

# Utility Financial Modeling: Spreadsheets Can Deliver Results

Financial and regulatory analysts working at utilities understand the need for utility-specific models as the unique challenges of utility forecasting cannot be shoehorned into a model built for other types of businesses. No other industry requires the type of logic needed to translate forecasts of expense, revenue and capital investment into an integrated whole while providing insight into the business. Whether its earnings forecasts for investor-owned utilities or financial metric analysis and rate forecasts for public and cooperative entities, forecast groups must provide models that generate reliable and defensible answers. Modeling for utilities is complex, leading some analysts to believe that the complexity does not lend itself to spreadsheet modeling. But advances in technology and modeling practices make spreadsheets a superior choice for both accuracy and flexibility. To be truly effective in today's rapidly changing utility environment, financial modeling spreadsheets need to incorporate three critical features into their overall architecture:

- A flexible architecture that accommodates rapid response to changing business requirements without the need for a major overhaul of all the primary logic of the model
- A method to support seamless uploads of source data while maintaining administrative control
- Revenue requirement logic at a sufficient level of detail to provide insight on the need for rate changes and to build an understanding of how rates impact financial metrics

## **Flexibility**

While spreadsheet models offer near-unlimited flexibility, many models suffer from a lack of structure,

creating nightmares for users. Most spreadsheet models were developed to address a specific analytic issue and then grew as related analyses required more inputs and more model logic. Fairly soon, the models became unwieldy to use and maintain. The true test of a financial model's flexibility is to assess how long it takes to add a new business segment into the model logic. If the answer is more than a few hours, then it is unlikely that the model is structured in a way that will allow it to grow with the business. Key to solving the flexibility issue is to impose a common structure (e.g., a chart of accounts) and then allow the use of the "free space" within the spreadsheet. This gives finance professionals the ability to solve complex problems in an ad hoc manner while providing resiliency through the basic structure. With this approach, nearly any question can be asked and the model will provide an accurate answer.

## **Broad Access and Tight Control**

Disaggregated forecasts driven by multiple sources of financial and operating data from various systems and related spreadsheets can be very difficult, if not impossible to manage and maintain. A typical process often involves cutting and pasting data manually or attempting to maintain a web of interconnected "linked" spreadsheets that invariably break. Users of linked spreadsheets constantly try to ensure they are linked to the right version of each connected spreadsheet and often find that the data they require has been moved by a row or two because another user did not follow the process as precisely as needed to keep everything in alignment. Alternatively, some linked spreadsheets force the user to have multiple workbooks open to ensure all the information is updated correctly. In one extreme example, a utility's budget tool required 25 interconnected workbooks to be open at the same time in order to properly allocate

overheads to individual departments.

Fortunately, there is an elegant solution to this problem. Financial model spreadsheets can be designed to load data without linking to other spreadsheets by using an embedded data structure that allows the model receiving the data to be independent of the structure of the supporting spreadsheet(s). This system enables an audit trail capability that identifies the source file, the time when it was last updated and the responsible user. The success of this system is illustrated through a current MCR client's financial model that receives data from over 30 different sources and has minimal issues related to data and structural integrity.


### ***Integrated Revenue Requirements***

There are a broad range of tools available for financial forecasting, many of which are embedded in generic budgeting applications. While most of these tools produce a basic financial forecast in an income statement format, many are not applicable to utilities where additional capabilities are needed to address fundamental utility financial modeling requirements. The concept of using the cost of service to forecast revenue is completely foreign to a nonutility model. In some cases, these generic industry forecasting models lack the logic for a balance sheet or are unable to perform complex capital-related calculations

forcing the need for side spreadsheets to support them.

Best in class utility financial models allow the analyst to upload new versions of the forecast and easily adjust key drivers to understand the impacts on rates and revenue requirements. This capability can be achieved by establishing a structure within the model that ensures proper assignment of costs into rate class categories, while incorporating automatic revenue enhancement logic. While these models will not be at the level of detail of a rate filing model, they can track closely with a detailed cost of service model and allow analysts the ability to provide management with insights on when changes to the rates will be needed.

### ***Summary***

The needs of utility financial models are unique and require expertise in finance, accounting, and regulatory. Spreadsheets are adept at meeting these challenges, but tremendous thought in the design must be in place to support the flexibility requirements of the analysts while ensuring resilience and the ability to produce a result that will instill confidence from management. When properly developed, spreadsheet models are up to the task for utility modeling and can be powerful tools for enhancing the speed and accuracy of the forecast. 

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Clients hire us because we apply analytic discipline and tools across a wide array of industry issues. We offer FRST™, the leading utility specific, Excel-based financial and regulatory planning model. We help our clients set strategic direction and allocate capital. Our

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