

QUESTIONS ON REQUEST FOR STATEMENTS OF INTEREST

October 27, 2009 version

Individuals are referred to the recording of the October 6, 2009 webinar for presentations as well as questions and responses related to the Request for Statements of Interest for pilot testing of a National Ground Water Monitoring Network. The following provides a summary of the substantive questions asked and responses provided subsequent to October 6, 2009 webinar. Additional technical questions should be referred to Bill Cunningham, co-chair Subcommittee on Ground Water, wcunning@usgs.gov, 703.648-5005. For administrative questions, such as deadlines and where to send applications, contact Sue Avedikian, c/o National Ground Water Association, savedikian@ngwa.org, 800.551.7379, ext 562.

QUESTION 1 – Data Release Restrictions: Our network includes wells owned by public water utilities, some that are used as emergency back-up wells. It has been the practice of our agency that the location data (latitude/longitude) for public water supply wells will not be available to the general public. Requests for that data have to go through a special process in our Freedom of Information Office. Will the national network portal take this into consideration?

RESPONSE TO QUESTION 1: The Subcommittee on Ground Water discussed this issue during the preparation of the Framework report. The SOGW addressed this security concern briefly in the Framework report by stating that the site identifier for Public Water Supply wells should not indicate their location. The Framework report does not address the issue in great detail.

The bottom line is that this issue is not completely resolved yet. Ideally, the National Network will find some way to address the issue in such a way as to provide useful data, yet meet State (and/or Federal) security concerns. As we evaluate this pilot effort, however, it may become clear that the rules among data providers are different enough that we can't come to agreement on a way to make it work and still meet the Framework data requirements. If that is the case, the data provider will have the ultimate control over what data are included in the National Network. The data provider would "screen" the wells based on their own security rules.

QUESTION 2 – Length of Statements of Interest (SOI): The page limit on the SOI is 10 pages excluding figures. Can we treat tables like figures and not have them count towards the page limit? The list of wells we want to evaluate through the pilot study will make a fairly long table. We were also going to put our data elements in a table as part of the discussion of our data management system. This could take up some pages.

RESPONSE TO QUESTION 2: Yes, those would be useful additions.

QUESTION 3 – Page Length/Use of Appendices: Can we put our field standard operating procedures in as an appendix and not have that count towards the page total?

RESPONSE TO QUESTION 3: Yes

QUESTION 4 – Aquifer Naming Conventions: Are there U.S. Geological Survey (USGS) standardized codes for the Principal Aquifers and Regional Aquifer Systems as designated in HA 730 similar to the USGS National Water Information System (NWIS) geohydrologic unit codes such as ‘210DKOT’ (Cretaceous System of the Mesozoic era, Dakota sandstone or formations or group)? Any systematic naming convention would be useful.

RESPONSE TO QUESTION 4: Yes, the USGS has standard codes for what these aquifers. We call them "National Aquifer Codes". Here is a description from the web page that describes the aquifers, shows their extent, and provides the codes:

Aquifers shown on the 2003 Principal Aquifers map, with some additions, were used as the first National Aquifer reference list in the USGS NWIS in the Aggregate Water Use Data System (database released in August 2001). In 2005, national aquifer was added as a field to the other components of NWIS, and to NWISWeb.

The web page is here:

<http://water.usgs.gov/ogw/NatlAqCode-reflist.html>

If you have any questions after taking a look at these web pages, let me know. I'm especially interested in knowing if there are "regional" aquifers of interest to you are not listed.

QUESTION 5 – Portal Operations: I am still puzzled as to how the “Portal” is supposed to work. I now understand that the data a Pilot participant provides does not reside in a common database (at USGS for example). Instead, the Portal acts as a window or doorway to the data wherever it resides on various Pilot participant servers. However, I don't understand what we will need to do on the Pilot partner end to make the data available/accessible through the Portal.

RESPONSE TO QUESTION 5: One could view the pilot phase of the National Ground Water Monitoring Network (NGWMN) as a pilot phase for the portal development as well. A prototype portal will be developed to help determine the best approach to reach the goal of providing one place for NGWMN users to obtain data from many sources. If I stated that "the data a Pilot participant provides does not reside in a common database", I misspoke. The SOGW, in the Framework document, does not define the approach that the portal effort must take to achieve the desired outcome. The report defines the needs of the users, and some of the questions we expect the data from the NGWMN to address. In software/IT-speak, we establish the requirements, and the software developers determine the best way to achieve those requirements. There are different ways to achieve those requirements, with advantages and disadvantages to each. One end of the spectrum is to require all data providers to send data to a static master database. The other end of the spectrum is to provide a website that will link all of the data provider websites. In large part, it will be up to the IT folks to determine how to meet the requirements of the NGWMN, but it is also a function of the capabilities of the willing data providers. The resulting product is likely to fall somewhere between the two endpoints I mentioned.

QUESTION 6 – Data Not Currently Publicly Available/Inclusion of Aquifers Through Portal: We have a wealth of water level and water quality data residing in a database housed here in the state agency. It is not publicly accessible. To do so, suggests that we will need to place the data (or more likely, a copy of the data) outside our firewall. For us, I think that is do-

able without a great effort, although if we are talking about limiting the data to only those concerning a specific “principal aquifer”, then we will need to separate those data or flag those data in some manner.

RESPONSE TO QUESTION 6: At this time, our view is that all of the data in the NGWMN will be publicly accessible without condition. One clear requirement important to all of the participants in the SOGW process is that the source of the data must be clear to the user. So, for example, any data provided by the ISWS would be identified as such. To put your comment into the "spectrum" I described above, you would either send your data (in a secure manner) to a master database, or you would allow a secure connection to your database from the "portal", and your database would respond to a data request from the portal.

QUESTION 7 – Lack of Uniform Data Field Names: Each agency’s database will contain common fields that are not named commonly. For example, we call our well identifier field “p_num”, but another state agency and potential pilot partner with us calls their identifier field “WELL_ID”. Similarly, we have different names for our x- and y-location fields. How will this be addressed?

RESPONSE TO QUESTION 7: Your comment about "common fields that are not named commonly" is a very good one. In my view, this issue along with data quality measures are the two biggest issues faced when aggregating data. This can be addressed in different ways, but requires "translation" to common data elements in some way. That translation requires interaction between the portal developer and the data provider. The effort can be led by the data provider (work on your end) or by the portal developer (work on their end, with input from your database folks). The SOGW Framework report makes the following statement about data element names:

[“It is not the intent of the SOGW to recommend any one existing data standard or data model \(e.g., NWIS, STORET, and CUAHSI\) over another or recommend development of a new data standard and model. Rather, it is recommended that an effort be made to standardize data element names and definitions, allowed values, and XML data tag values.”](#)

There is an effort in the "water industry" to come up with standards to help with this issue (internet search for "WaterML", "HydroML", "groundwater markup language", for instance). The SOGW and portal developers are following these efforts.

QUESTION 8 – Publicly Available Data/Firewall/Pilot Partner Responsibilities on Data Exchange: My questions are: 1) for the Portal to work, I assume Pilot participants will need to make their data publicly accessible, and so must likely put their data outside a firewall; 2) do we, as Pilot participants simply need to let the Portal programmers know what our database field names are and what they contain – basically, good metadata – and provide a link to the data, or, is there something I am missing?

RESPONSE TO QUESTION 8: (1) Yes on the public accessibility. The firewall issue is separate, in my view. We are not asking any data providers to compromise the security of their databases. Data security and public accessibility are not mutually exclusive. (2) This is an excellent point--both from a technical perspective and a management perspective. Pilot participants can take a variety of approaches here. They can take what I'd call a passive approach, which would be to " let the Portal programmers know what our database field names

are and what they contain – basically, good metadata – and provide a link to the data". This is a perfectly valid approach. It places the onus on the portal developers to do the necessary programming to "translate" the data provider data into the common data portal format. Or they could propose a more "active" approach that would allow their database manager(s) to be active participants in figuring out the best way to get the data to the portal--by actively participating in the process, or even writing their own translation software. From the portal perspective, this exercise will enable the portal developers to determine the level of effort with a variety of systems, personnel, and approaches and help to define the feasibility of different approaches when the NGWMN is implemented at the National scale.

QUESTION 9--10-Page Limit: Does the letter of transmittal counted against the 10 pages?

RESPONSE TO QUESTION 8: No.

QUESTION ON GROUND WATER/SURFACE WATER INTERACTIONS FROM OCTOBER 6 WEBINAR

This is a transcript from one of the questions from the October 6, 2009 webinar. It is highlighted here because of the high level of interest in ground-water/surface-water interactions

Question from New Jersey: We were just talking about the ground-water/surface-water interaction component of this and whether or not you would be linking in the portal ground-water-level data and streamflow data. Many places in New Jersey we can see the effects of ground-water pumping on stream flow and surface water interaction with that type demonstrated we would be looking at those two sets of data.

Bill Cunningham: Excellent question and excellent point. We have not specifically said would address that in the portal. But I think we should consider that. Anyone on the Subcommittee have a comment?

Bob Schreiber: One of items that we mention, Rick, and everyone else on board, we see that element as I guess you would call it extra credit in terms of the evaluation of the Statements of Interest that come in. If you could flesh out your ideas to a certain extent and write up – not write several pages but my recommendation make it clear to the selection committee that this is an element that you are very interested in and have some groundwork done in that regard or whatever you had done because of the extra credit nature of that aspect of what we are doing.

New Jersey: So maybe the question is then if you are not going to look at surface water data, or if that isn't the original thought, how did you expect to look at the ground-water/surface-water interaction?

Bob Schreiber: Well that is a good question. And there is hardly a state that doesn't have ground-water/surface-water interaction, so in a way that could neutralize the terms of other Statements of Interest. However the extra credit aspect would fall into the category of what have you done so far - and what can you do to help with such issues or possibilities linking the ground-water/surface-water data in a data management or data portal sense to help the analyst

do their job. A lot of this will end up being in a gray area and would be subjective on the part of the selection committee, but whatever you can do to talk about what you have done so far can be helpful. Anybody else from the Subcommittee want to add to that?

The Subcommittee offered no additional comments.