RPM Implementation

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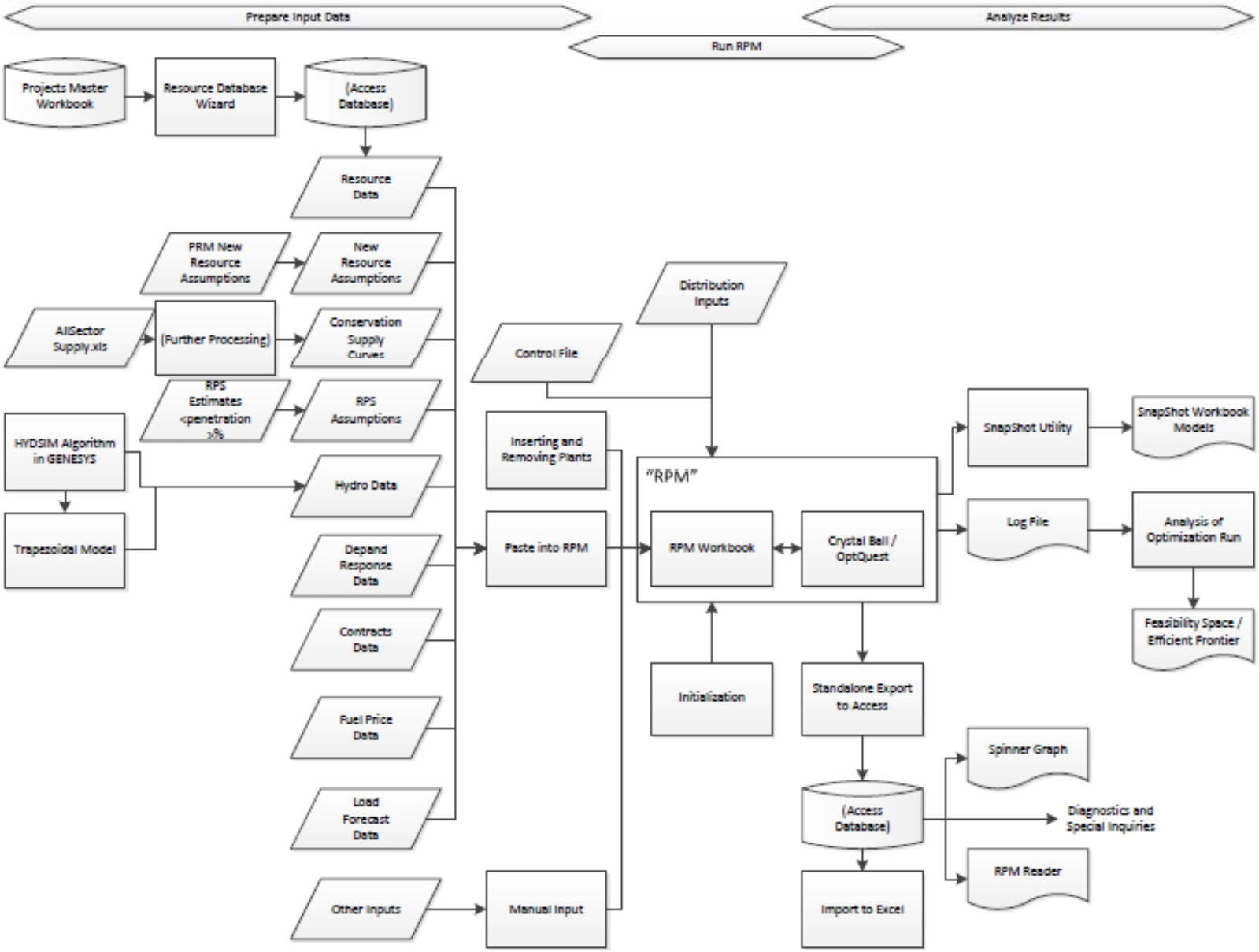

Figure 1. RPM Process Flow Diagram.

Table 1. Components of RPM.

Step *	Component	Description	Input	Output	Platform	Comments	Documen-tation	Priority †
Prepare Input Data								
	Projects Master Workbook	This workbook contains the data for all existing and planned PNW generating resources, except hydro other than independent hydro.			MS Excel	This workbook exists independently of RPM and provides data to other models in addition to RPM, including Aurora and GENESYS.	[2], L-92. [2], L-97.	4
	Resource DB	This database holds data from the Projects Master Workbook and prepares it for transfer to RPM. It includes an Access form (the Wizard) that provides an interface to macros for performing the tasks at the right.	Resource Projects Workbook	Data rows to paste into RPM	MS Access	The Wizard masks the 44 queries in the database, only three of which are left visible to the user. All but one of the 19 tables are visible, but the user interacts with only a half dozen of these. The macros included the following tools: • Unit Comparison (against previous data) • Create workbook with records to past in RPM • Assists the user with an R method for cluster analysis on resource operating features • Create Workbook Bubble Chart of Clusters, to illustrate aggregates of resources	[3] [4]	1
						•		
	PRM New Resource Assumptions	This workbook contains parameters for new generic resources			MS Excel			3
	Converting Overnight to Period Costs v08.xls	Worksheet to convert costs for use with RPM's standard periods.			MS Excel	Used in developing new resource assumptions.		2
	New resource	Processed new resource data			MS Excel	Provided in ad hoc files and manually		3

… plus 8 more pages …

Redevelopment Priorities

- "1" denotes core functionality to be included in the base redevelopment project.
- "2" denotes other desirable functionality that is not necessarily critical to complete the seventh plan and could be selectively developed in parallel with core functionality once particular basic core design parameters are set, such as data storage architecture.
- "3" denotes functionality, such as input data preparation, that might best be left outside the new system.
- "4" denotes components that will not be needed in the new system because they would be either redundant or irrelevant.

Redevelopment Priorities – 1

Core functionality to be included in the base redevelopment project ("1")

- Resource DB
- OptQuest log file
- RPM Workbook
- …

Redevelopment Priorities – 2

Other desirable functionality not necessarily critical to complete the seventh plan, but selectively developed in parallel with core functionality ("2")

- Converting Overnight to Period Costs v08.xls
- Analysis of Optimization Run (subProcess)
- …

Redevelopment Priorities – 3

Functionality, such as input data preparation, that might best be left outside the new system ("3")

- PRM New Resource Assumptions
- New resource assumptions
- All Sector Supply mmddyy.xls
- …
- Trapezoidal Model
- …

Redevelopment Priorities – 4

Components that will not be needed in the new system because they would be either redundant or irrelevant ("4")

- Projects Master Workbook
- …
- Inserting and Removing Plants
- …

Some Issues

- RPM staffing
- Possible Council objectives with regard to RPM:
  - Human resources
  - External use
  - Transparency
  - Ease of updating and burden of execution
  - Risk
  - Availability for seventh plan
  - Communication with stakeholders

Suggested Architecture

- A single, consolidated database containing all resource, forecast, and other input data and parameters, and output data for multiple cases
- Installation of the database and model at a centralized location
- Creating of a new model with all the functionality currently used in the existing implementation of RPM/Crystal Ball/OptQuest
- Secure, remote access to the centralized system, possibly through a web browser, for Council staff, stakeholders, and utilities.

Appendix

Executive Summary of the RPM

Revised

- The Panel has concluded RPM has the capability, with correct inputs, to adequately address the analytic criteria for regional resource planning. RPM solidly capture the central economic tenants of resource planning under uncertainty.

- The Panel has also identified areas that could be improved and limitations with RPM.

- The Panel offers the several specific recommendations on inputs for use in the next cycle of developing a regional power plan.

- RPM also needs to be validated more transparently to increase the Council and stakeholder confidence in its results. In general, validation means demonstrating that model results match reality.

Executive Summary of the RPM

Revised

- The Panel recommends a deliberate process for engaging the Council and stakeholders in training constructing input assumptions, and reviewing results. Training on RPM should be integrated with the power planning process, rather than scheduled as a separate activity. Concepts should be introduced as they become relevant in the process. A synchronized, integrated training approach will make the concepts more concrete, less abstract, and more relevant to the plan.

Figure 1. Process Flow Diagram