

UIC Data Quality Tools & Process

Trang Le

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Overview

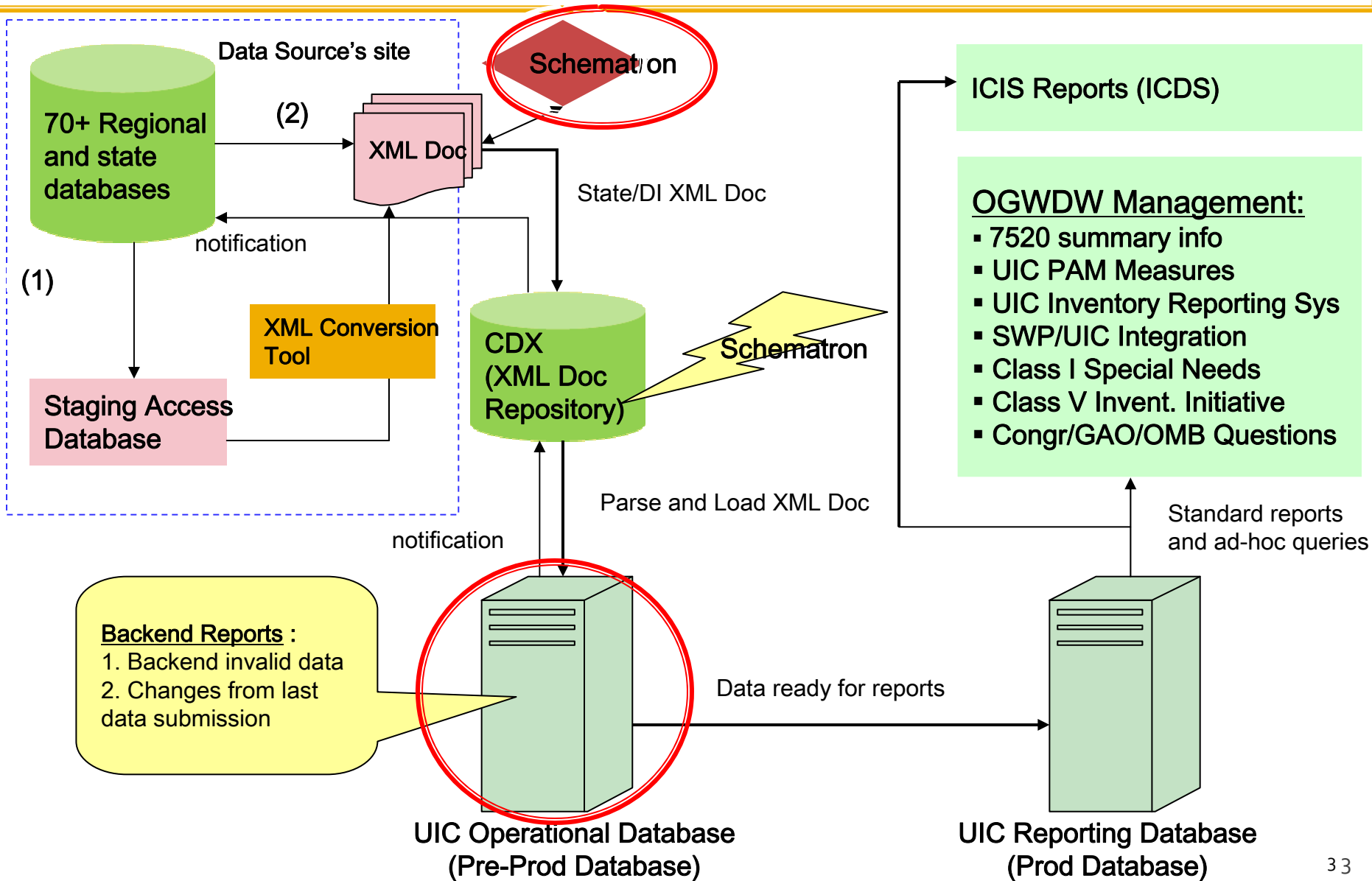
Objective:

To explain how to use the UIC database tools to facilitate data quality improvement

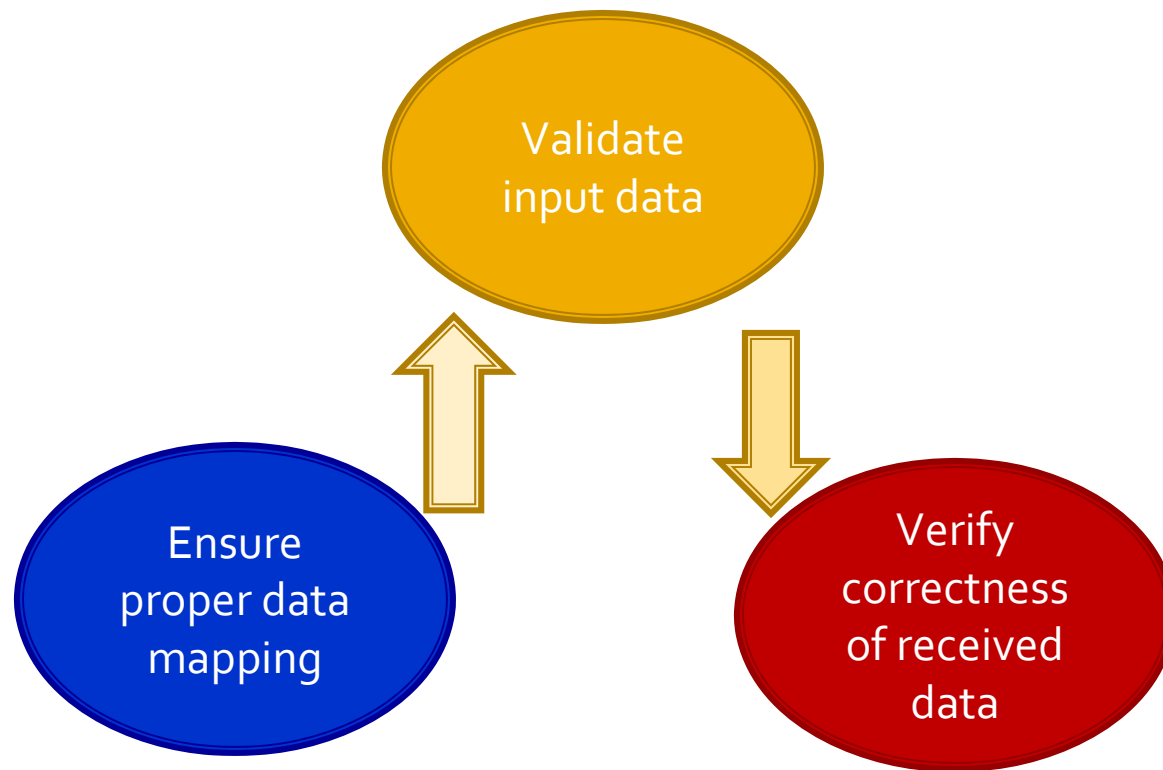
Agenda:

1. EPA's Nat'l UIC Data System Framework
2. UIC Data Validation Process --
 - Ensuring Appropriate Data Mapping
 - Validating Incoming Data
 - Verifying Received data

National UIC Database System Framework



UIC Data Validation Process



Ensuring Appropriate Data Mapping

Logical Mapping form:

- Identify matched data elements
- Recognize default value uses
- Document data mapping for evaluation & references

TRRC Logical Mapping_Update 7-31-2010.xls [Compatibility Mode] - Microsoft Excel

UIC-W3-DATE (Plug + Abandone),

UIC Mapping Form (3/22/2010)

1
2 UIC Program : Texas Railroad Commission (TXRC)
3 Well Class(es): Class II
4 Date: 3/22/2010
5
6 * Required data field
7 ** Please use Well Type and Lookup Tables worksheets to map acceptable values
8

National UIC Database				DU/State UIC Database			
Field Name	Definition	Acceptable Values**	XML Tag (Draft)	Database Name(s)	Table Name(s)	Field Name(s)	Comments/Issues
Table name: Well							
WELL_ID*	Unique identification of Well table - The first four characters are primacy agency code (see Appendix D of Data Dictionary). The rest is DI program or State's choice (letters and numbers only) identifying unique well (e.g. TXEQWDW366, ...)		WellIdentifier	UIC-ROOT Segment	Inventory Permit Info	UIC-API-NUMBER (UIC-CNTY-NO + UIC-API-NO)	Format: TXRC + UIC-CNTL-NO
AQUI_EXEMPT	Well injects into exempting aquifer	**	WellAquiferExemptionInjectionCode				Unknown
TOTAL_DEPTH	The vertical depth (in feet) from the surface to the bottom of injection well		WellTotalDepthNumeric	UIC-ROOT Segment	Inventory Permit Info		
HIGH_PRIORITY	High priority Class V wells include all active motor vehicle waste disposal wells (M/VWDWs), large-capacity cesspools regulated under the 1999 Class V Rule, industrial wells, plus all other Class V wells identified as high priority by State Directors	**	WellHighPriorityDesignationCode				

Main Tables | Well Type Lookup | Other Lookup Tables

Validating Incoming Data

Validation Software:

- Execute UIC business rules
- Check if incoming data is complete, accurate, consistent
- Flag out data errors for correction

Validation Reports

The screenshot shows an Excel spreadsheet titled "UIC VALIDATION SUMMARY REPORT". The spreadsheet contains a table with the following columns: TABLE #, REQUIRED LEVEL, TAB TAG, TABLE, FIELD, B VALUE FOR EACH RECORD, TOTAL OCCURRENCE, and ERROR DESCRIPTION. The table lists several validation errors, such as "The well depth" and "All well and Engineering record (EngineeringDate) must exist as a child of the well record (WellID)".

TABLE #	REQUIRED LEVEL	TAB TAG	TABLE	FIELD	B VALUE FOR EACH RECORD	TOTAL OCCURRENCE	ERROR DESCRIPTION
10							The well depth
11	20	WARNING	WellAndSubmissions	Well	TOTAL_DEPTH	8888	(WellAndSubmissions) must be present in the Well record. The value must be an integer in the range 0 to 100000.
12	14	WARNING	WellHeader	Well	WELL_ID	8888	All well and Engineering record (EngineeringDate) must exist as a child of the well record (WellID) for the reported and type.

The screenshot shows an Excel spreadsheet titled "UIC Backend Report (Parse & Load)". The spreadsheet contains a summary of data with the following columns: Table Name, Number of Submitted Records in the Current Quarter or the Latest Submission, Number of Submitted Records in the Last Quarter or the Previous Submission, and Percent Changes over the last Quarter or the Previous Submission. The table lists several data points, such as "FACILITY" with 30029 submitted records and 30029 submitted records in the last quarter, and "PERMIT" with 99667 submitted records and 100271 submitted records in the last quarter.

Table Name	Number of Submitted Records in the Current Quarter or the Latest Submission	Number of Submitted Records in the Last Quarter or the Previous Submission	Percent Changes over the last Quarter or the Previous Submission
19 FACILITY	30029	30029	0%
19 WELL	300271	300271	0%
20 CONTACT	8762	4330	111.67%
21 PERMIT	100271	100271	0%
22 PERMIT_ACTIVITY	99667	101166	1.04%

Verifying Received Data with States

- **Adhoc Query tool:**
 - Verify quality of submitted data
 - Enable to drill down supporting data
 - Provide UIC draft reports: 7520s, PAMs, Inventory
- **Collaborate with States to ensure appropriate data use**

The screenshot shows the Microsoft Access interface for the UIC National DB - Ad Hoc Queries tool. The window title is "UICPREPROD - TXRC - 1425 8-25-2010 15:39:51 - Database (Access 2000 file format) - Microsoft Access". The interface includes a ribbon with tabs for Home, External Data, and Database Tools. The main area is titled "UIC National DB - Ad Hoc Queries" and displays the following information:

- Viewing: UICPREPROD for TXRC - 1425 - 8/25/2010 15:39:51
- Please note that only data associated with the above will be available for query.

The interface is divided into three main sections:

- Input Query Criteria:** Contains dropdown menus for UIC Program, State or Tribe Name, State, Well Type, Well Class, and Well Status. Below these are fields for Reporting Period FROM and TO, and FROM Date and TO Date. A "Reset Filters" button is located at the bottom.
- Query/Report List:** A list of query options including:
 - 1A- # SUBMITTED WELLS
 - 1B1- WELLS WITH OPER STATUS "AC,UC,TA"
 - 1B2- WELLS (B3) WITH PERMIT "PMPD"
 - 2- PERMIT ISSUED
 - 3A- VIOLATION (BY WELL)
 - 3B- WELLS WITH VIOLATION
 - 4A- ENFORCEMENT ACTION
 - 4B- WELLS WITH ENFORCEMENT ACTION
 - 5A- INSPECTIONS (BY WELL)
 - 5B- WELLS WITH INSPECTION
 - 5C- FACILITY WITH NW INSPECTION
- Run Report/Queries:** Contains buttons for "Run Query/Report", "QAQC Report", and "Build New Query".

The "Query Description" section shows an example query for "2- PERMIT ISSUED" with the following SQL:

```
Permanent Filter
((PERMIT_ACTIVITY.ACT_TYPE="P") AND
(PERMIT_AU1_STATUS="AP" OR
(PERMIT_AU1_STATUS="IP")))
```

Questions?

