

DATE: February 7, 2002, **Revised April 26, 2012**

TO: Office of Drinking Water Staff

FROM: Steven D. Pelli, PE, Acting Director *SDP*
Office of Drinking Water

SUBJECT: SURVEILLANCE & REGULATIONS - Sanitary Surveys

REFERENCE: WM 844, WM 860, WM 908, WM 910, *R&R Users Guide*,
SDWIS Users Manual

Project Leader: Susan E. Douglas *SEP*

Revision Highlights:

SDWIS update instructions (Section 6) have been modified to refer to the *SDWIS Users Manual*. The minimum sanitary survey frequency for surface water and GUDI treatment facilities, operator compliance and monitoring & reporting elements has been reduced from 6 months to 12 months (Section 3, Table 1).

Reference to Tier 2 & 3 Public Notice templates on ODW server have been added (Section 11). Inspection templates for the Fluoridation treatment process have been revised to agree with latest Center for Disease Control safety recommendations (ATTACHMENTS B & C).

SUMMARY STATEMENT

This guidance in this memo provides procedures and forms to implement Sanitary Surveys. The Sanitary Survey is a core function of the Public Water System Supervision program implemented by the VDH-Office of Drinking Water. The Sanitary Survey of all waterworks is required by federal and state rules and regulations originating from the Safe Drinking Water Act.

TABLE OF CONTENTS

1.	PURPOSE.....	4
2.	SCOPE.....	4
3.	FREQUENCY OF SURVEYS	6
4.	SANITARY SURVEY PROCESS	7
4.1.	IMMINENT HEALTH THREATS	7
4.2.	SAFETY CONCERNS	8
4.3.	SANITARY SURVEY PROCESS FLOW DIAGRAM.....	9
5.	SANITARY SURVEY REPORTS.....	10
5.1.	GROUNDWATER SYSTEMS OWNER’S REPORT OR TRANSMITTAL LETTER.....	10
5.2.	GROUNDWATER SYSTEMS PART I - SYSTEM BACKGROUND	11
5.3.	GROUNDWATER SYSTEMS PART II – SYSTEM SURVEY INFORMATION (FIELD NOTES)	11
5.4.	SANITARY SURVEY FORMAT FOR SURFACE WATER AND GUDI SOURCE WATERWORKS	12
5.5.	SURFACE WATER SYSTEMS PART I - SYSTEM BACKGROUND & FINDINGS	12
5.6.	SURFACE WATER SYSTEMS PART II - A	12
5.7.	SURFACE WATER SYSTEMS PART II - B.....	12
5.8.	SURFACE WATER SYSTEMS PART II - C.....	12
5.9.	SURFACE WATER SYSTEMS PART II - D	13
5.10.	SANITARY SURVEY REPORT FOR CONSECUTIVE & TNC SYSTEMS.....	13
6.	SDWIS UPDATE	13
7.	DISTRIBUTION OF SANITARY SURVEY REPORTS	13
8.	SIGNIFICANT DEFICIENCIES.....	14
9.	CORRECTIVE ACTION PLANS.....	15
10.	CORRECTIVE ACTION PLAN FOLLOW-UP	15
11.	SIGNIFICANT DEFICIENCIES AND VIOLATION NOTICES	16

TABLES

TABLE 1: MINIMUM SANITARY SURVEY FREQUENCY ESTABLISHED BY ODW.....7

TABLE 2: SIGNIFICANT DEFICIENCIES AND VAC VIOLATIONS.....16

**ATTACHMENTS
(REPORT FORMS AND LETTERS)**

**These attachments are posted separately on the ODW server at
:\03-Memos\301-Active Working Memos\301.02-Forms Letters Manuals**

ATTACHMENT A: GROUNDWATER SYSTEM OWNER'S REPORT

ATTACHMENT B: GROUNDWATER SYSTEM INSPECTION REPORT

ATTACHMENT C: SURFACE WATER & GUDI SYSTEM INSPECTION REPORT

ATTACHMENT D: CONSECUTIVE SYSTEM INSPECTION REPORT

ATTACHMENT E: TRANSIENT NON-COMMUNITY (TNC) SYSTEM INSPECTION
REPORT

ATTACHMENT F: LIST OF POTENTIAL SIGNIFICANT DEFICIENCIES

ATTACHMENT G: TRANSMITTAL LETTER FOR SANITARY SURVEY REPORT WITH
SIGNIFICANT DEFICIENCY & CAP

ATTACHMENT H: TRANSMITTAL LETTER WITH NOV

ATTACHMENT I: MONITORING HISTORY - R&R REPORT INSTRUCTIONS

1. PURPOSE

Sanitary surveys performed by ODW staff are a vital part of our mission to ensure all people in Virginia have access to an adequate supply of affordable, safe drinking water that meets federal and state drinking water standards. A sanitary survey of every waterworks is required by the EPA, as the information gathered may be used to identify compliance with State and Federal regulations and to identify significant deficiencies requiring corrective action.

2. SCOPE

Safe drinking water depends on many factors. An adequate sanitary survey is categorized into **EIGHT ESSENTIAL ELEMENTS**. These elements are described below.

1. Source(s)

Surface Water: Includes intake structure and all valves and piping to WTP, and *associated pumping facilities*¹

Ground Water: Includes well, well casing, grout, valves, and piping to treatment plant (if treated) or to raw water tap (if not treated), *including the well pump*¹.

Spring: Includes spring box, controls, valves, *and associated pumping facilities*¹.

2. Treatment

Treatment is any chemical or physical processing of raw, applied to finished water that alters or enhances water quality in any way. This includes

- Chemical addition systems (chemical metering pumps, pumps for chemical feeders, day tanks, or chemical mixing tanks, and pumps for chemical transfer, etc.) to treat raw water or finished water anywhere in the system
- Aeration or agitation within the pipes or any vessel, pond, reservoir or basin
- Sedimentation, Adsorption or Exchange processes
- Filtration (including backwash and all appurtenances)

3. Distribution System

Includes all piping and appurtenances following the treatment plant (or entry point tap) to convey finished water to consumers. Includes air release valves, fire hydrants, yard hydrants, blow off valves, sampling stations, meters, isolation valves, backflow prevention devices (RPZ, etc.).

4. Finished Water Storage

All finished water storage vessels following treatment include: clearwell, hydropneumatic tanks, atmospheric storage tanks, bladder tanks, etc.

¹ Italicized items are included under this category for field inspection efficiency. This differs from the EPA Guidance Manuals, which combine ALL pumps into one category.

5. Pumps, Pump Facilities and Controls

Includes intermediate pumps, finished water pumps at the treatment plant and booster pumps in the distribution system.

6. Monitoring and Reporting (M&R) and Data Verification

Includes source and finished water quality data (bacteriological, physical, chemical, and radiological). Much of this element will be performed in preparation for the site visit, such as review of:

- a. Sampling Schedules
- b. Compliance sample results
- c. Violations and Public Notice Completion
- d. Monthly or quarterly Operation Reports
- e. Past Sanitary Surveys and Photos
- f. Submission of all required monitoring plans and reports
- g. Permits and Engineering Description Sheets

This task also includes all field sampling and data collection conducted by ODW during the sanitary survey for verification of performance (not compliance with the SDWA).

7. Management & Operations

Management and operations effect the overall water quality and reliability of the entire system. Some items that are included in this element are verification of:

- a. Corrective actions made in response to deficiencies cited, and all other recommendations from previous surveys.
- b. An effective cross-connection control program at the plant(s) and in the distribution system.
- c. Complaint history and response.
- d. Water loss and water audits performed. This includes an evaluation of the total amount of water produced/purchased vs. the total amount of water billed by the waterworks for revenue. AWWA recommends that routine water audits be conducted over a time period of at least 12 months. ODW has determined that >30% Leakage (Real Losses) to be a potential Significant Deficiency. More information on water loss terms and water audits can be found on the ODW server at:

:\06-Technical Resources\665-Water Accountability & Leakage

- e. Asset Management Programs. This process includes the assessment of the current state of facilities and equipment owned and operated by the waterworks, and planning and scheduling maintenance, repair, and replacement at the lowest appropriate costs. Although state and federal regulations currently do not require asset management programs, they are encouraged. EPA information available on their website:
 - Asset Management Best Practice Guide
 - Check Up Program for Small Systems (CUPSS) – Asset management software

- Asset Management: A Handbook for Small Systems – STEP Guide Series
- Taking Stock of Your Water System: A Simple Asset Inventory for Very Small Drinking Water Systems
- Building an Asset Management Team
- Asset Management for Local Officials

Separate Capital Improvement Programs (CIP) may also be developed by waterworks or public utilities.

- f. Operational supplies
- g. Onsite laboratory
- h. Emergency Management Plan. Every community waterworks, including consecutive systems, must have a current Emergency Management Plan for Extended Power Outages, as required by the *Waterworks Regulations*. It must be kept current and be readily accessible. The waterworks must certify in writing to the appropriate ODW Field Office that they have completed the plan. Specific information required in the plan is described in the *Regulations*.

8. Operator Compliance

The qualifications of system personnel must match Water System classification including the number of personnel and coverage of personnel when out sick or on vacation, according to the *Waterworks Regulations* and DPOR requirements.

During the survey ODW staff should courteously and thoroughly question the operators to determine their knowledge of the facility and its processes, the operator's ability to reliably operate the waterworks, and the attention paid to process control and maintenance. Performance of field tests is encouraged and results of those tests should be noted in the report.

3. FREQUENCY OF SURVEYS

All of the eight elements are necessary for a thorough survey, but not all elements may be necessary or evaluated at each survey. This is particularly true when surveys are conducted at very frequent intervals. Many of the elements, however, need to be evaluated at every survey. Completed element evaluations will be documented on written sanitary survey reports and in the State Drinking Water Information System (SDWIS) database.

The Interim Enhanced Surface Water Treatment Rule and the Ground Water Rule require States to complete sanitary surveys for all surface water systems, groundwater systems, and groundwater under the direct influence of surface water (GUDI) systems.

ODW has established sanitary survey schedules based on water source, treatment provided, and waterworks classification. No element shall be surveyed less than every 3 years. ODW's minimum sanitary survey frequency schedule is included in Table 1.

TABLE 1
MINIMUM SANITARY SURVEY FREQUENCY ESTABLISHED BY ODW, Months
(Report Template Section Shown in Parentheses)

ELEMENT:	1	2	3	4	5	6	7	8
	Source	Treatment	Distribution	Storage	Pumps	M&R	Mgmt	Operator
WW TYPE								
GW, no Treatment	24 (Part II)	N/A	36 (Part I)	36 (Part II)	36 (Part II)	24 (Part I)	24 (Part I)	24 (Part I)
GW, 4-log Virus Treatment req'd	12 (Part II)	12 (Part II)				12 (Part I)	12 (Part I)	12 (Part I)
GW, other Treatment	18 (Part II)	18 (Part II)				18 (Part I)	18 (Part I)	18 (Part I)
SW & GUDI	12 (Part II-B)	12 (Part II-A)	36 (Part II-B)	36 (Part II-B)	36 (Part II-B)	12 (Part I, II-C)	36 (Parts II-C, II-D)	12 (Part I)
Consecutive	N/A	36 (Part II)	36 (Part I)	36 (Part II)	36 (Part II)	36 (Part I)	36 (Part I)	36 (Part I)

To insure that all eight Elements have been surveyed for each waterworks during any three year interval, a database query and reporting tool will be provided.

4. SANITARY SURVEY PROCESS

The procedures needed to perform a Sanitary Survey are depicted in section 4.3 Sanitary Survey Process Flow Diagram. These major activities are included: scheduling, file and database review, field inspection, survey report completion, supervisor review including verification of Significant Deficiencies and Violations, and database updates.

4.1. Imminent Health Threats

During the course of a site visit, if the inspector believes that the waterworks is under an imminent health threat (e.g. one or more barriers have been compromised, and chemical or microbial contamination is believed to be occurring), then the inspector must contact his/her supervisor to discuss the situation and decide on an appropriate course of action. Findings that may indicate an imminent health threat include:

- Well flooding/ surface water intrusion
- Contamination of source or finished water from a chemical spill or cross-connection
- Unapproved use of a groundwater source without acceptable water quality data
- Zero or negative system pressure
- Major water main break/interruption
- Inadequate disinfection / log inactivation not achieved / minimum chlorine residual not maintained
- Elevated filtered water turbidities

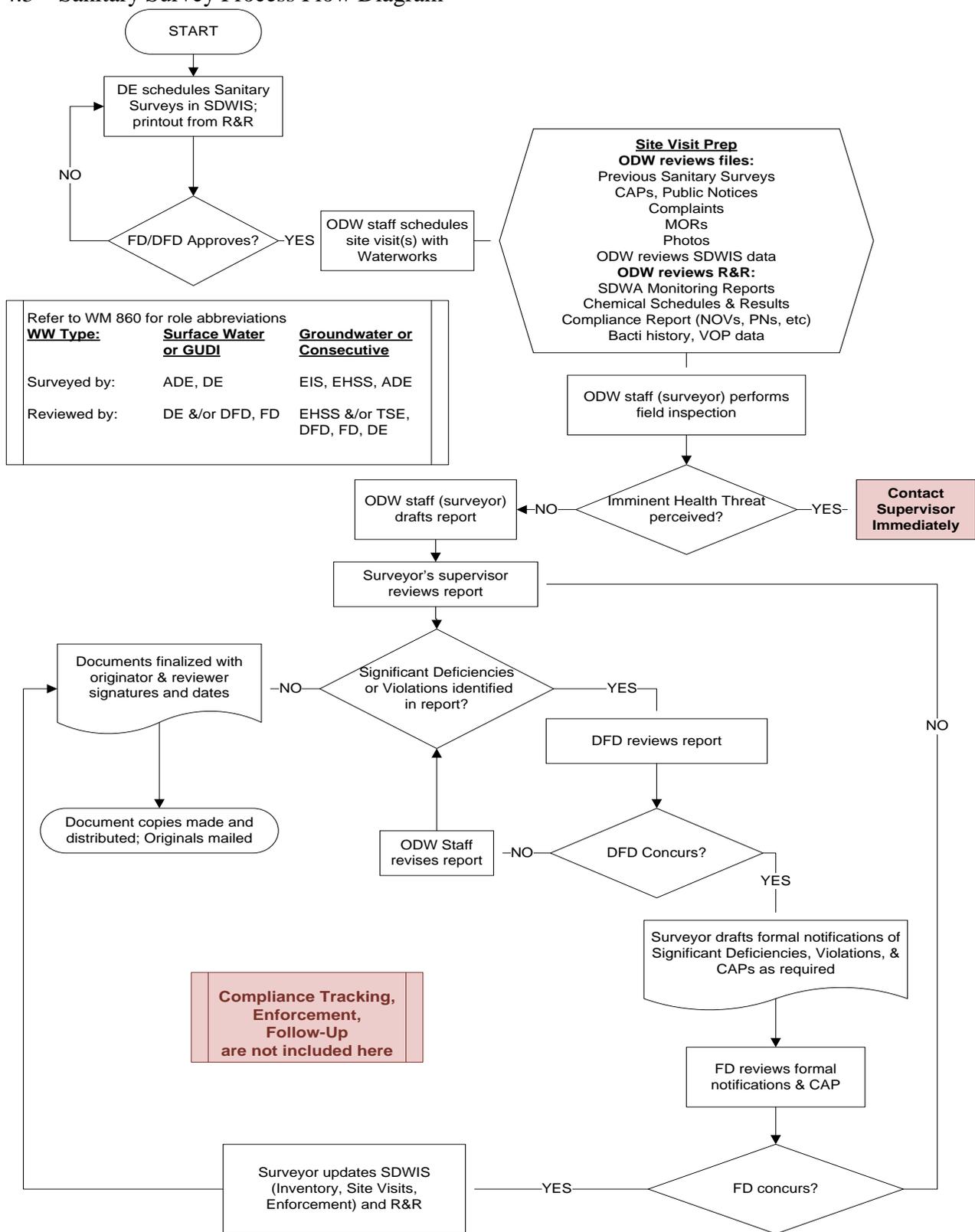
- Unprotected openings in finished water tanks with evidence of contamination (intrusion by birds, insects, etc.)

If the Field Director and Local Health Director support the issuance of a Special Notice, the inspector should assist the waterworks with preparation of the notice. The inspector should provide technical assistance on site to correct the problem, whenever possible. Depending on the severity of the situation, the inspector may need to end the inspection and schedule a follow-up site visit.

4.2. Safety Concerns

The inspector shall not enter confined spaces or climb elevated structures such as tanks. The inspector must use other methods and devices, such as binoculars, mirrors and lighting, to make field observations.

4.3 Sanitary Survey Process Flow Diagram



5. SANITARY SURVEY REPORTS

The attached sanitary survey report forms are for use in conducting and reporting the results of sanitary surveys.

The forms have been designed to

- provide uniformity of surveys,
- ensure completeness of the surveys,
- facilitate recordkeeping and SDWIS updates,
- allow follow-up surveys by other staff if necessary,
- provide owners/operators with a separate and concise notification of deficiencies,
- motivate owners/operators to take corrective action for recommendations,
- develop a Corrective Action Plan, if a significant deficiency exists, and
- provide a record for future surveys, for emergency situations, or when technical assistance is needed.

Part I of the report template is mandatory and shall not be modified. The subsequent sections are generated from field visits and may need to be customized for the particular waterworks surveyed.

If the template does not provide sufficient space, then place numbers in boxes where comments are required, and write the comments at the bottom of the page or on another sheet, to be included with the report.

The report can be brief or as detailed as necessary, with extra sheets added for narrative, to convey to the owner the deficiencies that exist. If the written report differs from the on-site discussion during the survey, the owner/operator must be phoned to notify of the change(s) and the reason(s).

5.1. Groundwater Systems Owner's Report or Transmittal Letter

The owner's report has been tailored to stand on its own without the full Sanitary Survey report. It includes minimal background information: date and type of survey, a listing of those in attendance, the next scheduled samples, and next scheduled inspection, and the most significant comments/findings. A template is provided in Attachment A.

Alternatively, the full sanitary survey report may be sent to the owner with a transmittal letter. If a Significant Deficiency is found during the Sanitary Survey, then the full report (Parts I and II) must be sent with a Significant Deficiency notification letter and Corrective Action Plan, as shown in Attachment G. If a violation is found during the Sanitary Survey, then the full report (Parts I and II) must be sent with the violation notice, as shown in Attachment H.

5.2. Groundwater Systems Part I - System Background

This section of the sanitary survey report reflects Essential Element numbers 6, 7, and 8. A template is provided in Attachment B and includes the following:

- General Information
- Compliance History
- Monitoring History

Completion of this section is mandatory. "Compliance History" is self-explanatory and should be completed before conducting the field inspection. Compliance dates may be obtained by running the R&R "System Data Dates" report. "Monitoring History" should be generated from R&R "Chemical Schedule" reports. See Attachment I for instructions to generate the Monitoring History report from R&R and paste into the sanitary survey report.

5.3. Groundwater Systems Part II – System Survey Information (Field Notes)

This portion of the report is intended to be used during the onsite review of the water source, facilities, equipment, operation, and maintenance of the waterworks. A template is also provided in Attachment B, and includes forms for wells and spring sources, and typical groundwater treatment processes.

In cases where other treatment processes are present, the staff will need to develop their own process-specific checklist(s) for inclusion in the survey report. The list(s) should follow the general format of that for fluoridation, including a review of the past 12 months' operation reports to determine effectiveness of treatment, questions pertaining to potential health threats (usually cross-connection control), physical facilities required by the *Waterworks Regulations*, and operational considerations. The staff should consult with the Deputy Field Director to assure that the pertinent items are included in the lists, and shared with other field offices as well as the Central Office for inclusion in future revisions to the template(s).

Staff are encouraged to take digital photographs of the facilities, and prepare piping diagrams or schematics. This information can be valuable to the staff in finalizing the survey report. It may also be an important future reference and may be incorporated into the Engineering Description Sheet of the Waterworks Operation Permit. Photos and schematics should be copied into the correspondence file after each inspection.

Performing field tests such as chlorine residual, pH, alkalinity, hardness, iron, manganese, etc. should be considered during surveys of most groundwater systems. Field tests may also be warranted during a complaint investigation, when requested by the owner/operator, or for the purpose of evaluating a treatment process. If the owner's report is prepared, then include the results of all field tests; otherwise document the results with the inspection form of the related waterworks facilities.

Problem solving must be approached systematically. Only after a thorough evaluation of all system components is completed, should recommended actions be reported to the owner/operator. Staff with limited experience or simply unable to confidently interpret the survey findings should defer to more experienced ODW staff for resolution.

5.4. Sanitary Survey Format for Surface Water and GUDI Source Waterworks

The sanitary survey report forms in Attachment C are for use in conducting and reporting the results of sanitary surveys performed at waterworks served by conventional surface water plants and membrane systems, excluding Reverse Osmosis.

This report form is designed to cover both performance of the physical facilities and the operational and managerial institutions which govern the facilities. The purpose of the form is to provide a means to look at the necessary unit processes at the treatment plant and at associated facilities elsewhere, and to look at the programs which need to be in place to ensure proper operation, maintenance, planning and funding of those facilities on an on-going basis.

5.5. Surface Water Systems Part I - System Background & Findings

This part includes the following topics, which are researched and completed *before* the field inspection:

- Capacity information
- Operation reports status
- Complaints summary
- Monitoring History
- Compliance History
- Enforcement Actions
- VOP performance

Following the sanitary survey the findings (especially deficiencies) are summarized in this section. It is recommended that the VOP performance summary from R&R be printed and shared with the Designated Operator (DO) during the routine site visit.

5.6. Surface Water Systems Part II - A

This part includes field observations on the following topics:

- Unit Process Evaluations (Treatment)
- Finished Water Facilities (Clearwell)

5.7. Surface Water Systems Part II - B

This part includes field observations on the following topics:

- Raw Water Intake / Surface Source Evaluation
- Spring Source Evaluation (if declared GUDI)
- Source Water Assessment and Protection

5.8. Surface Water Systems Part II - C

This part includes field observations on the following topics:

- Distribution System Evaluation
- Cross Connection Control Program

- Distribution Storage
- Distribution Pump Station(s)

5.9. Surface Water Systems Part II - D

This part includes the following topics:

- System Management & Operations
- Financial

5.10 Sanitary Survey Report for Consecutive & TNC Systems

Consecutive system sanitary surveys may include up to seven of the eight Essential Elements:

1. Distribution System
 2. Finished Water Storage
 3. Pumps, Pump Facilities and Controls
 4. Monitoring & Reporting and Data Verification
 5. Water System Management and Operations
 6. Operator Compliance
 7. Treatment - this would be added to Part II
- } *these are found in Part II*
- } *These are found in Part I*

A template for a consecutive waterworks sanitary survey report is provided in Appendix D. One for TNC waterworks is provided in Appendix E.

6. SDWIS UPDATE

Upon completion of the sanitary survey report, the SDWIS - "Site Visits" module must be updated. Refer to the *SDWIS Users Manual* for specific data entry instructions.

7. DISTRIBUTION OF SANITARY SURVEY REPORTS

The entire report form for surface water and GUDI systems will be forwarded to the waterworks owner and to operations supervisor. For groundwater systems, the owner and/or operations supervisor may receive a full copy of the inspection report or a copy of the Owner's Report. **The ODW Central Office shall receive complete sanitary survey reports.**

A special copy of the Owner's Report (or letter to owner or opening/summary section) **plus** only the appropriate evaluation sheets (unit process review sheets) for fluoridation systems shall be sent to the Division of Dental Health for **all** waterworks which practice fluoride adjustment, whether groundwater or surface water. The copy shall be sent to:
cc: VDH – Division of Dental Health, Fluoridation Coordinator

For all federally-owned waterworks, a copy of the opening/summary section of the report or the owner's letter is to be mailed by the field office to:

Federal Facilities Program (3EC00)
Office of Enforcement, Compliance and Environmental Justice
US Environmental Protection Agency, Region 3

1650 Arch Street
Philadelphia, PA 19103
Phone: (215) 814-2148
Fax: (215) 814-2905

All sanitary survey reports shall be written, reviewed, and sent out of the Field Office within 30 calendar days of the survey.

8. SIGNIFICANT DEFICIENCIES

Significant Deficiency means any defect in a waterworks' design, operation, maintenance, or administration, as well as any failure or malfunction of any system component that may cause, or have the potential to cause, an unacceptable risk to health or that could affect the reliable delivery of safe drinking water.

All Significant Deficiencies identified by ODW staff during sanitary surveys must be corrected. A list of potential Significant Deficiencies is provided in Attachment F. (This list is also provided in SDWIS to facilitate data entry of Significant Deficiencies.) The list represents several possible Significant Deficiencies for waterworks but cannot account for all of the possible Significant Deficiencies for all waterworks. ODW staff may also determine event-specific Significant Deficiencies as appropriate.

If a staff member performing a sanitary survey observes one of these deficiencies, concurrence must be obtained from the Deputy Field Director prior to finalizing the report and formally notifying the waterworks owner. The observed deficiency shall be subject to the following questions in order to confirm that it is a Significant Deficiency:

- Does the deficiency cause the potential for acute and chronic contaminants to be introduced into the drinking water?
- If left uncorrected will the deficiency cause the potential for the introduction of contaminants into the drinking water at some time in the future, that has the potential for acute or chronic health effects?
- Does the deficiency affect treatment in a manner that increase the potential risk to public health?
- Does the deficiency cause the introduction of contaminants into the drinking water, that has the potential for acute or chronic health effects?

Within 30 days ODW must notify the waterworks owner in writing of a confirmed significant deficiency, as well as sending a full copy of the sanitary survey report. Use the sample Significant Deficiency notification letter and Corrective Action Plan in Attachment G. If a Significant Deficiency exists, then Corrective Action is required.

9. CORRECTIVE ACTION PLANS

Draft Corrective Action Plans (CAP) will usually be generated by ODW staff and included with the formal notification of a significant deficiency. The transmittal letter must inform the waterworks owner to review, sign and return the proposed CAP within 45 days. The waterworks owner may revise the proposed CAP (with ODW review and approval) or develop an owner generated CAP (see below). The CAP will include a list of specific activities, along with a schedule, to correct any significant deficiencies. CAPs are enforceable schedules of compliance and must include the following:

1. A statement of the deficiency
2. The action(s) necessary to correct the deficiency
3. Detailed schedule with begin dates and deadlines for each step to correct the deficiency
4. A statement that the waterworks will notify the appropriate field office, in writing, within 30 days of completing individual scheduled actions.

Corrective Action Plans may include the following:

1. Proposed interim measures to prevent a recurrence
2. Source of funding, if necessary
3. Any follow-up actions

If the waterworks owner desires to develop the CAP, field office staff must advise the waterworks owner that:

- A 30 day period to consult with ODW regarding the Corrective Action(s) is allowed and
- A subsequent 15 day period to submit to ODW a written CAP is also allowed.

CAPs will be given the highest priority for review as they address a potential threat to public health. CAP submittals will be acted on within 30 days of receipt. CAP action items and associated completion dates must be logged in SDWIS for compliance tracking.

10. CORRECTIVE ACTION PLAN FOLLOW-UP

Within 120 days of receiving written notification of a Significant Deficiency, the waterworks owner must complete all Corrective Actions or be in compliance with the schedule of activities in an approved CAP. Waterworks owners should complete CAP corrective action(s) within 120 days. Failure to complete Corrective Actions or meet individual approved schedule deadlines is a Treatment Technique violation. However, if reasonable events preclude the meeting of a deadline, the CAP may be revised, and no violation would be incurred.

The waterworks owner must notify ODW within 30 days of completing any required Corrective Actions. Logging of all deadlines for actionable items must be done in SDWIS for tracking purposes.

Onsite inspections will be conducted by Field Office staff after notification from a waterworks that a CAP has been completed. The inspection must be conducted within 30 days of notification from the waterworks. A written report of the inspection will document and inform the waterworks of ODW's concurrence or non-concurrence with the waterworks that the completed corrective action(s) meet(s) the intent of the CAP.

11. SIGNIFICANT DEFICIENCIES AND VIOLATION NOTICES

Virginia Administrative Code (VAC) violations that have also been identified as Potential Significant Deficiencies are listed in Table 2.

TABLE 2
SIGNIFICANT DEFICIENCIES AND VAC VIOLATIONS

VAC Violation (WM 908)	Significant Deficiency
B1 – Failure to Follow Approved BSSR or TSWMP	MR04 – Sampling not in accordance with BSSR
B2 – Lacks Properly Licensed Operator	OC01 – Number and Class of Operators do not meet WW Regulations
C6 – Less Than 20 psi at Service Connection	DS01 – Distribution pressure falls below 20 psi
C3 – Reliability problem; examples in WM 908 Attachment 2:	
<ul style="list-style-type: none"> Failure to reliably maintain treatment or chemical addition – chlorination 	TR05 – Failure to maintain continuous disinfection TR06 – Minimum chlorine residual not maintained to meet CT TR07 – Entry point chlorine residual < 0.2 mg/L
<ul style="list-style-type: none"> Failure to reliably maintain treatment or chemical addition – corrosion control 	TR11 – Inadequate continuous treatment
<ul style="list-style-type: none"> Failure to maintain infrastructure – well seal 	SO04 – Sanitary seal or pitless adapter well cap missing or defective
<ul style="list-style-type: none"> Failure to maintain infrastructure – storage tanks 	FW01 – Tank not watertight FW02 – Roof/Access hatches not watertight FW03 – Tank structurally unsound FW04 – Vent improperly screened FW05 – Overflow improperly screened or protected from contamination FW06 – Drain improperly screened or protected from contamination
<ul style="list-style-type: none"> Failure to maintain infrastructure – distribution system 	DS03 – Distribution leakage rate > 30%

When a VAC Violation is identified in the sanitary survey, it should be issued, per WM 908. When the Deputy Field Director confirms that the item is also a Significant Deficiency, then the Significant Deficiency data must be entered into SDWIS, and “associated” to the violation.

If the waterworks is non-compliant with the Corrective Action Plan because it fails to meet a schedule deadline or resolve a corrective action to the satisfaction of ODW, a Treatment Technique violation has occurred. Refer to the [SDWIS Users Manual](#) for further instructions.

Treatment technique violations require a Tier 2 Public Notice. Public Notice templates (Tiers 1, 2 and 3) are provided on the ODW server at <\\Odwsrv1\odwshare\13-Public Notice & NOV Templates>

END OF MEMO