, time of sale and early replacement)
  - Sub algorithms (yes/no answer only)

Measure-Specific tabs –

- Lifetimes and costs can often vary dependent on various inputs (e.g., system type, application, efficiency level). The input for these sections therefore must have the ability to add a dependent variable (or more if there is a determined need) and the various options with the appropriate assumptions.
  - Lifetime of Efficient Equipment
  - Lifetime of Existing Equipment (for early replacement measures only)
  - Measure Cost (incremental for time of sale programs or full retrofit costs for early replacement)
  - Deferred Baseline Replacement Cost (for early replacement measures only)
  - O&M Costs
- Primary Algorithms – these are the algorithms in the TRM for Electric Energy (kWh), Demand (kW), Gas Savings and Peak (Therms), and Water (Gallons). Algorithms will be provided for Time of Sale measures, and two sets for the early replacement measures (one for the existing unit life and one for the remaining measure life). All variables within the algorithms will be isolated with square brackets [ ].
- Sub Algorithms – many measures make use of sub algorithms – i.e., variables within the primary algorithm require a further calculation to determine their value. These sub algorithms will be listed in a table, showing the variable in question with the ability for the algorithm to be contingent on a dependent variable (e.g. Federal Standard algorithms for different hot water system types).
- Variable Table – this provides all the variables that have been listed in the primary and sub algorithm sections. Column titles are:
  - Label – the variable in brackets [ ]
  - Dependent Variable Input 1 – this provides the actual input required in order to determine the assumption (e.g. hot water system type, building type, efficiency level).
  - Dependent Variable 1 Options – this is the choices for that Dependent Variable.

- Dependent Variable Input 2/Dependent Variable 2 Options (may require additional sets)
- Default / Values – this gives the default or constant assumptions.
- Calculation (C) or Customizable (Y/N) – this column indicates if the value is determined through a sub algorithm (C), or if the default/value provided should be allowed to be a custom value (Y) or if it is a set value (N - e.g. a constant or a default that should not be altered until the TRM is updated). Note a variable that is *required* to be an input would not have a default provided and would be listed (Y).
- Units – this provides the units of the variable where applicable.
- Variable Definition – the definition of the variable as provided in the TRM.

## 2. Read only web-based TRM Application

VEIC plans to provide a read-only version of the TRM Application we have developed to begin to benefit from the organization, documentation and searchability. We will aim to populate this and provide to the stakeholders within 2 months of the June 30<sup>th</sup> deliverable. We will need to discuss with the committee some details around number of users and how publicly available the App itself would need to be.