Water System Survey Tips and Tricks

Focus on Public Health

Fall Training
October 17, 2017
Outline

Tips and Tricks for:

✓ On-line Resources
✓ Scheduling Surveys
✓ Preparation
✓ Conducting surveys
✓ Using survey forms
On-line Resources – County & Dept. of Agriculture Resources
Survey Basics Review

• A water system survey is an on-site inspection
• Surveys identify significant deficiencies and violations
• Must know how and when significant deficiencies are going to be resolved.
• Significant deficiencies found during survey will prevent community systems from being considered “outstanding performers.”

OFFICE OF ENVIRONMENTAL PUBLIC HEALTH
Drinking Water Services
Eight Survey Elements

• Water sources
• Treatment
• Distribution systems
• Finished water storage
• Pumps, pump facilities and controls
• Monitoring, reporting and data verification
• Water system management and operations
• Operator certification
Surveys => Updated Database (SDWIS)

- The survey is used to update our database (e.g., population, number of connections, treatment, chemical monitoring schedules, etc.)

- Forms are available on-line to update the database between surveys.

http://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/PARTNERS/Pages/inventory.aspx
Schedule Survey Early

Notify WS of upcoming survey – Approx. 2 weeks prior

- **Explain** what survey involves & how long it will take
- **Access** to all facilities is needed
- **Records** should be available for regulator to review:
  - System-wide map
  - Sampling plans
  - O&M Manual
  - NSF certification for chemicals
  - Operator protocols (if applicable)
  - ERP
  - CCR, ASR, M&R records
Request Storage Tank Photos

• Request photos 2 weeks before survey showing:
  – Hatch (locked & watertight)
  – Vents (completely screened)
  – Overflow (flap valve/screen)
  – Other openings into tank interior.

• Ask to see recent tank inspection reports.
• Surveyors not advised to climb tanks.
Send “Preparing for Survey” Info

✓ “Preparing for a Water System Survey”
✓ Significant Deficiencies
✓ Outstanding Performer Criteria

Outstanding Performance Criteria

The Drinking Water Program (DWP) has identified criteria for determining whether a Community public water system should be considered to have outstanding performance. This designation is given at the completion of a water system survey, formerly referred to as a sanitary survey. A water system survey is an on-site review of a system’s sources, treatment, storage facilities, distribution system, operation and maintenance procedures, monitoring, and management, for the purpose of evaluating the system’s capability of providing safe water to the public. Systems that are designated outstanding performers will have their water system survey frequency reduced from every 3 years to every 5 years.

The criteria for outstanding performance are:
1. No Maximum Contaminant Level (MCL), Action Level, or Treatment Technique violations in the last 5 years;
2. No more than one Monitoring and Reporting violation in the last 3 years. The one violation must be resolved (results submitted);
3. No significant deficiencies or rule violations identified during the current water system survey; and
4. Has not had a waterborne disease outbreak attributable to the water system in the last 5 years.

To check your water system’s violation history, go to [http://healthoregon.org/dwp] and in the “More Resources” box on the right, click on “Drinking Water Data Online.” Type in your water system name or PWS ID number. The date of the last survey is listed on this page. Towards the bottom of that page, under “For further information...” click on “Violations.”

- An MCL violation will have “MCL” in the Violation Type column.
- Treatment Technique violations are for inadequate surface water treatment or corrosion control.
- If the system has one Monitoring and Reporting violation during the last 3 years, there must be a subsequent monitoring result for that contaminant on record in order to meet criterion #2.

We strongly encourage all systems to meet the Outstanding Performance criteria. We will review your system’s designation for Outstanding Performance after completion of each water system survey. The designation will remain in effect as long as the criteria continue to be met.

If you have any questions relating to compliance with any of these criteria, please contact your regional Drinking Water Program or County Health Department staff person, or contact the DWP Phone Duty person at 971-673-0405.

Rev: 3/12/12
“Preparing for Survey” Info On-line

Consider Equipment

- Chlorine Test Kit
  – DPD type for free chlorine
- pH meter (corrosion control)
- Maps (USGS, Google)
- Camera
- Flashlight
- Mirror
- Lunch (or snack)
- Cell phone
- Be prepared for inclement weather!
Review System Information Prior to Survey

- Previous survey
  - having the electronic MS Word version will help
- Monitoring & reporting
  - Check both coliform and chemical schedules/details
  - Anything past due or near due?
  - Any reductions possible?
  - Radionuclide schedules are based on last sample results.
- Violations/System Score/Enforcements
  - Are all violations resolved (RTC)?
  - System score near zero (<11)?
  - Any open enforcements?
  - Unresolved significant deficiencies?
  - Can anything be resolved?
- CCR & ASR reports (CWS)
- Correspondence since last survey (Contact reports)
Review Survey Process

2. Setback issues procedure - 2015

Survey Manual and Related Information

- Symbols for Schematics and Sample Water System Schematics
- Counting Population and Connections for a Public Water System
- Chemical Monitoring Schedules for Community and Non-Transient Non-Community groundwater systems
- Standard Monitoring Framework - to assist with completing the water quality monitoring page of the survey
- Outstanding Performance
- Deficiency List - revised 6/24/2015
- Setback Issues Found in a Survey - Procedure - New 12/15/2015

http://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/PARTNERS/Pages/surveys.aspx
May Need Survey Symbols

Survey Manual and Related Information

- Symbols for Schematics and Sample Water System Schematics
- Counting Population and Connections for a Public Water System

http://www.oregon.gov/oha/PH/HEALTHYENVIRONMENT/DRINKINGWATER/PARTNERS/Pages/surveys.aspx

- Instructions on how to fill out survey forms
- Includes examples, tools & more
Symbols.doc

- Pre-made graphics to copy & paste into schematics page
- Easy to move/re-size
- Also contains example schematics
“Pre-Populate” New Survey Forms

I find it helpful to “pre-populate” the new survey forms prior to conducting a survey.

• Transferring some info from previous survey to new survey forms helps me to become familiar with the latest survey form and the water system.

• Generally I only use the previous survey report
  – having the electronic MS Word version will help
“Pre-Populate” => Field Verify

- Typically helpful to transfer/pre-populate:
  - Inventory page (compare to data on-line)
  - Schematic
  - Entry Point Information (compare to data-online)
  - Source Info (wells/springs/etc.)
  - Tracer study information

- Based on a review of monitoring and sample schedules from data on-line, I pre-populate the chemical monitoring schedules and identify any monitoring reductions.

- I also note:
  - Unresolved violations, enforcements, deficiencies, & open plan reviews.
  - CCR
  - ASR and if we have a copy of the cross connection control ordinance available on-line.

- I then print out and take a paper copy of the pre-populated survey form to the survey and verify everything, marking up any changes that need to be made.
On-site Survey Approach

- The forms are a guide for surveyors as they look for deficiencies.
- Take care to use the correct forms and fill them out completely; remember that water systems are paying for this now.
- That being said, it is important to see beyond the forms and use professional discretion.
- Start with the source and follow the flow of water
- Learn about the system through conversation.
- Ask the operator to explain the flow control and treatment process
Inventory & Narrative Form

Verify WS information in Data Online is correct

- Verify contact information
  - Where to mail correspondence
- Is facility license required?
- Operator certification level correct & current?
- Operating season
  - Establishes coliform monitoring timeframe
- Emergency connections
Use Schematics for Better Understanding

- Schematics help you make sense of what you see on the ground
- They can also help in future conversations with operators
- Objective is to illustrate:
  1. How water flows through the system;
  2. Treatment;
  3. What is represented by key sampling points (i.e., raw water, treated water, entry point, etc.); and
  4. Major facilities (tanks, treatment, distribution)
Schematics

Ideally, schematics would show:

- **Sources** (name and SRC-XX)
- **Treatment** (general type – e.g., disinfection, cartridge filter, etc.)
- **Chemical injections:**
  - Indicate with arrow at a location relative to source, treatment, etc.
  - Type (e.g. sodium hypochlorite, soda ash, etc.)
- **Disinfection segment** (a.k.a. CT segment)
  - Clearwell (name and volume)
  - Lines for pipe (length and diameter)
  - Chlorine injection, flow meter, sample tap for CT
- **Entry points/First user** (name and EP-XX)
- **Distribution network** is just indicated using hatch mark
- **Tanks** (name and volume)
- **Pump stations**
Tanks will sometimes have a manufacturer plate, which is a simple way to get the year and capacity.
Keeping schematics simple is fine

1 Well/Entry Point:

Well (SRC-AA) → Dow Tank (0.5 MG) → EP-A → Distribution System

2 Wells/Entry Point:


Well B (SRC-AB)
Schematic Example w/Disinfection

Multi-wells/multi-entry points/residual maintenance:

Well #1 (SRC-AA)

Well #2 (SRC-AB)

Clearwell (0.5 MG)

Cl₂

EP-A

Cl₂

EP-B

Well #3 (SRC-BA)

Hill St Tank (1 MG)

Vine St. Pump Station

Upper Dist. System
I find it helpful to draw it as I see it.

- Instructions on how to fill out survey forms
- Includes examples, tools & more
This can help with more complex systems…

City of Gearhart  (GW system with arsenic treatment in Clatsop Co)
Or geographically dispersed systems.
If the system has a good schematic, I’ll use it.

City of Gearhart  (GW system with arsenic treatment in Clatsop Co)
Simple distribution schematics can also be helpful.

*Olney-Walluski Water Association (purchasing SW system in Clatsop Co)*
Sometimes reviewing a SCADA screen or O&M schematics can help develop a better understanding.

Cell Overview Screen
Don’t draw everything you see!

Morlocks are a fictional species created by H. G. Wells for his 1895 novel, *The Time Machine*, and are the main antagonist.
Seriously though – keeping it simple is fine
Well Information

Significant Deficiencies:

- Sanitary Seal & casing watertight
- If vented, is well properly screened?
- Wellhead protected from flooding
- Well meet setbacks from hazards
- Raw/treated sample taps
Be sure to check the entire circumference of the well casing. You can make a difference!
Don’t ignore disconnected wells if they may pose a hazard to the aquifer – recommend repairs or abandonment (may be required)
Deficiency Summary & Checklist

- Note significant deficiencies & rule violations from survey
- Include due dates for correction & CAP
- Update Date Corrected on summary sheet in file.
- Notify DMCE when deficiencies are corrected to avoid WS incurring violation

Deficiency Summary

<table>
<thead>
<tr>
<th>Yes No</th>
<th>Significant Deficiencies and Rule Violations</th>
<th>Date to be corrected</th>
<th>Date corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Well construction:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seal opening on top of Fairgrounds Well.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Remove evidence of rodent activity within Deep Well building and prevent their access. Improve vent screen.</td>
<td>4/1/15</td>
<td>3/30/15</td>
</tr>
<tr>
<td></td>
<td>Spring/other source:</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Replace screen on outflow pipe inside springbox.</td>
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<tr>
<td></td>
<td>Locate overflow pipe for springbox to verify it is protected with screen or flap valve.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treatment:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Surface water treatment:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disinfection:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other treatment:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Discontinue use of non-NSF chlorine tablet dispensers in North &amp; South reservoirs.</td>
<td>4/1/15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Finished Water Storage:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Add lock to hatch on steel reservoir.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seal all openings in North &amp; South reservoirs.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Verify all vent screens are installed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Distribution:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Monitoring:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collect Radium 226/228 sample during 3rd Quarter this year to complete initial monitoring.</td>
<td>4/1/15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Management &amp; Operations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Develop an Emergency Response Plan specific to water system.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Develop Consumer Confidence Report to send to customers annually.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Develop a Coliform Sampling Plan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Modifications made to 3rd &amp; Chase Well not approved by Drinking Water Program.</td>
<td>4/1/15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operator Certification:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other Rule Violations:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:
See cover letter for recommendations.
### TNC Checklist

- Significant deficiencies are bulleted items
- Include other pages if more than 1 well and/or storage is used
- Add disinfection page if needed.

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### Transient (TNC) and State Regulated (Non-EPA) Water Systems

<table>
<thead>
<tr>
<th>N/A</th>
<th>Surface Source</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td></td>
<td>Cartridge filter used (if not, use &quot;WTP&quot; form)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Turbidity requirements met</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Is system under SWTR order?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N/A</th>
<th>Treatment</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NSF 60/61 certified (or equivalent)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equipment maintained properly</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dosage recorded</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N/A</th>
<th>Well Construction &amp; Protection*</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sanitary seal and casing watertight</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>If vented, properly screened</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Raw water sample tap: Uses house kitchen tap</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treated sample tap</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protective housing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pitless adapter</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Wellhead terminates ≥ 12-in. above slab/grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wellhead protected from flooding</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Meets hazard setback ft.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Concrete slab around casing: Well located in vault</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Well logs from each source</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pump to waste piping</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Attach well information page if more than 1 well

<table>
<thead>
<tr>
<th>N/A</th>
<th>Pressure Tanks* - 3 tanks installed in 2005</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Used for contact time</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accessible for maintenance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Separate inlet/outlet</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bypass piping</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drain</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Pressure relief device</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air blader/diaphragm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valve for adding air</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Access port (if &gt;1,000 gal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water level sight glass (if &gt;1,000 gal)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Attach “Storage & Pressure Tank” page for reservoirs

<table>
<thead>
<tr>
<th>N/A</th>
<th>Spring/Other Source Construction</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Impervious/durable material</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Screened overflow</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bottom drain and shutoff valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Watertight access hatch/entry</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intersecting ditch</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treated water sample tap</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Raw water sample tap</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Meets hazard setback ft.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N/A</th>
<th>Chlorination and UV (Attach “Disinfection” page)</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chlorination for:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residual maintenance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disinfection (4.0-log virus)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Other:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>UV for:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total coliform positive source</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.0-log virus (186 mJ/cm²)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Management</th>
<th>PWS constructed before 8/21/81</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plan review approval</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emergency Response Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operations and maint. manual</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SNC or out of compliance with AO</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Public notice not issued as required</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Distribution: Required backflow devices tested annually</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**
System’s piping is flushed every spring. The septic system was replaced in 1997.
Take it one step at a time!

Evan’s kids trying to pick up a membrane module from the City of Warrenton
Survey Cover Letter

• Cover letter mailed to WS primary contact. Can also send copy to owner (ask)

• Letter outlines deficiencies, corrective action timelines & documentation needed once corrected.
Survey Cover Letter

- Significant Deficiencies need to match the survey

- Non-significant deficiency issues are included in letter as recommendations
## Deficiency Follow-Up

### Subject: Procedure for Follow-up of Rule Violations/Deficiencies identified in the Water System Survey

<table>
<thead>
<tr>
<th>Date:</th>
<th>8/6/12</th>
</tr>
</thead>
</table>

#### Unit: Technical Services (Tk) Revised:

#### Purpose & Scope:
The purpose of this procedure is to provide staff guidance on actions to be taken in the follow-up to deficiencies/violations identified in the water system survey. This procedure applies to public water systems using or purchasing from a GW source.

The process of performing a water system survey includes the identification of rule violations/deficiencies discovered during the survey. The public water system (PWS) is notified in the cover letter for the survey that they must contact the Agency within 30 days of the date of the letter, and must correct all violations/deficiencies or have an approved Corrective Action Plan in place within 18 weeks from the date of the letter.

A compliant PWS contacts the Agency within 30 days, and meets the 18 week deadline for correction of violations/deficiencies or has an approved corrective action plan. If not, the Agency staff should take the following actions as follow-up with the PWS:

1. **30 day deadline – Failure of PWS to contact Agency**
   - The PWS is required to respond to the WSS Report as detailed in the WSS cover letter within 30 days of the date of the letter by contacting the Agency. The purpose of this requirement is to confirm that the PWS received the water system survey report, and understands their responsibility to correct the rule violations/deficiencies identified in the report. In the event that the PWS fails to contact the Agency, the following actions should be taken:
     1. Contact the PWS by telephone/email and document contact by writing and submitting a Contact Report.
     2. The Agency should discuss the rule violations/deficiencies cited in the survey report with the PWS, and remind the PWS of the 18 week deadline to either correct the rule violations/deficiencies or have an approved Corrective Action Plan in place.

2. **18 week deadline – Failure to correct rule violations/deficiencies within the 18 Week deadline**
   - The PWS is required to correct all rule violations/deficiencies or have an approved Corrective Action Plan in place within 18 weeks from the date of the survey report cover letter. If all deficiencies are corrected, the PWS needs to submit demonstration of the correction(s) in writing. In the event that the PWS fails to correct all of the rule violations/deficiencies or have an approved Corrective Action Plan, the PWS is in violation of the regulations and is now subject to formal enforcement which could include the assessment of civil penalties. The following actions should be taken:
     1. Send the PWS a follow-up letter (see Standard Format Letter included on pages 3 and 4 of this document), in which the PWS is notified of the following:
        - Failure to issue the required Public Notice, or failure to submit proof of correction of rule violations/deficiencies or have an approved Corrective Action Plan in place, could result in the Agency referring the issue for enforcement action to the DWP Enforcement Section.
Significant Deficiency Tracking

• Allow groundwater systems 30 days to respond with a corrective action plan.
• Allow systems 120 days (18 weeks) to correct deficiencies, or be on an approved plan if more time is justified (the original corrective action plan is still due within 30 days).
• DMCE will track deficiency timelines and initiate alerts 106 days after notification (two-week notice).
Deficiencies & corrective action dates tracked in Data Online
Alerts emailed to regulator to review corrective action & timeline with WS
If no action is taken, violations are generated
30-day PN is required if failure to correct deficiencies by deadline.

*The list of water system surveys due each year is available online [here](#).
Working with the Survey Template (MS Word 2010)

Survey Form Templates

- About Survey Template Packets
- Survey Template Instructions
- Outstanding Performer Template

The following documents are password protected (they currently open best in Firefox):

- Packet 1: C-NJNC Groundwater Survey Template - revised 10/12/2016
- Packet 2: C-NJNC Surface Water Survey Template - revised 10/12/2016
- Packet 3: TNC-NP Survey Template - revised 10/12/2016

Survey Form Templates
Saving the Template
Click Link => Save File => OK
Removing the password
Step 1. Open File => Enter Password => OK
Removing the password
Step 2. Click “File”
Removing the password

Step 3. Click “Protect Document”
Removing the password
Step 4. Click “Encrypt with Password”
Removing the password

Step 5. Delete password and click “OK”
Removing the password

Step 6. Click the back arrow to return to the form.
Removing the password

Step 7. Click “Save”
Enabling full editing capability
Step 1. Click “Review”
Enabling full editing capability

Step 2. Click “Restrict Editing”
Enabling full editing capability

Step 3. Click “Stop Protection”
Enabling full editing capability

Step 4. Enter Password and Click “OK”
To restore form field entry...
Step 1. Go to “Review” => “Restrict Editing” =>
Step 2. Click “Yes, Start Enforcing Protection” =>
Step 3. Enter Password and Click “OK”
To restore form field entry...
Step 4. Leave the password entry blank and click “OK”
To restore form field entry...
Use the same steps to start or stop protections
Leaving the password field blank each time.
Forms are made of Tables

2 Terms to remember:

- **Table**
- **Cell**

(okay so maybe 3 terms)
Forms are made of Tables

- Tables can be merged, split into different cells, etc.
- Cells can be merged, have fill colors, etc.
- Borders can be applied to each
Forms are made of Tables

- Tables can be merged, split into different cells, etc.
- Cells can be merged, have fill colors, etc.
- Borders can be applied to each

<table>
<thead>
<tr>
<th>Table</th>
</tr>
</thead>
</table>

Why do I need to know this?
1. Sometimes tables will merge looking all messed up
2. Sometimes you need to insert another page (e.g. have two schematic pages, or additional well pages)
3. Sometimes it is helpful to copy a “Schematics” or “Wells” table
Editing Tables

With protections stopped, use the cursor to hover over the top left corner of a table to select it…
Editing Tools – Layout (most used)

Click on “Layout” to reveal editing tools I use most…
Editing Tools – Design (rarely used)

I rarely use “Design” tools…
Inserting a new schematic page...

Step 1 – Click above a table (not on it)
Step 2 – Click “Page Break”
Inserting a new schematic page…

Step 3 – Click on Table to Select it
Step 4 – Click the “Home” tab and then “Copy”
Step 5 – Click at top of new page and click “Paste”
This process can be used to copy the schematic table from the previous survey into the new survey forms.
Splitting apart two tables that have “merged”…

Step 1 – move cursor to point to where the tables joined and click to select the “joint”
Splitting apart two tables that have “merged”…

Step 2 – Click “Layout” => “Split Table”
Copying and pasting rows from one table to another…

Step 1 – Highlight the row

Step 2 – Use “Copy” and “Paste” functions
Editing tools are only there to help…

- Use tools to accommodate the information.
- **Do not change basic structure or appearance of survey reports!**

---

**Deficiency Summary**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Significant Deficiencies and Rule Violations</th>
<th>Date to be corrected</th>
<th>Date Corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Source</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Well construction:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Seal opening on top of Fairgrounds Well.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Remove evidence of recent activity within Deep Well building and prevent their access. Improve visit access.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Spill/pour source:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Replace screen on outflow pipe inside springbox.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Locate overflow pipe for springbox to verify if it is protected with screen or flap valve.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Densification</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Other treatment:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Discontinue use of non-ASSEP chlorine tablet dispensers in North &amp; South reservoirs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finshed Water Storage</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Add lock to hatch on steel resorvoir.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Seal at openings in North &amp; South reservoirs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Verify all vent screens are installed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Monitoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Collect radium 226/228 sample during 2nd Quarter this year to complete initial monitoring.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Management &amp; Operations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Develop an Emergency Response Plan specific to water system.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Develop Consumer Confidence Report to send to customers annually.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Develop a Custom Sampling Plan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Modifications made to 3rd &amp; Chase Well not approved by Drinking Water Program.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operator Certification:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other Rule Violations:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:
See cover letter for recommendations.
Summary

- Surveys evaluate changes since the last survey
- Preparation & organization is key in an effective survey
- Ask operator to walk you through process even if it seems straightforward
- Focus on significant deficiencies (bulleted items) & fill in as much info as possible
- Review all survey forms before ending site visit
- Follow-up actions verify deficiencies have been corrected by WS to ensure compliance
Thank You!

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