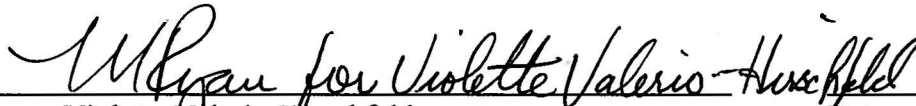




**NEW MEXICO ENVIRONMENT DEPARTMENT
DRINKING WATER BUREAU**

**GROUND WATER RULE
SIGNIFICANT DEFICIENCY POLICY**

Review:  9/24/12
Date
Violette Valerio-Hirschfeld
Compliance Operations Manager

Review:  9/22/12
Date
Andy Edmondson, PE
Technical Services Manager

Review:  9/24/12
Date
Margaret Ryan
Bureau Chief

Approval:  9/25/12
Date
Tom Blaine, PE
Field Operations & Infrastructure Division Director

BACKGROUND

The New Mexico Environment Department (NMED) is an executive agency of the State of New Mexico. NMSA 1978, § 9-7A-1. NMED requested drinking water primacy under the Safe Drinking Water Act (SDWA) through an application to the EPA dated January 6, 1978. Primacy was granted through public notice in the Federal Register on March 2, 1978. Determination of Primary Enforcement Responsibility, State of New Mexico, 43 Fed. Reg. 8590 (March 2, 1978). This delegation gives NMED the authority to enforce the state drinking water regulations and National Primary Drinking Water Regulations (NPDWR). 42 U.S.C.A. § 300g-2.

The purpose of this document is to support the requirements of 20.7.10.100 NMAC, incorporating 40 C.F.R. 141 Subpart S—Ground Water Rule, which was implemented to protect public health by requiring increased protection against contamination of drinking water. This document is a uniform policy to assist staff in determining whether conditions identified during sanitary surveys or other site visits constitute significant deficiencies under the Ground Water Rule and require corrective action pursuant to 20.7.10 NMAC. This policy will be made available upon request to any interested parties and the citizens of New Mexico. The policy will also be made public on the DWB website: <http://www.nmenv.state.nm.us/dwb/Index.htm>. Further information may be obtained by contacting the Drinking Water Bureau Chief at (505) 476-8620 or toll free at (877) 654-8720.

AUTHORITY

The SDWA, 42 U.S.C.A. § 300g et seq., authorizes the promulgation of NPDWR, 40 C.F.R. Part 141. The SDWA also provides states with primacy enforcement of regulations if the state's regulations have been approved by EPA. 42 U.S.C.A § 300g-2.

The New Mexico Environmental Improvement Act (EIA) authorizes the New Mexico Environmental Improvement Board (EIB) to promulgate rules and standards consistent with the federal SDWA. NMSA 1978, § 74-1-8(A)(2). Additionally, the EIA empowers NMED to enforce the drinking water regulations promulgated by the EIB. NMSA 1978, § 74-1-7(A)(2).

NMED has primacy responsibility for enforcing drinking water rules through the adoption of State drinking water regulations, which are to be "no less stringent than the national primary drinking water regulations (NPDWRs)." 40 C.F.R. § 142.10(a). The federal Ground Water Rule (40 C.F.R. § 141.400 et seq.) was incorporated by reference into the New Mexico Administrative Code. 20.7.10.100 NMAC. As the primacy agency, DWB responds to violations of the state and federal drinking water regulations.

DISCUSSION

A sanitary survey includes, but is not limited to, “an onsite review of the water source(s) (identifying sources of contamination by using results of source water assessments or other relevant information where available), facilities, equipment, operation, maintenance, and monitoring compliance of a public water system.” 40 C.F.R. § 141.401(b). Public ground water systems must provide the DWB any existing information that will enable the State to conduct a sanitary survey. § 141.401(a). The Ground Water Rule provides that a sanitary survey must include an evaluation of:

- (1) Source,
- (2) Treatment,
- (3) Distribution system,
- (4) Finished water storage,
- (5) Pumps, pump facilities, and controls,
- (6) Monitoring, reporting, and data verification,
- (7) System management and operation, and
- (8) Operator compliance with State requirements.

40 C.F.R. § 141.401(c).

If a significant deficiency is identified, the system must meet the treatment technique requirements. § 141.403(a)(1). For the purpose of ground water systems, “significant deficiencies include, but are not limited to, defects in design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system *that the State determines to be causing, or have potential for causing the introduction of contamination into the water delivered to consumers.*” § 141.403(a)(4) (emphasis added). Sanitary surveys and site visits are used to identify situations that have the potential to be significant deficiencies if in the opinion of DWB staff, they threaten, or have the potential to threaten, public health and safety.

IDENTIFICATION OF SIGNIFICANT DEFICIENCIES

In the course of reviewing monitoring data or operation reports, sanitary surveys, or other site visits, DWB staff may discover conditions at the Public Water System (PWS) that may result in the introduction of contaminants into the water delivered to consumers. Any violation of 20.7.10 NMAC has the potential of being identified as a significant deficiency. In determining if a deficiency is significant, the following guidelines shall be used:

Concern Guidelines

Direct contamination: The condition provided an opportunity or a potential for direct contamination of the PWS. *Examples: improperly constructed well; unprotected cross connections; inadequate inspection and/or cleaning of finished water storage tanks.*

Treatment: The condition demonstrated a failure in the treatment required to meet drinking water standards. *Examples: improper application of treatment chemicals; lack of redundant mechanical components in the treatment system.*

Confirmation/Monitoring: The condition demonstrated a failure to confirm that the water supply was safe for public consumption. *Examples: failure to sample, monitor, or report; improper recording keeping.*

Delivery: The condition demonstrated a failure to deliver safe water. *Examples: low pressure in the distribution system; inadequate preventative maintenance.*

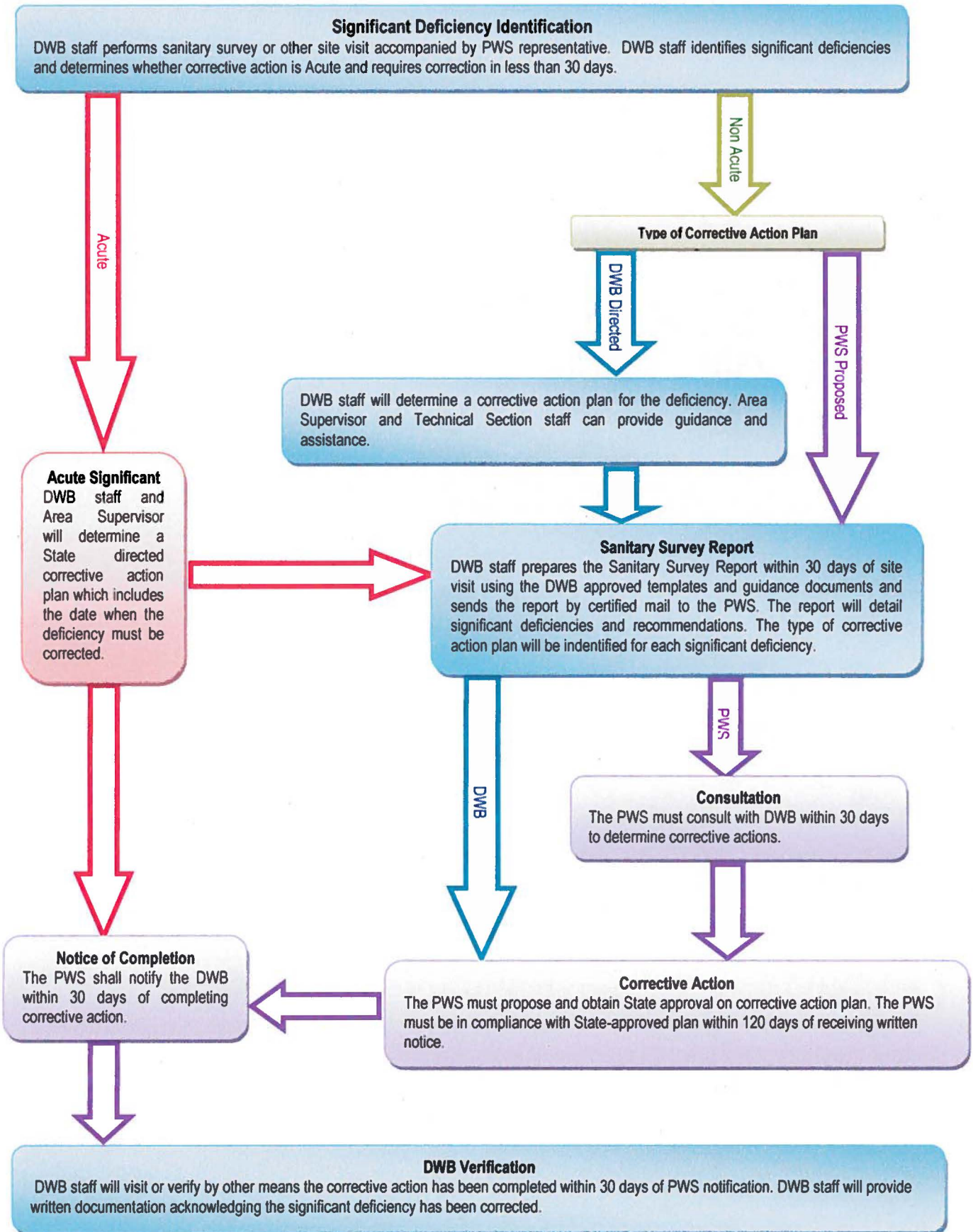
Operation/Management: The condition demonstrated a failure to properly operate, maintain, manage, financially support or provide a reliable, adequate supply of safe drinking water.

Procedure

1. After one or more significant deficiencies have been identified, DWB staff shall prepare a Sanitary Survey Report and send it **by certified mail** to the PWS within thirty (30) days. 40 C.F.R. § 142.16(o)(2)(v). The report shall identify all conditions constituting significant deficiencies. Staff shall refer to this policy and other Bureau guidelines for guidance regarding citations and in identifying significant deficiencies. DWB staff performing the site visit shall require the system administrative contact and operator who accompanied DWB staff during the visit to sign an inspection form, acknowledging that a site visit was conducted on that date.
2. In the event DWB staff recognizes a condition that warrants corrective action in less than thirty (30) days, the staff shall contact the Area Supervisor to promptly prepare a State-directed corrective action plan. 40 C.F.R. § 141.403(a)(5)(i)-(ii).
3. The report may direct the PWS to implement specific corrective action. 40 C.F.R. § 141.403(a)(4). Otherwise, the PWS shall consult with DWB regarding the appropriate corrective action within 30 days of receiving written notice. *Id.*
4. DWB staff shall promptly respond to requests for consultation from the PWS. Staff are highly encouraged to meet with the PWS following any significant deficiency notice, including where consultation is not required due to DWB-directed corrective action. During consultation, the DWB and PWS shall determine the appropriate corrective action plan and the timeline required to resolve the significant deficiencies. DWB staff shall respond to proposed corrective action plan within 30 days.
5. Within 120 days (or earlier if directed by DWB) of receiving written notice, the PWS must have either completed a corrective action plan or be in compliance with the State-directed corrective action plan. 40 C.F.R. § 141.403(a)(5)(i)-(ii). Corrective action may include (1) correcting all significant deficiencies; (2) providing an alternate source of water; (3) eliminating the source of contamination. § 141.403(a)(6)(i)-(iii).¹

¹ The Ground Water Rule also provides for “treatment that reliably achieves at least 4-log treatment of viruses before of at the first customer for the ground water source.” § 141.403(a)(6)(iv). This sub-paragraph addresses responding to positive fecal hits, and therefore does not apply to this policy.

6. Failure to submit a corrective action plan or to be in compliance with the State-directed plan after 120 days (or earlier if directed by DWB) will result in a treatment technique violation requiring Tier 2 public notification pursuant to 40 C.F.R. § 141.203, unless the DWB determines Tier 1 notice is required. § 141.404(a)-(d).
7. The PWS shall notify DWB within 30 days of completing the corrective action. 40 C.F.R. § 141.405(a)(2). DWB will inspect or verify the completed action within 30 days of notice of completion.



Significant Deficiencies Identified to Date

DWB has determined the conditions in Table 1 (below) are significant deficiencies whenever identified at a community PWS. Column one identifies the applicable element under 40 C.F.R. § 141.401(c). Column four identifies the applicable concern guidelines and a description of why the condition constitutes a significant deficiency. Columns five and six indicate if the significant deficiency would pertain to a non-transient non-community (NTNC) or a transient non-community (TNC) PWS. The list is not exhaustive and unlisted conditions may be significant deficiencies pursuant to 40 C.F.R. § 141.403(a)(4).

Table 1: Significant deficiencies

Element	Condition	Citation	Concern/Description	NTNC	TNC
Distribution	Air vac/relief valve is susceptible to flooding.	20.10.7.400.B NMAC	Direct Contamination; Delivery. Valve can be flooded and introduce contamination into water supply.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Distribution	Distribution lines not properly disinfected when doing repairs.	20.10.7.400.F NMAC; 20.10.7.400.G NMAC; 40 CFR 141.63(d)3	Direct Contamination; Installation and repair of water mains provides the potential for direct microbial contamination of the distribution system.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Distribution	Insufficient number of valves.	40 CFR 141.63(d)3	Operation/Management; Direct contamination; Delivery. Lack of valves in the distribution system creates excessive water outages during repair of leaks or line breaks. Water outages can result in bacteriological contamination or backflow events.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Distribution	Pressures in the distribution system are too high (100 psi) or too low (20 psi).	40 CFR 141.63(d)3	Delivery; Operation/Management. Extremely high pressures could cause an increase in water line breaks. Breaks in the distribution lines could introduce contaminants and/or microbes into the system. Extremely low pressure occurrences could lead to backflow occurrences and/or introduce contaminants and/or microbes into the distribution system.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Management/ Operations	Inadequate access to critical facilities (no keys, etc.).	40 CFR 141.403(a)(4)	Operation/Management. Inadequate access to facilities could lead to the inability to maintain the facilities during critical emergencies. Unable to operate/maintain system.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Management/ Operations	Inadequate or lack of an emergency operations plan.	20.10.7.400.E NMAC 40 CFR 141.403(a)(4)	Operation/Management. Lack of an adequate Emergency Plan could lead to extended delays in supplying safe potable drinking water during minor or major emergencies. Public Water Systems that assess their vulnerabilities and adopt thorough emergency response plans are minimizing the likelihood of major delays in supplying safe potable drinking water to their customers. Emergency plan is not functional.	<input type="checkbox"/>	<input type="checkbox"/>

Element	Condition	Citation	Concern/Description	NTNC	TNC
Management/ Operations	Inadequate or lack of an operations and maintenance plan or necessary operational policies.	40 CFR 141.63(d)(3) 40 CFR 141.403(a)(4) 40 CFR 141.23(c)(5)(iii) 20.10.7.400.E NMAC	Direct contamination; Delivery; Operation/Management. An Operation and Maintenance Plan is an essential part of any water supply system. The manual should summarize the actions necessary to identify those steps required for cost effective, efficient, safe, and reliable project start-up and continued successful operation. A proper plan should result in a flawless transition from one operator to the next. Lack of a proper O&M plan could result in insufficient operation of the water system as well as prolonged water outages during emergency situations. Lack of an adequate O & M plan can result in poor treatment decisions, water outages; failure to monitor; equipment failures; inability to obtain needed services or parts, and improper operation of facilities.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Management/ Operations	Inadequate spare parts for key equipment.	20.10.7.400.E NMAC	Operation/Management. Inadequate access to spare parts and/or repair parts could lead to the inability to maintain the water system facilities during critical emergencies. This could cause extended water outages as a result of not being able to immediately repair or replace non-functioning facilities. Production of non compliant water.	<input type="checkbox"/>	<input type="checkbox"/>
Management/ Operations	No or inadequate system maps.	20.10.7.400.E NMAC	Operation/Management. Mapping of water supply infrastructure provides a number of benefits, including the capacity to more accurately respond to emergencies. System operations and maintenance also benefit by easily locating problems; completing repairs; and scheduling maintenance as well as the ability to identify required compliance sampling points such as Total Coliform sampling locations.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Management/ Operations	Poor housekeeping of system facilities.	20.10.7.400.B NMAC;	Operation/Management. Poor housekeeping can result in safety hazards (chemical spills), inability to access critical facilities, failure of system components (pressure gauges, electrical controls); and possible introduction of contaminants into the water system.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring/ Reporting	Major modifications not approved (pursuant to NMAC 20.7.10.200).	20.7.10.200 NMAC	Confirmation/Monitoring. Inadequate construction of water system facilities could lead to premature failure of those facilities and/ or contamination of the drinking water supply.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Element	Condition	Citation	Concern/Description	NTNC	TNC
Monitoring/ Reporting	No or inadequate written sampling plans, for total coliform rule, disinfection residuals, disinfection byproducts, lead and copper, IOCs, VOCs, SOC's, radiological, nitrates, asbestos, etc. Failure to follow sampling plan.	40 CFR 141.21(a) 40 CFR 141.132(f) 40 CFR 141 Subpart I 40 CFR 141.23 40 CFR 141.24 40 CFR 141.25 40 CFR 141.33(f) 40 CFR 141.403(a)(4)	Confirmation/Monitoring. Lack of a sampling plan can result in a water system failing to collect samples or collecting them from the wrong location. If samples are not collected or collected from the wrong location the system will be unaware if they are exceeding the MCL. Exceeding the MCL can result in health issues.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring/ Reporting	Required records not kept on site.	40 CFR 141.33	Confirmation/Monitoring. Failure to maintain records on site will affect the operator's ability to make process control decisions for treatment, operational decisions for system maintenance and system monitoring requirements.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Operator Compliance	Inadequate number of operators' for system	20.10.7.400.M NMAC	Operation/Management. Inadequate number of operators for the water supply could result in inadequate or improper operation and maintenance of the drinking water system. All process control decisions must be made by a certified operator who is onsite. If system must operate outside normal working hours additional operators are required.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Operator Compliance	Operators lack proper level of certification.	20.10.7.400.M NMAC	Operation/Management. Inadequate certification of a public water supply operator could result in inadequate or improper operation and maintenance of the drinking water system. Uncertified operators may have inadequate knowledge or skills for the proper operation and maintenance of the drinking water system	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pumps	No low pressure cut off on pump suction side.	40 CFR 141.403(a)(4)	Delivery. Lack of proper low pressure cut off on a pump could cause failure of the pump which would lead to a low pressure or water outage within the distribution system. This leads to potential for contaminant and/or microbial entry into the system.	<input type="checkbox"/>	<input type="checkbox"/>
Source	Appurtenances associated with source not protected from elements.	20.7.10.400.B NMAC	Direct Contamination; Delivery; Operation/Management. Damage to appurtenances can result in the source being tampered with or damaged which can result in either contamination of the source or a water outage.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Source	Inadequate sanitary setback from potential sources of contamination.	40 CFR 141.403(a)(4) 40 CFR 141.63(d)(1)	Direct Contamination. Well placement near potential sources of contamination can result in the well being contaminated.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Element	Condition	Citation	Concern/Description	NTNC	TNC
Source	Inadequate surface construction or missing appurtenances at well or spring box (e.g. vent, check valve, flow meter, isolation valves, pressure gauge, air/vac valve, etc)	20.10.7.400.C NMAC	Direct Contamination; Delivery; Treatment. Improper surface construction or lack of appurtenances may allow contamination of the source, failure of pumps, damage to casings, damage to discharge lines, inability to provide adequate treatment or process control decisions, or determine water loss.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Source	Sampling tap locations do not allow for proper water quality testing.	40 CFR 141.21(b)(2); 40 CFR 141.403(2)(e)(1)	Confirmation/Monitoring. Properly located sampling taps allow for easy collection of required water quality sampling and process control sampling. This is essential for knowing the water quality and for proper treatment.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Source	Operations staff unfamiliar or lacks understanding of basic well and aquifer concepts (e.g. drawdown, static level, production rate, etc).	40 CFR 141.403(a)(4)	Operation/Management, Delivery. Not understanding well operations including aquifer characteristics and pumping rates can result in excessive wear on equipment and water outages.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Source	Source pumps directly to distribution or has undersized pressure tank.	40 CFR 141.403(a)(4)	Operation/Management; Delivery. Using a well pump to supply all immediate demands will cause a premature failure of the well pump, which will result in water outages or low pressure.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Source	Source meets testing criteria for GWUDI.	40 CFR 141.403(a)(4)	Direct Contamination. Water sources that are determined to be under the direct influence of surface water have a significantly increased likelihood of microbial contaminants entering the system unless proper treatment has been installed and properly operated.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Source	Well head or spring box is not secured from the elements or intrusion or is susceptible to flooding.	20.7.10.400.B NMAC 20.7.10.400.C NMAC 40 CFR 141.63(d)(1); 40 CFR 141.403(a)(4)	Direct Contamination. Properly protected well heads, spring boxes and casings prevent contaminated water, insects, vermin, or other potential contaminants from entering the well and/or aquifer. Facilities which are susceptible to flooding have an increased potential for contamination by surface water. Potential for cross contamination.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Element	Condition	Citation	Concern/Description	NTNC	TNC
Storage	Inadequate construction , missing or inappropriately sized appurtenances for storage facility (e.g. no or incorrectly sized air vent, no bypass lines, no ladder, no access to interior of facility, undersized overflow, lack of a drain line, etc)	20.7.10.400.D NMAC; 20.7.10.400.B NMAC; 40 CFR 141.63(d)(3); 40 CFR 141.403(a)(4)	Direct Contamination; Delivery; Operations/Management. Missing or inadequately sized appurtenances can result in damage and contamination of the storage facility. Undersized vents can result in imploding of facility, lack of access to storage facility creates an inability to inspect and maintain the storage facility. Inability to drain or bypass the storage facility also limits the system's ability to inspect and maintain the storage facility. If a storage facility is not inspected and maintained it may result in potential microbial growth or a failure of the structure.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Storage	Missing or inoperative altitude valve.	20.7.10.400.B NMAC; 40 CFR141.63(d)(3); 40 CFR141.403(a)(4)	Delivery. May cause distribution system pressure issues, internal corrosion of storage facilities, or cause storage facility to overflow and erode facility site.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Storage	Storage facility is not secured from the elements (e.g. hatch does not create a water tight seal, air vent not screened, overflow is not protected, roof has penetrations, direct access to water, hatch is not locked, etc)	20.7.10.400.D NMAC; 20.7.10.400.B NMAC; 40 CFR 141.63(d)(3); 40 CFR 141.403(a)(4);	Direct Contamination. Properly protected storage facilities prevent contaminated water, insects, vermin, or other potential contaminants from entering the facility.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Treatment	Chemical dosage records are insufficient to ensure proper operation of treatment facility.	40 CFR 141.403(a)(4)	Confirmation/Monitoring. Chemicals are used in treatment to remove contaminants, including pathogens, from water. If chemical dosages are not properly monitored a potential exists for the treatment process to fail which would allow for the entry of contaminants into the water system.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Treatment	Chemical feed pumps are inappropriately installed, are in poor condition, or are not operating. (e.g. chlorine pump, polyphosphate pump, alum pump, etc)	40 CFR 141.63(d)(2); 40 CFR 141.403(a)(4)	Treatment. Chemicals are used in treatment to remove contaminants, including pathogens, from water. If treatment is inadequate a potential exists for pathogens to reach customers.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Element	Condition	Citation	Concern/Description	NTNC	TNC
Treatment	Chemicals are not approved for use in drinking water.(e.g. scented chlorine, etc)	20.7.10.400.K NMAC	Direct Contamination. Unapproved chemicals may introduce unknown contaminants into water system.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Treatment	Inadequate process control monitoring or record keeping.	40 CFR 141.403(a)(4)	Confirmation/Monitoring. Improper process control and/or monitoring records could lead to improper treatment of drinking water resulting in a MCL exceedance or treatment technique violation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Treatment	Inadequate sampling locations	40 CFR 141.21(a) 40 CFR 141.132(f) 40 CFR 141 Subpart I 40 CFR 141.23 40 CFR 141.25 40 CFR 141.33(f) 40 CFR 141.403(a)(4)	Confirmation/Monitoring. Lack of sampling locations may result in improper process control decisions resulting in a potential for the treatment process to fail, which would allow for the entry of contaminants into the water system. Improper sampling and/or sampling locations could result in MCL, Treatment Technique, or Monitoring and Reporting Violations.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Treatment	Operations staff unfamiliar or lacks understanding of treatment method or process control (e.g. flow pacing, lack of treatment objectives; operator is unable to describe key chemical interactions or process control requirements).	40 CFR 141.403(a)(4)	Operation/Management. Improperly operated or maintained treatment systems could potentially cause improper treatment of drinking water which could lead to MCL and/or treatment technique violations.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Distribution, Source, Treatment, Storage, Pumps	Cross connections are present in the water system.	20.10.7.400.L NMAC	Direct Contamination; Operation/Management. Cross connections are considered direct links through which it is possible for contaminating materials and microbes to enter a potable water supply. Backflow and back siphonage prevention devices protect the water system from backflow events.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Distribution, Source, Treatment, Storage, Pumps	Materials in contact with potable water are not approved for use in PWS.	20.10.7.400.K NMAC	Direct Contamination; Delivery. Materials which are not approved for use in drinking water may fail prematurely or introduce contaminates into the drinking water supply.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Element	Condition	Citation	Concern/Description	NTNC	TNC
Distribution, Source, Storage, Pumps	Inadequate or malfunctioning backflow/back siphonage prevention device.	20.10.7.400.L NMAC	Direct Contamination; Operation/Management. There exist a potential for liquids of unknown quality to enter a public water system during line breaks, fires, etc. through a cross connection. Cross connections are considered direct links through which it is possible for contaminating materials and microbes to enter a potable water supply. Backflow and back siphonage prevention devices protect the water system from backflow events.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Distribution, Source, Storage, Treatment	Lack of a disinfection policy in accordance with AWWA standards	20.10.7.400.F NMAC; 20.10.7.400.G NMAC; 40 CFR 141.63(d)(3) 40 CFR 141.403(a)(4)	Direct Contamination; Delivery. Installation and repair of water mains provides the potential for direct microbial contamination of the distribution system.	<input type="checkbox"/>	<input type="checkbox"/>
Storage, Source, Treatment, Pumps	No road/access to the facility.	40 CFR 141.403(a)(4)	Operation/Management. Improper or no access to water system facilities such as a storage facility could lead to the inability to maintain those facilities during emergency situations. Unable to operate/maintain facility.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Source, Treatment, Storage, Pumps	Inadequate construction, missing or inappropriately sized appurtenances for treatment facility (e.g. no overfeed protection, lack of control valves, lack of meters, lack of injection points, insufficient system controls, etc)	40 CFR 141.403(a)(4)	Direct Contamination; Treatment; Confirmation/Monitoring; Delivery; Operation/Management. Meters, valves, injection points, etc, allow for appropriate process control decisions and enable an operator to provide the correct dosage of chemicals. Under dosing of chemicals may result in inadequate treatment which could lead to MCL and/or treatment technique violations, and overfeeding of chemicals can be toxic to users.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pumps Source Treatment	Controls are not secured from the elements or are inadequate/non-functional.	40 CFR 141.63(d)(3) 40 CFR 141.403(a)(4)	Delivery. Inadequate or nonfunctional controls may result in inadequate water production, inadequate water pressure, water outage or treatment failure. If controls are not secured from the elements they can become damaged and not operate properly.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Distribution, Source	Air vac/relief valve is not functioning properly.	40 CFR 141.63(d)3 40 CFR 141.403(a)(4)	Direct Contamination; Delivery. May cause a water outage, may result in introduction of contamination to water, may result in a water hammer and cause structural damage to system components. Valve can be flooded and introduce contamination into water supply.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Table 2 (below) identifies conditions that could constitute significant deficiencies at a community PWS when certain conditions are present. Column 3 identifies the qualifying conditions that could be present to create a significant deficiency. Column five identifies the applicable concern guidelines and a description of why the condition constitutes a significant deficiency. Columns six and seven indicate if the significant deficiency would pertain to a non-transient non-community (NTNC) or a transient non-community (TNC) PWS.

Table 2: Significant deficiencies under qualified conditions

Element	Condition	Qualifier	Citation	Concern/Description	NTNC	TNC
Distribution	Inadequate number of flush hydrants and/or inadequate flushing program	If system has had TC positive samples during 3 months of any 12 month period or is exceeding TTHM or HAA5 MCL.	40 CFR 141.63(d)(3)	Operation/Management; Direct contamination; Delivery; Treatment. Lack of proper flushing and low water use can result in water having a long residence time in the system which can result in production of disinfection by-products or a reduction in chlorine residuals. Distribution lines can develop a bio-film growth or scale buildup which may result in bacteriological growth.	<input type="checkbox"/>	<input type="checkbox"/>
Distribution	No valve exercise program.	Lack of exercise program has resulted in malfunctioning valves that has affected the ability to make repairs.	40 CFR 141.63(d)(3)	Operation/Management. Lack of valve exercising program can result in frozen valves. If valves are frozen excessive water outage can occur during repair of leaks or line breaks. Water outages can result in bacteriological contamination or backflow events.	<input type="checkbox"/>	<input type="checkbox"/>
Distribution	Lack of disinfectant (chlorine) residual in part of distribution system.	When system is required to meet 4 log virus inactivation/filtration or when required to meet 3 log Giardia inactivation/filtration	40 CFR 141.63(d)(2); 40 CFR 141.132(c)(1)(i); 40CFR141.403(b)(3)(i)	Direct Contamination; Treatment; Confirmation/Monitoring; Delivery. Maintenance of a disinfectant residual throughout the distribution system helps maintain the integrity of the distribution system in by inactivating microorganisms in the distribution system and controlling biofilm growth.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Element	Condition	Qualifier	Citation	Concern/Description	NTNC	TNC
Management/ Operations	Administration unfamiliar with New Mexico Drinking Water Regulations.	System has received two or more administrative-based violations of the New Mexico Drinking Water Regulations within last two years.	40 CFR 141.403(a)(4)	Operation/Management; Confirmation/Monitoring. Lack of familiarity with regulations can result in poor operational decisions which can impact water quality and can result in water contamination not being identified.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Management/ Operations	Inadequate cross connection control program.	When DWB identifies 2 or more unprotected cross connections to the water system or when a system has had 3 TC positive samples within a 12 month period and the cause has not been identified.	20.7.10.400.L NMAC	Operation/Management; Direct contamination; Delivery. There exists a potential for liquids of unknown quality to enter a public water system during line breaks, fires, etc. through a cross connection. Cross connections are considered direct links through which it is possible for contaminating materials and microbes to enter a potable water supply. Cross connection control programs protect the water system from backflow events.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Element	Condition	Qualifier	Citation	Concern/Description	NTNC	TNC
Management/ Operations	Inadequate or lack of construction standards for in-house repairs.	When DWB identifies facilities or appurtenances installed which do not substantially comply with the New Mexico Public Works Construction Standards. (e.g. distribution line not buried deep enough, lack of joint restraints, appurtenances are susceptible to flooding, fire hydrants not secured). Or system has numerous distribution line breaks.	20.7.10.400.F NMAC 20.7.10.400.G NMAC 40 CFR 141.403(a)(4)	Operation/Management; Direct contamination; Delivery. Improperly installed facilities or appurtenances may allow for the introduction of contamination, may become damaged due to freezing conditions resulting in a water loss or may cause the system to operate incorrectly causing damage and water loss.	<input type="checkbox"/>	<input type="checkbox"/>
Management/ Operations	Inadequate or lack of a leak detection program or system does not conduct water audits.	System has 25% or greater unaccounted water loss.	40 CFR 141.403(a)(4)	Operation/Management; Direct contamination; Delivery. Water loss indicates the system integrity has been compromised which can result in contamination. Excessive water loss increases the cost of supplying water to the customers, if rates are not increased the system may be unable to financially support operations.	<input type="checkbox"/>	<input type="checkbox"/>

Element	Condition	Qualifier	Citation	Concern/Description	NTNC	TNC
Management/ Operations	System management policies are adversely impacting or have the potential to impact system operations and facility condition.	If linked to or anticipated to cause a significant issue with operations/facilities/or other significant deficiency.	40 CFR 141.403(a)(4)	Operation/Management. Condition indicates a failure to properly operate, maintain, manage, or financially support the system, such that it is unable to provide a reliable, adequate supply of safe drinking water.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Management/ Operations	System revenue is inadequate to maintain facilities and operations.	If linked to or anticipated to cause a significant issue with operations/ facilities/or other significant deficiency.	40 CFR 141.403(a)(4)	Operation/Management. Condition indicates a failure to properly operate, maintain, manage, or financially support the system, such that it is unable to provide a reliable, adequate supply of safe drinking water.	<input type="checkbox"/>	<input type="checkbox"/>
Pumps	No pressure gauge on pump discharge line or on pump suction side.	If more than one water outage has occurred or several reports of low pressure in the same vicinity of distribution.	40 CFR 141.403(a)4	Operation/Management; Delivery. Water outages or low pressure can result in bacteriological contamination or backflow events.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pump	Unapproved lubricants used in pump	Turbine pumps	20.7.10.400.K NMAC	Direct Contamination. Unapproved lubricants or additives could possibly contaminate the drinking water supply and/or aquifer. Potential for degrading water quality.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pumps	No operational records for booster pumps.	If overall system maintenance does not appear adequate (e.g. cluttered well house, pump house, pumps housings are stained) and the system does not have a replacement pump onsite.	40 CFR 141.23(c)(5)(iii) 40 CFR 141.403(a)(4)	Operation/Management. Lack of pump records could potentially cause extended interruptions in service if there is a failure of the pumps due to a lack of maintenance. This could also lead to extended low or no pressure occurrences which has the potential to cause backflow occurrences and/or introduction of microbes into the distribution system.	<input type="checkbox"/>	<input type="checkbox"/>

Element	Condition	Qualifier	Citation	Concern/Description	NTNC	TNC
Pumps	Lack of adequate pumping capacity or emergency power at critical facilities.	If system is not interconnected to another system; or cannot meet demand if pumps are offline for extended period; or if system does not have enough storage to maintain system pressure until replacement pump can be installed	40 CFR 141.23(c)(5)(iii) 40 CFR 141.403(a)(4)	Delivery. Lack of adequate pumping capacity could potentially cause extended interruptions in service if there is a failure of the pumps due to a lack of maintenance. This could also lead to extended low or no pressure occurrences which has the potential to cause backflow occurrences and/or introduction of microbes into the distribution system.	<input type="checkbox"/>	<input type="checkbox"/>
Source	Well production is unable to meet average daily system demand.	If system is not interconnected to another system.	40 CFR 141.23(c)(5)(iii) 40 CFR 141.403(a)(4)	Operation/Management; Delivery. If well production cannot meet average demand system will have a water outage.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Source	Pump intake located above maximum drawdown.	System is not interconnected to another system; or cannot meet demand if source is offline for extended period; or if system does not have enough storage to maintain system pressure until power supply is restored.	40 CFR 141.23(c)(5)(iii) 40 CFR 141.403(a)(4)	Direct Contamination; Delivery; Operation/Management. Continued use of pump when water is not available will result in pump failure and water outage.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Source	No well blow-off.	If storage tanks have sediment buildup or well is known to produce sand. If used for treatment by well purging.	40 CFR 141.403(a)(4)	Treatment; Delivery. Potential water quality problems associated with sediment accumulation include increased disinfectant demand, microbial growth, disinfection by-product formation, and increased turbidity within the bulk water.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Element	Condition	Qualifier	Citation	Concern/Description	NTNC	TNC
Source	Inadequate backup power supply.	System is not interconnected to another system; or cannot meet demand if source is offline for extended period; or if system does not have enough storage to maintain system pressure until power supply is restored.	40 CFR 141.403(a)(4)	Direct Contamination; Delivery; Operation/Management. Lack of backup supply source will result in a water outage which can cause contamination within distribution.	<input type="checkbox"/>	<input type="checkbox"/>
Source	Inadequate well pump failure alarm.	System is not interconnected to another system; or cannot meet demand if source is offline for extended period; or if system does not have enough storage to maintain system pressure until pump failure can be identified and corrected.	40 CFR 141.403(a)(4)	Delivery; Operation/Management. Long term pump failure can result in a water outage.	<input type="checkbox"/>	<input type="checkbox"/>

Element	Condition	Qualifier	Citation	Concern/Description	NTNC	TNC
Source	Inadequate lightning protection for turbine pumps.	Pumps are not located in a pump house and system is not interconnected to another system; or cannot meet demand if source is offline for extended period; or if system does not have enough storage to maintain system pressure until replacement pump can be installed.	40 CFR 141.403(a)(4)	Direct Contamination; Delivery. Lightning strike can cause pump to fail which can result in a water outage.	<input type="checkbox"/>	<input type="checkbox"/>
Storage	Storage facility has leaks	Leaks are located in a portion of the facility which does not always maintain pressure. Leaks are located in an area or are large enough to potentially result in structural failure of the facility.	20.7.10.400.D NMAC	Direct Contamination; Delivery. Failure of storage facility will result and water outage; leaks in an area with no water pressure can result in the introduction of foreign materials into the facility.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Storage	No inspection of storage facility (recommended every 3 years).	Inspection shows sediment build up or corrosion of storage facilities, or if surveyor is unable to conduct inspection and no inspection records are available indicating the facility has been inspected within the last 10 years.	40 CFR 141.63(d)(3)	Direct Contamination; Delivery; Operation/Management. Storage facility inspections provide information used to identify and evaluate current and potential water quality problems. Potential water quality problems associated with sediment accumulation include increased disinfectant demand, microbial growth, disinfection by-product formation, and increased turbidity within the water. Corrosion can occur inside storage facilities which can cause the facility to fail and cause a water outage.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Element	Condition	Qualifier	Citation	Concern/Description	NTNC	TNC
Storage	External or internal corrosion of storage facility	Corrosion is severe enough to result in structural failure or major leaks.	20.7.10.400.D NMAC 40 CFR 141.63(d)(3)	Direct Contamination; Delivery; Operation/Management. Significant corrosion to storage facilities could lead to structural failure of the facility, water loss through leaks, or contamination of the drinking water supply by external contaminants.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Storage	No water level indicator or inoperable water level indicator for storage facility.	Water system has experienced a water outage not related to a source issue since the last survey.	40 CFR 141.63(d)(3); 40 CFR 141.403(a)(4)	Delivery; Operation/Management. Water outages can occur if storage facility levels are unknown.	<input type="checkbox"/>	<input type="checkbox"/>
Storage	Storage facility site is subject to flooding and erosion.	Storage facility site has indications of erosion.	20.7.10.400.D NMAC	Delivery. Erosion of the facility site can result in a collapse of the storage facilities which will cause a water outage.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Storage	Inadequate storage capacity (48 hours of peak daily demand).	System is not interconnected to another system; or does not have enough source production to meet system demand.	40 CFR 141.403(a)(4)	Delivery. If there is an interruption in supply and there is not enough storage, a water outage may occur.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Storage	Inadequate overflow splash pad.	Area is susceptible to erosion or evidence of erosion.	40 CFR 141.403(a)(4)	Delivery. Erosion of the facility site can result in a collapse of the storage facilities which will cause a water outage.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Storage	Inadequate storage facility foundation.	Storage facility or foundation appears unlevel or settling is occurring.	40 CFR 141.403(a)(4)	Direct Contamination; Operation/Management. Improperly installed, inadequate or unmaintained storage facility foundations could lead to extensive costly damage to the storage facility as well as interruptions in adequate storage capacity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Treatment	Inadequate chemical supplies.	System did not have enough chemicals at least once during the last 3 years.	40 CFR 141.403(a)(4)	Treatment; Confirmation/Monitoring. System cannot meet minimum treatment requirements without an adequate supply of chemicals.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Element	Condition	Qualifier	Citation	Concern/Description	NTNC	TNC
Treatment	Required minimum chlorine residual for inactivation ratio not maintained.	When system is required to meet 4 log virus inactivation/filtration or when required to meet 3 log Giardia inactivation/filtration	40 CFR 141.63(d)(2); 40 CFR 141.63(d)(4); 40 CFR 141.403(a)(4)	Direct Contamination; Operation/Management; Treatment; Confirmation/Monitoring. Minimum chlorine residuals are required to insure inactivation of viruses.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Treatment	Interruptions in disinfection process.	When system is required to meet 4 log virus inactivation/filtration or when required to meet 3 log Giardia inactivation/filtration	40 CFR 141.63(d)(2); 40 CFR 141.403(a)(4)	Direct Contamination; Treatment; Confirmation/Monitoring; Delivery; Operation/Management. Interruptions in disinfection processes could potentially lead to microbial growth within the distribution system as well as violation of the Groundwater Rule CT requirements. Failure in treatment. TCR detects	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Treatment	Disinfectant residuals not measured and recorded at entry point or in distribution.	When system is required to meet 4 log virus inactivation/filtration or when required to meet 3 log Giardia inactivation/filtration	40 CFR 141.403(a)(4)	Operation/Management. Verification of disinfectant residuals is essential in determining if potential contamination is occurring within the distribution system. An increased disinfectant demand is an indicator of microbial growth within the system.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Distribution, Treatment, Source, Pumps	Inadequate replacement equipment for critical processes.	Equipment cannot be replaced or repaired within 24 hours.	40 CFR 141.403(a)(4)	Treatment; Confirmation/Monitoring; Delivery. Lack of replacement equipment for critical processes may cause a treatment failure, a water outage, or pressure loss in distribution.	<input type="checkbox"/>	<input type="checkbox"/>
Treatment, Source, Storage, Pumps,	Inadequate site security at major facilities	Facility has indications of unauthorized entry (e.g. Graffiti, vandalism)	20.7.10.400.B NMAC; 20.7.10.400.C NMAC; 20.7.10.400.D NMAC;	Direct Contamination, Delivery. Unauthorized access can result in water system being contaminated and key components being compromised which could result in a water outage.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Identifying New Significant Deficiencies

DWB staff may encounter conditions believed to be significant deficiencies that are not included in the above tables. If DWB staff performing a sanitary survey, or other site visit, is unsure whether a condition constitutes a significant deficiency, the staff member shall discuss the condition with the Area Supervisor, who will make an initial determination based on expertise and the five concern guidelines on page two of this policy. If the Area Supervisor believes the deficiency to be significant, it shall be forwarded to the Compliance Manager for review. If the Compliance Manager agrees, the condition shall be marked as a significant deficiency and added to the appropriate table.