

## **Region 4 WQX Meeting**

### **Meeting Background:**

A WQX regional outreach meeting was held at the EPA R4 offices in Atlanta, GA on May 23 and 24, 2006. The purpose of the meeting was for EPA HQ and EPA R4 to meet with WQX stakeholders within R4 (see attendees list) for the purpose of discussing the new WQX system. Three main topics were covered:

- an overview of what the production WQX system is, and how it will function, including an overview of the WQX schema
- feedback on the data elements within the schema for purposes of sharing water quality monitoring data
- discussion of the transition to WQX for users (either from the current STORET system, or other)

The following minutes capture the issues and questions brought up during the meeting.

### **May 23, 2006**

#### **The Future of STORET – WQX Overview**

(Dwane Young introduced the meeting and Kristen Gunthardt gave a presentation showing an overview of the WQX system)

Certain states brought up the issue of lack of communication with IT/Node people within their states (NC, KY). NC stated that they have never communicated with their node people.

Certain states are more positive about and are planning to use the xml generation web tool. (NC, KY)

#### **Introduction to the WQX Schema**

(Dwane Young walked the group through the WQX data elements and schema structure)

Will EPA be able to share others' system for building a new DB?

- Dwane Young has design documents and ERD's from VA, NH, MA data systems. As these items have been shared with EPA, they can be made available for other states to look at. NH's system is designed to interface directly with STORET, same with MA (and they have bio). All are Oracle systems.
- R8 example of Regional consortium

R4 hasn't had a STORET coordinator in the past.

- The vision is of a data mgmt coordinator that supports data mgmt across programs. This may facilitate more resources from management as this coordinator would not be focused on one system

Should WQX require that users obtain new Org ID's in order to submit data?

- Should be an option – why would we have new ones if the WH will stay the same?

How will STORET data be changed once WQX is running?

- The assumption that folks would flag all WQX data from a new db as “new” then send that again to WH is erroneous. NC makes the point that dealing with legacy data is a management call that states need to make.

Data synchronization will rely on the submitters to keep track of changes

Programs don't exist in WQX, is this a problem?

- NC duplicates their projects in programs
- MS has programs

How is ground water / well data being covered?

- EPA is still researching how ground water will be incorporated. ESAR is not finalized yet for wells, which is another reason why EPA hasn't covered it.

EPA has changed the way we deal with relating QC data to activities. Activities will be tied to Orgs instead of monitoring locations (but depending on the activity type, you might need to provide a monitoring location.)

The question was posed, how many states put in their QA type data into STORET?

- MS does, GA doesn't, FL doesn't require it. Gillian (KY) says she doesn't put it in because it's easier not to. Dwane asked if there was a way to pull associated QA data from the WH, would this be more incentive to put the data in? It's a possibility...

Should the WQX schema require a unit code if the result value is a non-detect?

- If you can pull the unit code information out of the WH, then yes.

The way EPA is dealing with the reference lists is changing. EPA is using SRS as the source for most of the domain value lists, and web services will serve as way for folks to keep tables up to date.

The question of characteristic groups came up as KY (Gillian) is using characteristic groups, as well as NC, AL and SC.

The WQX schema is using a measure block within results that will include a result qualifier, for submission of lab qualifiers such as U, J, R, etc. The danger is that there may be conflict in terms of other data elements that also capture this information.

- NC – There are so many labs, there is no standard list for these qualifiers.
- EPA's thought was that we would have a domain list, and if others are desired, we will consider what to do. This data element will be optional. USGS is also driving this need because they use qualifiers.

- NC – Labs don't usually keep up with the historical lab code changes. States have little control over the labs. NC was really working with LIMS for getting data in to STORET, now the fear is that the lab will push back on any cooperation. Ideally, lab data would come directly from the lab.

Ryan from Gold Systems make the point that WQX is a shift away from the way SIM, for example, deals with transactions. WQX requires the whole bundle of data upon each submission (the XML needs projects, monitoring locations, etc. every time you submit results data; your project and station type data are not set up prior to putting in results)

**Overview of schema changes from R8 WQX outreach meeting:**

(Dwane Young went over the list of schema changes requested during the R8 WQX outreach meeting)

Addition of the 12 – digit HUC

- AL doesn't use STORET as a repository, but they use 12-digit HUCs extensively.
- NC – Geo spatial integrity is not necessarily EPA's responsibility, but lat/long accuracy is of utmost importance for data to be spatially informative.

EPA is exploring the idea of a new web service that would return NHD reach codes for monitoring locations, plus a way for folks to QC this.

Does an External Station ID need to be added to the schema?

- This wouldn't be necessary for data sharing

EPA won't be implementing the Field Set concept in the WQX schema, though the schema has the structure to handle it.

- No one at the meeting really uses this concept

WQX doesn't allow partial submittals

- Some folks use the partial submittal feature in SIM, but it depends on the amount of records (SC).
- GA, NC, MS submit data through SIM in an all or none type fashion. FL sometimes uses the partial submission capability.

SC asked, how will the error messages come back in the WQX system?

- This is an important point – EPA needs to make sure that the error messages are clear and useful for data submitters.

Things like IBI scores are not in STORET, but should WQX provide for this type of data?

- NC made the point that EPA needs to focus on making the chem/physical data flow very good before we approach the bio piece.

**May 24, 2006**

At the beginning of the day, a few questions were asked regarding WQX capability in the following areas

- Data assessment tools, like those from legacy (criteria type assessment tools)  
Tools to tell whether an analyte is above or below a certain threshold.
- It would be great if we could link ADB with STORET/WQX. If we could at least give number exceedances, that would be helpful.
- If you pick a station, it would be nice if you got back the characteristics measured at that station. This is already available through the mapping applications, but from the WH we are looking at enhancing this feature.

### **Hector Buitrago – R4 NEIEN Grant Officer**

Hector talked for a bit about the NEIEN grant status in the R4 states, as well as distributed copies of status and contact information.

- NC, SC, MS and GA are all operational with nodes. The other R4 states are still in development.
- If folks would like updates on the grant status, Hector is happy to provide this to the distribution list.
- Next Exchange Network Meeting for R4: July 10th in Atlanta

### **Domain Values Discussion**

(Dwane Young went over the lists of domain values in WQX)

### **Procedures for updating the WQX schema**

Dwane Young went over the basic rules for what kinds of changes we are willing to make to the schema:

- For a new data element:
  - Is this a data element necessary for sharing?
  - Is it in ESAR?
- For domain values:
  - We are flexible with adding to the domain values
- New data elements that are optional are feasible
- Major structural changes will be not possible to do after the interim release at the end of May 2006

### **XML Overview**

(Dwane Young gave a brief overview of what XML is, how it differs from flat files and relational databases)

### **WQX Data Flow Submission Process**

(Ryan Jorgenson from Gold Systems presented what the WQX data submission process looks like)

SC asked if there are tools available for configuring/developing a node?

- Yes, the EN website has this information available.

Will the error messages be useful to the submitters?

- This should be a high priority for EPA – Users many times learn the system based on the error messages they receive.

**Local and Transition Issues**

<b>Group A – STORET is Primary System</b>	<b>Group B – Use other system</b>
Communication with the IT staff	
WQX leaves states with No Data System	System some states have was built to mirror or feed STORET (AL). The business rules / hierarchical structure will need to change – this will cost money
How do folks sync old and new data – STORET data that has to be managed with new WQX data – States will probably do things different: <ol style="list-style-type: none"> <li>1. EPA takes what’s in the WH and migrate it to WQX back end in order to allow transactional changes to be made</li> <li>2. The state manages this, and puts in complete refresh of data through WQX</li> </ol>	How do folks sync old and new data – STORET data that has to be managed with new WQX data
Burden of tracking business needs is transferring to the states – where do the resources come from to cover this burden?	
Migrating local STORET to a new data base is a big challenge	
Timing of release of the proposed tools is a concern. EPA can’t discontinue STORET before having WQX tools up and running	KY Compass system timing needs to coincide with WQX release.
The production schedule assumes that nodes will be operational for WQX – without the requirement of using a node, some states may be fully ready to go	
If the node interface as the only way to submit data will limit the system – State coordination is a huge factor	
Integrating monitoring data with program data is a selling point – other systems like EDAS make this easier, and we have talked to them about making EDAS data available to WQX	
Will STORET applications last through 2009?	
Competing priorities for IT staff within states	

What about training? Node training in spring 07? Computer based training Add functional demo test for folks to train on?	
No Biological Component in WQX	
What happens when NEIEN grant money runs out? Maintenance is another big cost.	
What about tribes that don't have a node?	
How does this affect 106 money?	

Options for addressing issues:

- No data mgmt system
  - States development their own system
    - Start with the WQX model
    - Use another states data system model
    - Keep STORET
    - Modify and use third party / off the shelf software
  - Regional developed db, such as the one R8 is moving forward with?

What is the possibility of putting out an RFP and having consultants build a standard system that states could use for a reduced price, or share the cost in?

- Alternate method of submission from the node
  - For tribes and other small users during 2007-2008, without a node, options are:
    - WebSIM hosted at RTP for use
  - Beyond 2008
    - XML Generation Tool – XML through CDX, as well as XML back to the submitter so they know the format, plus the translated flat file so that you know what will go into the back end, query functionality off the ODS for the currently loaded data.
- Communication with IT Staff
  - SC is an example where this works – groups are close in proximity
    - Program folks need to communicate better / have more knowledge about the node
  - FL node implementation is getting done
  - AL issue is lack of funds, and finding good contractors
  - Cherokee – looking at being the main lead for tribes in R4
- Migrating data from STORET to new DB
  - Money, other resources from HQ to help?
  - FL already has this on the radar

- If there was a core type DB model (WQX) the migration could potentially be replicated, even a tool could be developed

**\*\*\*\*\*Action Items and Next Steps:**

1. (EPA HQ) Color code Data Dictionary for optional and required data elements – pursue newer ways for visualizing the schema
2. (EPA HQ): Look into whether it is possible to set up a blanket license for XMLSpy (or other XML visualization tool) that we could allow states to use?
3. (EPA HQ): research other tools to help construct/use XML. It’s important to remember that WQX requires a specific format and will require some custom work to construct. For example, excel can switch files to XML, and just performing this function on monitoring data won’t just convert the data to WQX.
4. (EPA R4): Draft a letter from R4 to State environmental division directors, state IT staff, and all tribal chiefs within region (cc’ing the environmental managers for the tribes) stating the overview and timeline for WQX.
5. (EPA HQ): Post R8 Meeting minutes as well as R4 to STORET website
6. (EPAHQ): Send out Ryan’s presentation to distribution list, as well as overview initial presentation.

**Feedback / Potential Requirements for system and schema**

1. Research if it would be good to build characteristic groups in to the XML generation tool, so folks can still utilize this feature.
2. For certain characteristics such as metals, look in to requiring sample fractions

**List of Attendees:**

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