

# Safe Drinking Water Workgroup - Triennial Audit

## December 2013

This document presents internal audit results of an evaluation performed on the Safe-To-Drink Portal development effort using the six monitoring program performance measure criteria adopted by the Council. The evaluation was done by the Safe Drinking Water Workgroup facilitator with review and comment from the group.

### Our Workgroup

The Safe Drinking Water Workgroup first met November 2011 in a plenary session wherein a “vision” of a “Safe to Drink” portal was presented by the California Department of Public Health (CDPH) Drinking Water Program. Our group’s mission was and is to design, construct, and launch an easy-to-follow **My Water Quality** web site showing water users and other audiences the quality of their specific drinking water, and the role, responsibilities, and accountabilities of agencies and regulators to assure water of acceptable quality is delivered to the California populace.

We are a relatively new workgroup composed of organizations and a public representative passionate about water quality, each bringing specific knowledge and foresight to the table:

- CDPH Drinking Water Program – designated the “primacy” agency in regulating over 2500 California public water systems and having information on drinking water quality, production, the cost of water, and improvement projects
- The Department of Water Resources (DWR) – having information on surface water source assessment
- Association of California Water Agencies (ACWA) - a trade association representing water systems throughout the state
- State Water Resources Control Board (SWRCB) – providing analytical information on well water assessment through its GeoTracker GAMA Information System and categorization of impaired surface waters
- Water Education Foundation (WEF) – an organization dedicated to providing educational information on all stages of the water cycle
- Southern Coastal Commission Water Research Project (SCCWRP) – facilitating the funding for initial development of this web site
- Carmichael Water District (CWD) – providing a public water system perspective on design of the web site and possessing expertise in water treatment and delivery
- A public member affiliated with Environment Now - providing a consumer’s perspective on what water quality information should be disclosed on the site

To round-out the group, it may be of benefit to invite a representative of the American Water Works Association (AWWA) having extensive technical expertise in the treatment and delivery of drinking water.

## **Initial Design**

The group decided to develop initial content based on the strategy to answer eight assessment questions with the public as the primary audience and “drinking water” being assessed specific to that selected by the site visitor. These questions met with Council approval at its Spring 2012 meeting: (Several other questions relating to the cost of water, water quality improvement projects, and water production will be addressed in the future.)

1. Is my tap water safe to drink?
2. What is the source of my water?
3. How is my drinking water treated?
4. How is my drinking water made safe?
  - a. What are the government standards?
  - b. What agencies are involved with water quality protection?
5. What is in my drinking water?
6. How safe is groundwater? Surface Water?
7. Drinking water FAQ (include taste/smell and other general questions)
8. Who do I contact about my water?

Work began in earnest July 2012 with the identification of end-of-the-year seed money, allowing for the contracting with the WEF, through the SCCWRP, to research and to develop site content. Relevant datasets available from group members were surveyed and evaluated for relevance in supporting proposed content. The first site mock-up was constructed by SCCWRP early 2013. As of this audit date, the group has met frequently for the iterative process of finalizing a mock-up of the proposed site to be presented for Council approval at its December 12<sup>th</sup> meeting.

## **Audit Evaluation**

We are a relatively new workgroup, and as such our disparate water quality methods and systems have not been integrated let alone comprehensively identified or characterized. We are confident, however, that our site will provide sufficient information about water quality relating to a specific water system.

The work of this project has transformed from a contractor-based content development and workgroup review model to one where the development and review is being done

by the workgroup, the monies available to our sub-contractor, WEF, having been exhausted. It appears, however, that this latter method is more effective and efficient in reaching our milestone of finalizing a mock-up of the site for Council consideration. At this phase of the project, there does not appear to be any explicit needs that would increase the quality of our work effort.

1. **Strategy, objectives, and design:** Core questions have been focused at providing drinking water quality information to the general public specific to a particular locale. Other audiences such as state agencies, environmental groups, legislative decision-makers, and academicians should be surveyed to determine drinking water quality issues and necessary water quality datasets to which the portal could provide answers with supporting data and analyses. No regard has been placed on the manner and context of presenting regional or statewide drinking water quality information.

**Score: Low**

2. **Indicators and methods:** The business processes within the CDPH for the collection and evaluation of public water system operational information are robust; however, these systems are being re-engineered to take advantage of current reporting technologies.

The site will provide a link to the SWRCB GeoTracker GAMA Information System. This system consumes well water quality data supplied by CDPH as well as by other reporting systems. The group has identified a lack of supporting data in characterizing the quality of post-treated (finished) water delivered to the consumer as differentiated from pre-treated (raw) water for both well and surface waters. Water quality analysis is not done routinely after treatment with the exception of lead and copper testing.

**Score: Low to Medium**

3. **Data management:** With the hosting of the proposed site at UC Davis and with the construction of an integrated Exchange Node compatible with CEDEN on the CDPH DRINC Portal, there is the assurance that needed datasets can be reliably accessed, analyzed, and presented. Procedures, however, must be tested and documented to assure sustainability of operations. While the CDPH is hopeful for the development of a drinking water semantic ontology that will facilitate the understanding of tagged drinking water datasets, the effort has been hampered given restrictions on funding authorization.

This portal will be based upon a content management system (CMS) technology. Increased coordination is necessary for a CMS-type of site management integrated with the existing **My Water Quality** portals. For example, this portal is capable of using the

new Governor's web site standards identified at [webtools.ca.gov](http://webtools.ca.gov) in favor of the legacy templates currently used by other sites. Coordination is also required for:

- Integration of iFrames (GeoTracker GAMA) (SWRCB and CDPH)
- Sustained availability of non-CDPH datasets contemplated for use (other members and CDPH)
- Second-level menu navigation links compatible with existing sites (CDPH and My Water Quality site host)

**Score: Medium**

4. **Consistency of assessment endpoints:** Given that there are a wide range of issues related to water quality by the various state and industry organizations, there is no single statewide assessment approach for drinking water other than what is legally defined as "safe" from a health standpoint, that being the compliance with the maximum contaminant level standards. The workgroup is struggling to conclude the context in which the level of drinking water contamination is presented to the site visitor. One perception is that two million Californians do not have access to "good" drinking water, a view not necessarily supported by acceptable drinking water quality standards. There is a difference between a Public Health Goal (PHG), a Maximum Contamination Level (MCL), and a violative condition requiring an enforcement action, all which must be easily understood by the site visitor. It is hoped that users of this portal will be able to understand the difference between these objectives, and compare and contrast their water quality against these differing standards. Of significance is the fact that there are only a few chemicals that have a PCG or MCL whereas there are hundreds of chemical contaminants that do not have any acceptable contamination level.

**Score: Medium**

5. **Reporting:** No reporting guidelines have been as yet defined by this project. There is the potential, however, of creating dynamic datasets based upon information requests of key fields in what is termed a JSON Restful web service. This would allow any user to consume information available on the portal for their particular use and presentation. It would be helpful if there would be a coordinated effort by the Council's Data Management Committee to facilitate a standard method for responding to this type of data request.

**Score: Low**

6. **Program sustainability:** The majority of information supplied to this portal is gathered through normal and sustained on-going CDPH business operations. The portal is based upon a CMS technology allowing for workgroup members easily to add and modify portal content as necessary. Because there is no history associated with

evaluation of this project and related programs, and because this project is in a design phase, a valued sustainability assessment cannot be made at this time.

**Score: Low**

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