BOE IT Modernization Project

Data Management Plan

March 17, 2026

Contents

The STARS data management plan document outlines the data flow elements and flow, as illustrated in the figure below.

Data Sources and Handling

The inbound data sources to the BOE tax and evaluation appraisal process primarily come from the following:

a) Assessees, “A”, in the illustration below, in the form of various tax schedule forms with their required tax data elements are received via the BOE e-Filing web portal, “B”, in the illustration below. However, there could be ad hoc communication between the assessee and the BOE that may include paper mailing, e-mail, faxes, and Microsoft TEAMS voice mail messages that need to be data managed.

b) The BOE utilizes external data sources, “C”, in the illustration below, to assist it in doing its business and comprises the following via the World Wide Web:

   i. RealQuest (Ad hoc Data Downloads for Comparable Land or Property Values)

   ii. Rail Inc.

   iii. ORER (Official Railway Equipment Register Book)

   iv. CHARM (Car Hire Accounting Rate Master)

c) The BOE employee audit and appraisal work file that could be in various forms of Microsoft Word Documents, Plain Text Files (Microsoft Notepad), Microsoft Excel Spreadsheets, and Microsoft Outlook emails for account archival uploads to the solution, with the key appraisal and/or audit data elements extracted and entered into the calculation algorithm for its valuation board roll computation.

Secondary inbound data sources include the following:

a) Assessee Communication: Fax, Paper Letters, e-Mail, TEAMS voice mail messages, etc.

b) The BOE Employee Broadband File Uploads: Appraisal Pictures and/or Work Note Files

The data management plan illustrated below describes the flow of BOE data and a data management plan utilizing an enterprise content management interface, “D”, in Figure 2: BOEM Project Data Management Plan Diagram, to the BOE centralized storage solution, “E”, with its respective elements including an SQL Database, BOX Storage, Microsoft SharePoint Site(s), or cloud network storage, all utilizing the BOE’s data governance policies. Additionally, it is expected that all storage will include prudently and cost-effectively managed data storage, recognizing that unstructured data will require a non-relational system rather than a relational one, and larger datasets will necessitate more computing power to manage, and sort compared to smaller ones.

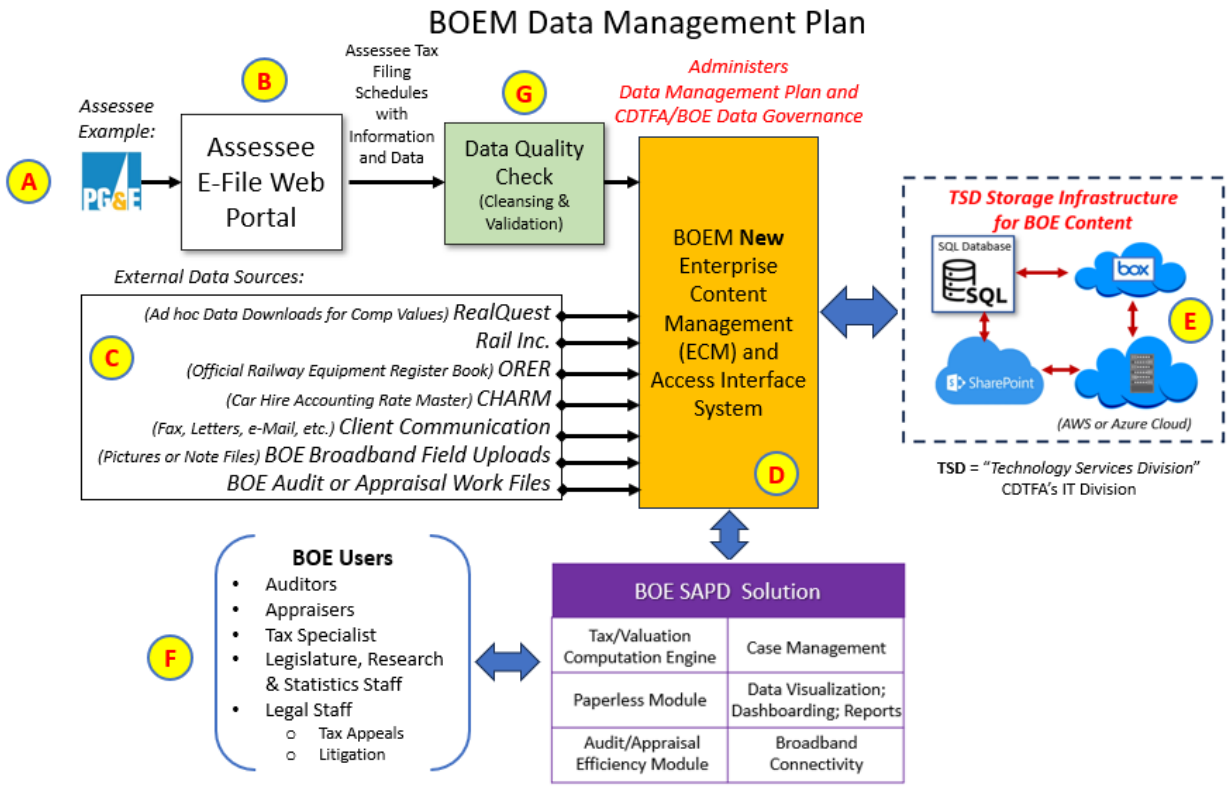

Figure 1: BOEM Project Data Management Plan Diagram

Data Collection and Organization

With various inbound data, the most important being the assessee’s tax schedule filings, and within, its key tax data elements for computation. These key tax data elements are extracted according to business rules, collected, and relationally stored by business industry type, lien year, tax form schedules, and other variables to be determined, and are stored by year in accordance with the BOE Data Governance policies. This relational collection or storage array

could contain a letter of “n” rows to accommodate all of the BOE’s approximately 2,000 current SAPD (State Assessed Property Division) assessees and scalability for more. Additionally, the relational collection or storage array will contain “m” letter of field columns to accommodate all the necessary tax schedules and their respective key data elements from the tax schedule forms per business industry type. As with the rows, the field columns need to be scalable to accommodate additional tax schedule forms and additional fields as needed, as computation requirements may change. This arrangement of rows and field columns is then recorded and stored by “z” letter of years per the BOE business rules, the BOE Data Governance Polices, and California State Statutes. This collection and management plan is conceptually illustrated in Figure 3: “Example Data and Metadata Organization Architecture Scheme” below as a reference; however, the project is open to the Contractor’s suggestions and recommendations to enhance and improve accessibility, access time, searchability, scalability, security, and cost.

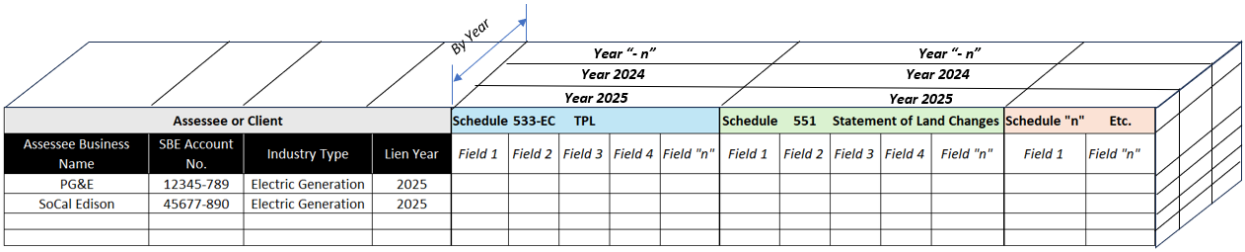

Figure 2: Example Data and Metadata Organization Architecture Scheme

Data Administration and Management

All of the BOE’s inbound data is to be actively and continuously managed 24 hours a day, 7 days a week, and 365 days a year. In this active and continuous data management, all metadata policies related to extraction, as outlined in the BOE Data Governance Policies, must be administered before storing files and data in their designated storage device or medium. Additionally, in accordance with metadata administration, the data catalog must be updated appropriately if new data items emerge. Lastly, before final storage, the file or data element must be checked, validated, and cleansed as necessary to ensure its data quality ("G") in Figure 3: BOEM Project Data Management Plan Diagram.

Data Analysis

All data stored in the BOE’s centralized storage array of devices (“E” in Figure 2: BOEM Project Data Management Plan Diagram) is primarily used in calculating and determining each assessee's board roll appraisal valuation dollar amount value. The valuation process consists of three key steps: “Discovery”, “Valuation”, and “Enrollment”. Through this three-step process, an assessee’s property valuation is determined for taxation purposes. In the discovery step (1), the BOE requests the assessee’s business property statements and statements of land changes via

tax filing schedules. In the valuation step (2), key data elements from the tax filing schedules are used as inputs, along with other the BOE inputs, into a complex computation algorithm that produces an appraised dollar amount of the assessee. In the enrollment step (3), the assessee's appraised valuation amount is presented to the California State Board of Equalization for adoption as final. The valuations of this assessee and other assessees are combined to form an assessed "Roll" (A Tabular List). The Board of Equalization's "Roll" (A Tabular List, aka "The Board Roll") is then sent to the 58 counties of the State of California for their respective tax collection purposes. Figure 4 illustrates a conceptual tabular flow of assessment and tax calculations.

No.	Date	BOE Assignment Owner	Calculation Input Parameter	2025 Input Value	2024 Input Value	Board Roll Calculation/Balance
1	Jan-22-2025	Assessee	Property Statement Filings	$3,500,000.00	$2,900,000.00	$3,500,000.00
2	Feb-01-2025	Timmy Smith	Appraisal Adjustment	($2,000.00)	$6,000.00	$3,498,000.00
3	Feb-12-2025	Assessee	Capital Improvements	$800,000.00	$300,000.00	$4,298,000.00
4	Feb-15-2025	Timmy Smith	Comp's Percent Adjustment	4.00%	3.00% ($9,000.00)	$171,920
5	Feb-16-2025		Subtotal			$4,469,920.00
6	Feb-18-2025	Ralph Alderman	Late Penalty Carry Over	$80,000.00	$30,000.00	$4,549,920.00
7	Jan-10-2025	Assessee	Real Property Statement	$1,250,300.00	$950,000.00	$5,800,220.00
8		Timmy Smith	Real Property Appraisal Adjustment	Pending	$37,000.00	
9	Jan-12-2025	Beth Shaw	Audit Adjustment	$3,300.00	$2400.00	
10			Subtotal			
11						
n						
			Appraised Board Roll Valuation		$6,489,000.00	

Figure 4 Tabular Assessment and Tax Calculations Illustration Only

The BOE has other secondary analysis needs of all the data stored in the centralized storage array of devices, including the following, to name a few:

1. Assessee pre-audit selection per business rules and audit criterion
2. Assessee account analysis to support case management needs
3. Providing data for predetermined Key Business/Performance Indicators (KPI) and workflow/assignment monitoring dashboards
4. Legal and case litigation support
5. Legislative and statistical research
6. Market research and trends analysis
7. Ad hoc report requests

Data Sharing and Accessibility

All data stored in the BOE centralized storage array of devices (“E”) will primarily be accessed by the BOE employees (“F”), as illustrated above in Figure 2: BOEM Project Data Management Plan Diagram, with accessibility privileges determined by Managers, Supervisors, and the Data Owner, as per data governance policies. Additionally, as restricted by Managers and the data owner(s) according to data governance policies and business rules, certain documents and data elements are shared with the 58 counties of the State of California. This shared data with the respective 58 counties is done through a to-be-designed special login “side portal” (EXHIBIT C: Functional and Non-Functional Requirements, Requirement 3.10), which will be tracked, and all communications and data sharing will be recorded.

Data Preservation and Retention

All the BOE data will be stored and backed up in accordance with the Project data governance policies and the State of California's Information Technology (IT) requirements. Data preservation and retention are governed by business rules and the BOE data governance policies. According to the BOE business rules, some data element changes are sequentially recorded five times, while other data and files are retained for as short as four years, others are retained indefinitely based on their legal status, and others are retained for perpetuity. Data preservation and retention are defined in the BOE data governance policy document.

Summary

This proposed STARS data management plan outlines its elements to ensure that data is managed and handled responsibly, accessible to those who need it, and preserved for future use.