LCB File No. R194-08

PROPOSED REGULATION OF THE STATE ENVIRONMENTAL COMMISSION

SEC File No. P2008-20

EXPLANATION – Matter in ***italics*** is new; matter in brackets ~~[omitted material]~~ is material to be omitted.

AUTHORITY: NRS 445A.855, 445A.860.

Section 1. NAC 445A.4525 is hereby amended to read as follows:

NAC 445A.4525 Adoption by reference of certain provisions of "National Primary Drinking Water Regulations." (NRS 445A.855, 445A.860) The provisions of 40 C.F.R. §§ 141.1, 141.2, 141.4 to 141.42, inclusive, subsections (a) and (d) of 141.43, and 141.60 to 141.~~[571]~~***722***, inclusive, of the "National Primary Drinking Water Regulations," including all tables and appendices therein, as those provisions existed on July 1, ~~[2005]~~***2006***, are hereby adopted by reference. A copy of a publication containing those provisions is available from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954, or by telephone at (202) 512-1800, for the price of $61. Copies of those regulations are also available, free of charge, at the Internet address **http://www.access.gpo.gov/nara/cfr/waisidx_02/40cfr141_02.html**.

Text in green was amended and adopted by the SEC by R014-08, effective 4-17-2008

Sec. 2. NAC 445A.454 is hereby amended to read as follows:

NAC 445A.454 Primary standards: Monitoring and analysis. (NRS 445A.855, 445A.860, 445A.863)

1. The monitoring requirements for the primary standards set forth in NAC 445A.453 must be performed as required by 40 C.F.R. §§ 141.21 to ~~[141.30]~~***141.29***, inclusive, 141.40, 141.41, 141.42, 141.74, 141.86 to 141.89, inclusive, 141.131, 141.132, 141.133, 141.172, 141.173, 141.174, 141.521, 141.530 to 141.~~[536]~~***564***, inclusive, 141.541, 141.542, 141.543, 141.550 to 141.553, inclusive, ~~[and]~~ 141.560 to 141.564, inclusive, ***141.605, 141.621 to 141.628, inclusive, and 141.701 thru 141.707, inclusive*** as adopted by reference in NAC 445A.4525.

2. Any analysis conducted to determine compliance with the primary standards referenced in NAC 445A.453 must be performed by a laboratory that is certified pursuant to the provisions of NAC 445A.542 to 445A.54296, inclusive, in accordance with:

(a) The method or methods listed in, or approved pursuant to, the provisions of NAC 445A.542 to 445A.54296, inclusive, for the selected contaminant or contaminants in the drinking water; or

(b) Any method for the selected contaminant or contaminants in the drinking water approved by the United States Environmental Protection Agency as an acceptable alternative test procedure for drinking water.

3. For water systems which are conducting water quality monitoring at a frequency greater than annually, compliance with the maximum contaminant levels for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium or thallium must be determined during normal operating conditions by a running annual average at any

sampling point. A monitoring program identifying the sampling points must be submitted to the Division or the appropriate district board of health for review and approval. The monitoring program must demonstrate that the average quality of the water served to each customer in the distribution system is below the maximum contaminant level. The Division or the appropriate district board of health shall establish the number of samples the public water system must take for calculating the running annual average. The public water systems may not monitor more frequently than specified in the monitoring program by the Division or the appropriate district board of health to determine compliance unless approved in writing by the Division or the appropriate district board of health.

4. As used in this section:

(a) "Normal operating conditions" means the conditions that are achieved when the water system operates wells or treatment plants to supply water for seasonal demands.

(b) "Running Annual Average" means the sum of the consecutive 12-month contaminant sample values divided by the total number of samples taken at one sample point. (Example: $(\Sigma x_1 + x_2 + x_n)/n$ = Running Annual Average)

Sec. 3. NAC 445A.458 is hereby amended to read as follows:

NAC 445A.458 Conduct of analysis. (NRS 445A.855, 445A.860, 445A.863)

1. Except as otherwise provided in this section, each analysis required by NAC 445A.4525 to 445A.457, inclusive, must be performed by a laboratory certified pursuant to NAC 445A.542 to 445A.54296, inclusive.

2. Turbidity measurements may be made by a laboratory certified pursuant to NAC 445A.542 to 445A.54296, inclusive, or by public water system personnel utilizing an instrument capable of meeting the requirements of 40 C.F.R. § ~~[141.22(a)]~~ ***141.74(a)***, as adopted by reference pursuant to NAC 445A.4525.

3. Chlorine residual measurements must be made by public water system personnel utilizing an instrument and methods capable of meeting the requirements of 40 C.F.R. § 141.74(a)(2), as adopted by reference in NAC 445A.4525.

4. Temperature and pH measurements must be made by the public water system utilizing an instrument and methods capable of meeting the requirements of 40 C.F.R. § 141.23(k)(1), as adopted by reference in NAC 445A.4525.

5. Public water systems may direct the laboratory which analyzes water samples to submit the results of the sample to the Division or the appropriate district board of health.

Sec. 4. NAC 445A.459 is hereby amended to read as follows:

NAC 445A.459 Methods of obtaining samples of water. (NRS 445A.855, 445A.860**)**

1. Samples of water taken for the purpose of a complete chemical analysis must be taken as provided in this section.

2. A sample taken to analyze levels of components not requiring preservation must be collected in a clean glass or plastic half-gallon or gallon container. A thoroughly rinsed plastic distilled water bottle or unused plastic milk bottle, obtainable at a dairy or a food or drug store, is recommended for this purpose.

3. A sample taken to analyze levels of nitrates and metals must be collected in a container provided by the laboratory performing the analysis, using the appropriate materials for preservation provided by the laboratory. These materials may be added to the containers by the

laboratory before the sample is taken. Care must be exercised in using such materials because of their hazardous nature.

4. A sample taken to analyze levels of trace organic materials must be taken in a glass container provided by the laboratory performing the analysis. The laboratory shall also provide any preservatives required for preventing deterioration of the organic materials.

5. If any representative sample is taken from a well for the purpose of chemical analysis:

(a) Except as otherwise provided in paragraph (b), an amount of water equivalent to four to ten times the bore volume of the well must be pumped from the well before the sample is taken.

(b) In the case of a new well, the well must be pumped until all artifacts of the drilling process have been removed and the water flows clean and clear, and in any event for not less than 24 hours.

(c) The sample must be taken in a manner consistent with that described in chapter 9, section 9.6, of the *Handbook for Sampling and Sample Preservation of Water and Wastewater*, EPA-600/4-82-029.

6. If any representative sample is taken from a distribution system for the purpose of chemical analysis:

(a) ***Except for lead and copper samples collected under 40 C.F.R. § 141.86, as adopted by reference in NAC 445A.4525,*** ~~[The]~~ ***the*** water line from which the sample is taken must be flushed until the temperature of the water stabilizes.

(b) The sample must be taken in a manner consistent with that described in chapter 9, section 9.9, of the *Handbook for Sampling and Sample Preservation of Water and Wastewater*, EPA-600/4-82-029.

7. If any sample is taken for the purpose of bacteriological examination, the sample must be collected in a container obtained from the laboratory performing the analysis of the sample.

8. A copy of the *Handbook for Sampling and Sample Preservation of Water and Wastewater* is available from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161, or at the Internet address http://www.ntis.gov. The product code of the publication is PB83-124503, and may be obtained at a cost of $97.50.

Text in green, and additional deletions from this regulation, was amended and adopted by the SEC by R014-08, effective 4-17-2008

Sec. 5. NAC 445A.4665 is hereby amended to read as follows:

NAC 445A.4665 Sanitary surveys: Significant deficiencies. (NRS 445A.855, 445A.860)

1. Any significant deficiency noted in a sanitary survey must be addressed in writing to the Division or to the appropriate district board of health and must include a proposed implementation plan and schedule for correction of the deficiency within 45 days after the receipt of the sanitary survey report by the public water system.

2. As used in this section, "significant deficiency" means any deficiency found at a public water system during a sanitary survey that is a violation of any provision of NAC 445A.450 to 445A.6731, inclusive, which may have the potential to cause a risk to public health. A significant deficiency includes, without limitation, unsanitary source conditions, treatment plant deficiencies, inadequate disinfectant contact time, cross connections, endangerment of sources, unsanitary storage and distribution of water, inadequate pressure, inadequate staff and any other deficiency of comparable significance.

3. All public water systems must correct each significant deficiency identified in the sanitary survey according to a schedule approved by the Division or the appropriate district

board of health, or if there is no approved schedule, according to the schedule reported under subsection 1 of this section if such deficiencies are within the control of the system.

Sec. 6. NAC 445A.485 is hereby amended to read as follows:

NAC 445A.485 Notification requirements. (NRS 445A.855, 445A.860**)**

1. The owner or operator of a public water system must provide notice to the Division or the appropriate district board of health of the occurrence of any of the events listed in NAC 445A.538, in accordance with the provisions of that section.

2. Public notice of violations of primary drinking water regulations, and other circumstances with potential adverse health effects, is required pursuant to NRS 445A.940 and as follows:

(a) The owner or operator of a public water system must provide notice to persons served by the system for all violations of the primary standards, treatment techniques, monitoring requirements, testing procedures and other circumstances set forth in NAC 445A.450 to 445A.5405, inclusive, pursuant to the requirements of this section and 40 C.F.R. §§ 141.201 to 141.~~[210]~~***211***, inclusive, as adopted by reference in NAC 445A.4525, including, without limitation:

(1) Failing to comply with an applicable primary standard;

(2) Failing to comply with a prescribed treatment technique;

(3) Failing to perform water quality monitoring;

(4) Failing to comply with testing procedures as prescribed by a drinking water regulation;

(5) Operating under a variance or exemption;

(6) Failing to comply with the requirements of any schedule that has been set under a variance or exemption;

(7) The occurrence of a waterborne disease outbreak or other waterborne emergency;

(8) Exceeding the nitrate MCL by a noncommunity water system when granted permission by the primacy agency under 40 C.F.R. § 141.11(d);

(9) Exceeding the secondary maximum contaminant level for fluoride, set forth in subsection 2 of NAC 445A.455;

(10) Making available unregulated contaminant monitoring data; or

(11) Other violations as determined by the Division or the appropriate district board of health to require a public notice, not already listed in Appendix A to 40 C.F.R. §§ 141.201 to 141.~~[210]~~***211***, inclusive, as adopted by reference in NAC 445A.4525.

(b) Public notices are divided into three tiers to take into account the seriousness of the violation or situation and any potential adverse health effects that may be involved. The public notice requirements for each violation or situation listed in paragraph (a) of subsection 2 are determined by the tier to which the violation or situation is assigned. The federal public notification regulations, 40 C.F.R. §§ 141.201 to 141.~~[210]~~***211***, inclusive, including Appendices A, B and C, adopted by reference pursuant to NAC 445A.4525, provide the criteria for the tier assignment for each specific violation or situation, and the requirements for the content, form, manner and frequency of the notice.

(c) Each public water system must provide public notice to persons served by the water system in accordance with this section. Public water systems that sell or otherwise provide drinking water to other public water systems are required to give notice to the owners or operators of those systems, who are then responsible for providing public notice to the persons they serve. If a public water system has a violation in a portion of the distribution system that is physically or hydraulically isolated from other parts of the distribution system, the Division or

the appropriate district board of health may allow the system to limit distribution of the public notice to only those persons served by that portion of the system which is out of compliance. Permission by the Division or the appropriate district board of health for limiting distribution of the notice must be granted in writing.

(d) A copy of the notice must also be sent to the Division or the appropriate district board of health in accordance with the requirements of 40 C.F.R. § 141.31(d), adopted by reference pursuant to NAC 445A.4525.

3. Public notice of a violation of NAC 445A.455 is required pursuant to NRS 445A.940 and as follows:

(a) When a secondary maximum contaminant level exceeds the levels or units specified in subsection 1 of NAC 445A.455, the public water system must, within 90 days, collect and analyze three additional samples from the same sample point, but not more than one sample per month. If the average contaminant level of the four samples exceeds the secondary maximum contaminant level, the public water system must notify the Division or the appropriate district board of health and must provide notice to the public. The notice must be:

(1) For community public water systems:

(I) Published in a newspaper of general circulation in the area served by a system not more than 30 days after the standard is exceeded, or delivered personally or by mail to each person served by the system not more than 30 days after the standard is exceeded; and

(II) Published and delivered annually thereafter as provided in the annual consumer confidence report prepared pursuant to NAC 445A.4845 if the standard continues to be exceeded.

(2) For noncommunity water systems:

(I) Delivered personally or by mail to each person served by the system not more than 30 days after the standard is exceeded, or posted, within 30 days after the standard is exceeded, in a prominent location for consumers of the water system to read; and

(II) Posted, or delivered annually thereafter if the standard continues to be exceeded.

(b) If the Commission grants a variance pursuant to NAC 445A.487, 445A.4872 or 445A.4874 from the requirement concerning a secondary maximum contaminant level, the public water system shall give notice to the public pursuant to subparagraph (1) or (2) of paragraph (a) of subsection 3, as required by the type of system.

(c) In a fluoridated public water system, if the concentration for fluoride does not meet the concentrations specified in subsection 6 of NAC 445A.6682, the public water system must report the incident to the ***Nevada State Health*** Division ***of the Department of Health and Human Services*** ~~[or the appropriate district board of health]~~ as required in paragraph (j) of subsection 12 of NAC 445A.6682.

(d) Notice to the public must be in such form and manner as prescribed by the Division or the appropriate district board of health and must ensure that the public using the system is adequately informed.

4. The Commission may not grant a variance from the provisions of public notification required by this section.

Sec. 7. NAC 445A.487 is hereby amended to read as follows:

NAC 445A.487 Variances: General conditions and procedure for granting. (NRS 445A.855, 445A.860)

1. The Commission may grant a variance from a primary drinking water regulation to a public water system which cannot meet a requirement respecting a maximum contaminant level specified in such drinking water regulation because of characteristics of the raw water source or sources which are reasonably available to the system. A variance may be issued to a system on the condition that the public water system install the best available technology, treatment techniques or other means which the Commission ***and the U.S. EPA Administrator*** find~~[s]~~ are reasonably available after taking costs into consideration and based on an evaluation satisfactory to the Commission that indicates that alternative sources of water are not reasonably available to the public water system. Before such a variance may be granted, the Commission must find that the variance will not result in an unreasonable risk to health.

2. The Commission may grant a variance to a public water system from any provision of a primary drinking water regulation which requires the use of a specified treatment technique with respect to a contaminant. Prior to the issuance of such a variance, the public water system must demonstrate to the satisfaction of the Commission that the treatment technique is not necessary to protect the health of persons because of the nature of the raw water source of the system.

3. The Commission may grant a variance from a secondary drinking water regulation to a public water system in accordance with the procedures for seeking variances from the Commission.

4. Public hearings and other procedures for consideration of requests for variances from NAC 445A.450 to 445A.492, inclusive, must be conducted in accordance with the procedures for seeking variances from the Commission. The Commission will grant a variance from a regulation only if it finds from the evidence presented at the hearing that:

(a) There are circumstances or conditions which:

(1) Are unique to the applicant;

(2) Do not generally affect other persons subject to the regulation;

(3) Make compliance with the regulation unduly burdensome; and

(4) Cause a hardship to and abridge a substantial property right of the applicant; and

(b) Granting the variance:

(1) Is necessary to render substantial justice to the applicant and enable him to preserve and enjoy his property right; and

(2) Will not be detrimental or pose a danger to public health and safety.

➥ Whenever an applicant for a variance alleges that he suffers or will suffer economic hardship by complying with the regulation, he must submit evidence demonstrating the costs of his compliance with the regulation. The Commission will consider the evidence and determine whether those costs are unreasonable.

Sec. 8. Chapter 445A of NAC is hereby amended by adding:

"Bin Classification" means a category, ranging from 1 to 4, that specifies the required degree of Cryptosporidium oocyst treatment,

Sec. 9. Chapter 445A of NAC is hereby amended by adding:

"Composite Correction Program" defined. A program that consists of the following elements:

1. Comprehensive Performance Evaluation as defined in Section 10, and

2. Comprehensive Technical Assistance as defined in Section 11.

Sec. 10. Chapter 445A of NAC is hereby amended by adding:

"Comprehensive Performance Evaluation" defined. A thorough review and analysis of a plant's performance-based capabilities and associated administrative, operation and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant's capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements. The comprehensive performance evaluation must consist of at least the following components: Assessment of plant performance; evaluation of major unit processes; identification and prioritization of performance limiting factors; assessment of the applicability of comprehensive technical assistance; and preparation of a Comprehensive Performance Evaluation report.

Sec. 11. Chapter 445A of NAC is hereby amended by adding:

"Comprehensive Technical Assistance" defined. The performance improvement phase that is implemented if the Comprehensive Performance Evaluation results indicate improved performance potential. During this phase, the system must identify and systematically address plant-specific factors. The Comprehensive Technical Assistance is a combination of utilizing Comprehensive Performance Evaluation results as a basis for follow-up, implementing process control priority-setting techniques and maintaining long-term involvement to systematically train public water system staff and administrators.

Sec. 12. Chapter 445A of NAC is hereby amended by adding:

"Filtered Systems" means. A public water system that meets the provisions of NAC 445A.521 and utilizes filtration as a method of treatment for microbial contamination.

Sec. 13. Chapter 445A of NAC is hereby amended by adding:

"Microbial Toolbox" means a description of alternatives that meet Cryptosporidium oocyst credit requirements which are defined in 40 C.F.R. §§ 141.715 to 141.720, inclusive, as adopted by reference in NAC 445A.4525, and include the options of: source protection and management, pre-filtration, treatment performance, additional filtration, and inactivation.

Sec. 14. Chapter 445A of NAC is hereby amended by adding:

"Unfiltered systems" means a public water system that meets the provisions of NAC 445A.525 and only utilizes disinfection as a method of treatment for microbial contamination.

Sec. 15. NAC 445A.520 is hereby amended to read as follows:

NAC 445A.520 General requirements for treatment. (NRS 445A.860**)**

1. Except as otherwise provided in this section, each supplier of water shall treat the water in accordance with NAC 445A.521***, Section 21,*** and 445A.526, and 40 C.F.R. §§ 141.70, 141.76, 141.170,~~[and]~~ 141.500 to 141.503, inclusive***, and 141.700***, as adopted by reference in NAC 445A.4525.

2. A supplier of water who meets the standards of performance set forth in this section and NAC 445A.521 and 445A.526 and meets the operating criteria set forth in NAC 445A.533 will be considered to be in compliance with the requirements of subsection 1.

3. The Division or the appropriate district board of health may require a higher degree of treatment than required by subsection 1, depending on the degree of contamination within the source water.

4. The Commission will not grant a variance from the provisions of this section.

Sec. 16. Chapter 445A of NAC is hereby amended by adding:

1. Each supplier of water shall perform source water monitoring, to determine the bin classification, in accordance with 40 C.F.R §§ 141.701 thru 141.707, inclusive, as adopted by reference in NAC 445A.4525.

(a) Sources existing on or before July 1, 2008, shall monitor according to the parameters and schedule prescribed in 40 C.F.R. § 141.701, as adopted by reference in NAC 445A.4525.

(b) New sources of water used after July 1, 2008, shall monitor the parameters prescribed in 40 C.F.R. § 141.701, as adopted by reference in NAC 445A.4525, according to a schedule approved by the Division. The schedule shall:

(1)Be submitted at least one month prior to sampling, and

(2)Provide for at least twelve months of source water monitoring results prior to approval of Design and Construction required by NAC 445A.6669, unless the Division approves an alternative schedule.

(c) For Filtered Systems serving fewer that 10,000 people, E-coli shall be the only indicator as a trigger for Cryptosporidium oocyst monitoring.

(d) Additional source water monitoring may be required if source water quality changes indicate increased risk to Cryptosporidium oocyst contamination in accordance with 40 § 141.711(d), as adopted by reference in NAC 445A.4525.

(1)The determination to perform additional source water monitoring shall be based on the results of:

(I) The performance of the watershed sanitary survey required by Section 21 or NAC 445A.539 for Filtered Systems; or

(II)The Watershed Control Program and monitoring required by NAC 445A.525 for Unfiltered Systems.

2. Subsequent to completing source water monitoring, the bin classification for public water systems shall be calculated and reported to the Division in accordance with 40 C.F.R. §§ 141.710 and 141.712 (a), as adopted by reference in NAC 445A.4525.

3. Each supplier of water is required to meet the treatment requirements in 40 C.F.R. §§ 141.711 or 141.712 (b), as adopted by reference in NAC 445A.4525 and shall:

(a) Comply with the treatment requirements on the schedule specified in 40 C.F.R. § 141.713, as adopted by reference in NAC 445A.4525, and

(b) Utilize the microbial toolbox options in accordance with 40 C.F.R. § 141.715, as adopted by reference in NAC 445A.4525.

4. The Commission will not grant a variance from the provisions of this section.

Sec. 17. NAC 445A.521 is hereby amended to read as follows:

NAC 445A.521 Filtration: Methods of treatment. (NRS 445A.860**)**

1. Each supplier of water shall treat the water in accordance with 40 C.F.R. §§ 141.73, 141.173 and 141.550 to 141.553, inclusive, ***and 141.711*** as adopted by reference in NAC 445A.4525.

2. The Commission will not grant a variance from the provisions of this section.

Sec. 18. NAC 445A.522 is hereby amended to read as follows:

NAC 445A.522 Filtration: Efficiencies for removal. (NRS 445A.860)

1. For the purposes of meeting the levels of treatment set forth in NAC 445A.520:

(a) Conventional filtration treatment is presumed to be capable of achieving at least 99.7 percent or 2.5-log removal of Giardia cysts***, 99.9 percent or 3-log removal of Cryptosporidium oocysts*** and 99 percent or 2-log removal of viruses if the process is in compliance with the operating criteria set forth in NAC 445A.533 and the standards of performance set forth in NAC 445A.521; and

(b) Treatment by direct filtration~~[, diatomaceous earth filtration and slow sand filtration]~~ is presumed capable of achieving at least a 99 percent or 2-log removal of Giardia cysts***, 99.7 percent or 2.5 -log removal of Cryptosporidium oocysts*** and a 90 percent or 1-log removal of viruses if the process is in compliance with the criteria and standards set forth in paragraph (a).

(a) Treatment by diatomaceous earth filtration and slow sand filtration is presumed capable of achieving at least a 99 percent or 2-log removal of Giardia cysts, 99.9 percent or 3-log removal of Cryptosporidium oocysts and a 90 percent or 1-log removal of viruses if the process is in compliance with the criteria and standards set forth in paragraph (a).

2. The Division or the appropriate district board of health may grant higher efficiencies for removal than those specified in this section if the supplier of water demonstrates to the Division that ~~[the higher efficiency for removal can be obtained reliably.]~~ ***the filtration system can meet the requirements of the treatment performance component of the microbial toolbox in accordance with Section 21.***

Sec. 19. NAC 445A.524 is hereby amended to read as follows:

NAC 445A.524 Filtration: Use of alternative technology. (NRS 445A.860)

1. The use of an alternative filtration technology, including packaged treatment plants, may be approved by the Division or the appropriate district board of health if the following requirements are met:

(a) The supplier of water demonstrates that the technology proposed provides a minimum of 99 percent or 2-log removal of Giardia cysts and a 99 percent or 2-log removal of Cryptosporidium oocysts. The process must meet the standards of performance established in NAC 445A.521.

(b) An engineering report is submitted to the Division or the appropriate district board of health documenting the results of experiments done at pilot plants or tests completed on a full-scale installation that is treating water with similar characteristics and exposed to similar hazards as the water proposed for treatment.

(c) If the alternative filtration technology utilized for meeting the requirements of subsection 1 (a) includes bag, cartridge, or membrane filtration, the supplier of water shall:

(1) Ensure the filters are operated in accordance with 40 C.F.R. § 141.719 (a) and (b); and

(2) Utilize the methodology depicted in the "Membrane Filtration Guidance Manual," 2005, as published by the United States Environmental Protection Agency, document number EPA 815-R-06-009, to determine compliance. A copy of the "Membrane Filtration Guidance Manual" is available from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161, or at the Internet address http://www.ntis.gov. The product code of the publication is PB2006-109003, and may be obtained in print version at a cost of $86.00.

2. If the use of an alternative filtration technology is approved by the Division or the appropriate district board of health, the supplier of water shall submit an engineering report, not

less than 6 months after the system becomes operational, verifying that the alternative technology meets the standards established for performance under actual conditions of operation.

3. If the supplier of water does not meet these standards, he shall submit to the Division or the appropriate district board of health a timetable for the correction of the deficiencies.

Sec. 20. NAC 445A.525 is hereby amended to read as follows:

NAC 445A.525 Filtration: Avoidance of requirements. (NRS 445A.860**)**

1. A supplier of water may apply to the Division to operate without installing a system for filtration. The Division or the appropriate district board of health may grant this request if the supplier of water, not later than December 30, 1991, or 18 months after notification by the Division or the appropriate district board of health that a groundwater system is under the direct influence of surface water, whichever is later, meets the requirements set forth in 40 C.F.R. §§ 141.71, 141.171, 141.520, 141.521 and 141.522, as adopted by reference in NAC 445A.4525.

(a) To determine the adequacy of the Watershed Control Program ~~[For]~~ ***for*** systems located at Lake Tahoe, the supplier of water must demonstrate that a level of protection which minimizes the potential for contamination by Giardia lamblia cysts, viruses and Cryptosporidium oocysts is provided by the location of the intake structure and a watershed control program. ~~[The watershed control program must include the periodic performance of a watershed survey as required by NAC 445A.539, and the water system must be subject to annual on-site inspections to assess the watershed control program.]~~

2. ***Sampling of the source water for Giardia lamblia cysts, Cryptosporidium oocysts and viruses must be performed on the raw water prior to any treatment on a schedule prescribed by the Division.***

~~[2.]~~***3.*** To avoid the requirements for filtration, a supplier of water must comply with the provisions that are set forth in 40 C.F.R. §§ 141.74(b) ~~[and]~~**,** 141.75(a), ***and 141.712*** as adopted by reference in NAC 445A.4525. Additional information on obtaining approval to operate without filtration is outlined in the *Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources*, 1991 edition (#PB93-222933INZ). This document is available at a cost of $117 from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161.

Sec. 21. Chapter 445A of NAC is hereby amended by adding:

1. Each supplier of water required to meet Cryptosporidium oocyst treatment requirements of subsection 3 of Section 16 shall implement the requirements of the applicable components of the microbial toolbox in accordance with 40 C.F.R. §§ 141.716 to 141.720, inclusive, as adopted by reference in NAC 445A.4525.

2. In addition to the requirements of subsection 1 of this section, the following requirements shall also be met prior to receiving the treatment credits allowed by subsection 3 (b) of Section 16. If a supplier of water proposes to utilize:

(a) The Watershed Control Program component of the microbial toolbox, the supplier of water shall demonstrate that the actions identified to reduce source water Cryptosporidium oocysts are capable of a 0.5 log reduction of Cryptosporidium oocysts in the source water prior to any treatment by:

(1) Reducing the potential for contamination, or

(2) Physical removal.

(b) The Demonstration of Performance component of the microbial toolbox, a site specific study shall be performed by a protocol approved by the Division. At minimum, the protocol shall:

(1) Be approved prior to beginning the study, unless the study was done prior to July 1, 2008;

(2) Provide provisions to include the entire treatment process in the study.

(c) Alternative ozone or chlorine dioxide concentration times time values, a site specific study shall be performed by a protocol approved by the Division. At minimum, the protocol must:

(1) Be approved prior to beginning the study, unless the study was done prior to July 1, 2008;

(2) Provide for the measuring of actual Cryptosporidium oocyst inactivation; and

(3) Provide for the studying of the full range of expected water quality and operational conditions.

(d) The Ultraviolet light component of the microbial toolbox, the methodology depicted in the "Ultraviolet Disinfection Guidance Manual for the Final Long Term 2 Enhanced Surface Water Treatment Rule," 2006, as published by the United States Environmental Protection Agency, document number EPA 815-R-06-007, shall be followed for determining compliance. A copy of the "Ultraviolet Disinfection Guidance Manual for the Final Long Term 2 Enhanced Surface Water Treatment Rule" is available from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161, or at the Internet address http://www.ntis.gov. The product code of the publication is PB2007-103777, and may be obtained in print version at a cost of $99.00.

(e) The Ultraviolet light component of the microbial toolbox and obtain approval of an alternative approach to ultraviolet light reactor validation, the ultraviolet light validation shall at minimum:

(1)Demonstrate inactivation of a test microorganism, or surrogate approved by the Division; and

(2) Be overseen by an independent third party.

3. The Commission will not grant a variance from the provisions of this section.

Sec. 22. NAC 445A.526 is hereby amended to read as follows:

NAC 445A.526 Standards for disinfection. (NRS 445A.860**)**

1. Each supplier of water shall provide disinfection treatment in accordance with 40 C.F.R. §§ 141.72, ***as adopted by reference in NAC 445A.4525***, ~~[141.172 and 141.530 to 141.544, inclusive,]~~ ***and the applicable inactivation components of the microbial toolbox specified in Section 21***~~[as adopted by reference in NAC 445A.4525]~~.

2. If a supplier of water proposes to modify its disinfection practices, a disinfection profile and benchmark must be submitted prior to changing the disinfection practice in accordance with 40 C.F.R. §§ 141.172, 141.530 to 141.544, inclusive, 141.708 and 141.709, as adopted by reference in NAC 445A.4525.

~~[2.]~~***3.*** The Commission will not grant a variance or an exemption from the provisions of this section.

Sec. 23. Chapter 445A of NAC is hereby amended by adding:

1. Each supplier of water must undergo a Composite Correction Program if a supplier of water utilizes:

(a) Conventional or direct filtration treatment, and the Individual Filter Monitoring reporting required by 40 C.F.R. § 141.175 (b) (4), as adopted by reference in NAC 445A.4525, indicates the need for a Comprehensive Performance Evaluation.

(b) Diatomaceous earth, slow sand filtration, or alternative technologies, and two consecutive months of reporting under subsection 2 of NAC 445A.537 indicates that the filtration system is not meeting the requirements of NAC 445A.521.

2. A party approved by the Division must perform the Comprehensive Performance Evaluation and provide the Comprehensive Technical Assistance.

Sec. 24. NAC 445A.527 is hereby amended to read as follows:

NAC 445A.527 Requirements for monitoring. (NRS 445A.860**)**

1. Except as otherwise provided in this section, each supplier of water shall, on or after June 29, 1993, or on the date the system for filtration is installed, whichever is later, meet the requirements set forth in 40 C.F.R. §§ 141.74, 141.174 and 141.560 to 141.564, inclusive, ***and the applicable components of the monitoring requirements within the microbial toolbox in 40 C.F.R. §§ 141.716 thru 141.720, inclusive,*** as adopted by reference in NAC 445A.4525.

2. A supplier of water shall measure and record the parameters that are needed to determine compliance with the requirements for concentration times time, including, but not limited to:

(a) The temperature of the disinfected water;

(b) The pH of the disinfected water, if chlorine is used as a disinfectant;

(c) The disinfectant contact time; and

(d) The concentration of the residual disinfectant before or at the point the water reaches the first customer.

3. A supplier of water shall measure the concentration of residual disinfectant or heterotrophic plate count within the distribution system at the same frequency and at the same time and location as total coliforms are measured. A supplier of water that uses both a source of surface water or groundwater under the direct influence of surface water, and a source of groundwater that is not under the direct influence of surface water, may petition the Division or the appropriate district board of health for alternate sampling locations if he demonstrates that these sampling points are more representative of the disinfected surface water or groundwater under the direct influence of surface water in the distribution system.

Sec. 25. NAC 445A.530 is hereby amended to read as follows:

NAC 445A.530 Submission and approval of engineering report before construction or modification of facility; standards for design. (NRS 445A.860**)**

1. A supplier of water proposing to:

(a) Construct a new facility for filtration and disinfection; or

(b) Make additions to or modify significantly an existing facility for treatment,

➥ must submit an engineering report to the Division or the appropriate district board of health. The report must be approved by the Division or the appropriate district board of health before the supplier begins construction. The report must also describe how the facility will be designed to ensure that it complies with this section and NAC 445A.531.

2. A new facility for filtration and disinfection must:

(a) Be designed to attain an average daily effluent turbidity goal of 0.2 units of nephelometric turbidity when using conventional, direct, and diatomaceous earth filtration plants.

(b) Be free of structural and sanitary hazards.

(c) Provide for protection against contamination by backflow.

(d) Provide equipment for measuring and recording flow.

(e) In addition to providing equipment to measure and record combined filter effluent turbidity, a treatment plant with more than two filters must also provide equipment to measure and record the individual filter effluent turbidity.

~~[(e)]~~***(f)*** Be designed to mitigate the effects of events such as earthquakes, fires, floods, freezing and sabotage that are reasonably foreseeable.

~~[(f)]~~***(g)*** Provide reasonable access for inspection, maintenance and monitoring of all unit processes.

~~[(g)]~~***(h)*** Provide for a coagulation process that includes rapid chemical mixing and is based on pilot plant or laboratory scale or equivalent results that demonstrate effectiveness of the coagulant chemicals over the full range of water quality conditions expected.

~~[(h)]~~***(i)*** Provide for filter-to-waste for each filter unit or addition of coagulant chemicals or organic polymers to the water used for backwashing.

~~[(i)]~~***(j)*** Provide backwash rates and facilities for surface or subsurface wash using air, water or a combination of these to clean the filter.

~~[(j)]~~***(k)*** Provide treatment for the removal of solids from filter backwash water if the water is recycled into the treatment process. Recycled backwash water must be returned to the headworks of the treatment plant.

~~[(k)]~~***(l)*** Make provision for facilities for pretreatment in the design of direct filtration, slow sand filtration or diatomaceous earth filtration plants.

~~[(l)]~~***(m)*** Provide equipment for disinfection that is of proper size for the full range of expected conditions of flow and capable of feeding accurately at all rates of flow.

~~[(m)]~~***(n)*** Provide for operation of the treatment plant without frequent shutdowns and start-ups.

3. As used in this section, "filter-to-waste" means a provision in the filtration process to allow the water that was filtered first to be wasted or reclaimed.

Sec. 26. NAC 445A.531 is hereby amended to read as follows:

NAC 445A.531 Inclusion of features for reliability in design and construction of plant. (NRS 445A.860**)** The following features for reliability or alternatives acceptable to the Division or the appropriate district board of health must be included in the design and construction of any plant that treats surface water or groundwater under the direct influence of surface water:

1. Alarm devices to indicate failures in the coagulation, filtration and disinfection processes. The alarm must notify the person designated by the public water system as responsible for taking corrective action and, if the facility is unmanned, have the capability to shut the plant down until corrective action can be taken.

2. Standby replacement equipment to ensure continuous operation and control of unit processes for coagulation, filtration and disinfection.

3. Multiple filter units to provide redundant capacity if filters are out of service for backwash or maintenance.

4. Multiple ultraviolet light reactors, if used to meet requirements of NAC 445A.520, to provide redundant capacity if reactors are out of service for maintenance.

Sec. 27. NAC 445A.533 is hereby amended to read as follows:

NAC 445A.533 Standards for operation of facility for filtration. (NRS 445A.860**)** A facility for filtration must be operated in accordance with the following requirements:

1. A plant for conventional and direct filtration must be operated at a rate of flow not to exceed 3 gallons per minute per square foot for single media filters and 6 gallons per minute per square foot for deep bed, dual or mixed media filters under conditions of gravity flow. For pressure filters, the rates of filtration must not exceed 2 gallons per minute per square foot for single media filters and 3 gallons per minute per square foot for dual, mixed media or deep bed filters.

2. A slow sand filter must be operated at a rate of filtration not to exceed 0.1 gallons per minute per square foot. The filter bed must not be dewatered except for cleaning and maintenance.

3. A diatomaceous earth filter must be operated at a rate not to exceed 1 gallon per minute per square foot.

4. During normal operating conditions, any filter removed from service must be backwashed upon start-up.

5. Any membrane filtration unit must be subjected to a direct integrity test upon start-up.

~~[5.]~~***6.*** Rates of filtration must be increased gradually when placing filters back into service after backwashing or any other interruption in the operation of the filter.

~~[6.]~~***7.*** In a plant using conventional and direct filtration, the turbidity of filtered water from any individual filter after backwashing or any other interruption must be less than 0.5 units of nephelometric turbidity after 4 hours of the initial operation of the filter~~[, and the individual turbidity of the filter effluent must be less than or equal to 1 unit of nephelometric turbidity in at least 90 percent of interruption events during any consecutive 12-month period]~~. The level of turbidity must never exceed ~~[2]~~ ***1*** units of nephelometric turbidity before placing the filter back into operation. Compliance with this requirement will be determined by using data from the previous 12 months.

~~[7.]~~***8.*** A pressure filter must be inspected physically and evaluated annually for occurrences such as media condition, formation of balls of mud and short circuiting. A written record of the inspection must be maintained at the treatment plant.

~~[8.]~~***9.*** Coagulation and flocculation unit processes must be in use at all times when a plant using conventional and direct filtration is in operation. The effectiveness and optimization of these processes must be demonstrated by jar testing, pilot filter column testing or other means acceptable to the Division or the appropriate district board of health.

~~[9.]~~***10.*** The level of turbidity of filtered water from each filter unit must be monitored with a continuous turbidity meter and recorder, or with a sampling program approved by the Division. If this monitoring indicates that any filter unit is not performing as required by subsection 6, the filter must be taken out of service and inspected to determine the cause of its inadequate performance. The filter unit must not be returned to service until its deficiencies have been corrected and tests have been made to ensure that the filter unit meets these requirements.

~~[10.]~~***11.*** To obtain approval for rates higher than those specified in subsections 1, 2 and 3 of this section, a supplier of water must demonstrate to the Division that his filters can ensure the same water quality at the increased rates of flow.

Sec. 28. NAC 445A.534 is hereby amended to read as follows:

NAC 445A.534 Equipment of facility for disinfection. (NRS 445A.860**)** A facility for disinfection must be equipped with:

1. A reserve supply of chemicals; and

2. An emergency plan to be put into effect if there is a failure in the disinfectant process. The object of the plan must be to prevent delivery to the distribution system of any water that has not been disinfected or that has been disinfected inadequately. The plan must be posted in the treatment plant or in any other place that is accessible to the operator of the plant.

3. Equipment for measuring and recording the flow of each ultraviolet light reactor, if the facility includes ultraviolet light disinfection.

Sec. 29. NAC 445A.535 is hereby amended to read as follows:

NAC 445A.535 Requirements for plan of operations. (NRS 445A.860**)**

1. A supplier of water shall submit a plan of operations for each facility that treats surface water or groundwater under the direct influence of surface water to the Division or the appropriate district board of health for review and approval. The plan must be designed to produce the optimal quality of water from the treatment process. The supplier shall operate the facility in accordance with the approved plan.

2. The plan must include a description of:

(a) The program for monitoring the performance of the treatment plant;

(b) The program for maintaining unit process equipment;

(c) The persons who operate the facility, including the number of the staff and the level of their training;

(d) The operation of each unit process;

(e) The procedures used in the laboratory, if applicable;

(f) The procedures used to determine chemical dose rates;

(g) The records of the facility;

(h) The procedure for responding to an emergency at the plant or involving the watershed; ~~[and]~~

(i) The procedure for lamp breakage and mercury spill if ultraviolet light is utilized at the plant; and

~~[(i)]~~***(j)*** Any other features that contribute to the reliable operation of the plant.

Sec. 30. NAC 445A.536 is hereby amended to read as follows:

NAC 445A.536 Maintenance of records. (NRS 445A.860**)**

1. Each supplier of water must maintain accurate and complete records of the operation of each treatment plant using surface water or groundwater under the direct influence of surface water. The records must include:

(a) The results of all monitoring conducted in accordance with NAC 445A.527;

(b) The date of any maintenance or inspection of a filter and the results of the inspection, including any evaluation of a pressure filter required by subsection 7 of NAC 445A.533;

(c) The quantity of water produced;

(d) The hours of operation;

(e) The rates of flow at the plant;

(f) The rates of filtration;

(g) The rates of backwash; and

(h) The dates and description of failures of major equipment or unit processes and the action taken to correct these failures.

2. ***Each supplier of water must maintain records in accordance with 40 C.F.R. § 141.722, as adopted by reference in NAC 445A.4525.***

~~[2.]~~***3. Unless otherwise specified in 40 C.F.R. § 141.33, as adopted by reference in NAC 445A.4525, or as determined by the Division or the appropriate district board of health,*** ~~[The]~~ ***the*** records of a treatment plant must be retained for not less than ~~[2]~~ ***3*** years~~[, unless the Division or the appropriate district board of health has determined otherwise]~~.

Sec. 31. NAC 445A.537 is hereby amended to read as follows:

NAC 445A.537 Submission of ~~[monthly]~~ **reports. (**NRS 445A.860**)**

1. Each supplier of water shall submit to the Division or the appropriate district board of health, on or after June 29, 1993, or on the date the system for filtration is installed, whichever is later, a monthly report on the operation of each facility not later than the 10th day of the following month.

2. The monthly report must include:

(a) A written explanation of the cause of any violation of the standards of performance set forth in NAC 445A.521 ~~[and]~~**,** 445A.526***, and Section 21*** and the operating criteria set forth in NAC 445A.533; and

(b) The information required by 40 C.F.R. §§ 141.75, 141.175, 141.570 and 141.571, ***and applicable portions of 141.721,*** as adopted by reference in NAC 445A.4525.

3. In addition to monthly reporting activities, other reporting activities must be performed in accordance with applicable portions of 40 C.F.R. § 141.721, as adopted by reference in NAC 445A.4525.

Sec. 32. NAC 445A.538 is hereby amended to read as follows:

NAC 445A.538 Notification of certain events. (NRS 445A.860**)** Beginning on or after June 29, 1993, or on the date the system for filtration is installed, whichever is later, each supplier of water shall ~~[notify the Division or the appropriate district board of health by telephone as soon as possible, but not later than the end of the next business day, whenever]~~:

1. ***In order to determine if a Tier 1 public notification is required in accordance with 141.203 (b) (3) as adopted by reference in NAC 445A.4525, consult with the Division or the appropriate district board of health as soon as possible, but no later than 24 hours, after the exceedance is known whenever*** ~~[The]~~ ***the*** turbidity of the ~~[filter effluent exceeds]~~:

(a) ***Combined filter effluent exceeds*** ~~[For]~~ ***for*** conventional, direct filtration and absorption clarifier filtration systems, 1 unit of nephelometric turbidity~~[.]~~***;***

(b) ***Combined filter effluent exceeds*** ~~[For]~~ ***for*** diatomaceous earth and slow sand filtration ~~[and systems which have filtration avoidance status]~~, 5 units of nephelometric turbidity~~[.]~~***;***

(c) ***Raw water exceeds for systems which have filtration avoidance status, 5 units of nephelometric turbidity; or***

~~[(c)]~~***(d)*** For alternative technologies, the turbidity level specified upon approval.

When consultation does not take place within the 24-hour period, the water system must distribute a Tier 1 notice of the violation within the next 24 hours.

2. ~~[More than two consecutive samples of the turbidity of the combined filter effluent taken every 4 hours exceed 1 unit of nephelometric turbidity.]~~ ***Notify the Division or the appropriate district board of health by telephone as soon as possible, but not later than the end of the next business day, whenever:***

~~[3.]~~***(a)*** There is a failure to maintain at least 0.2 milligrams per liter of residual disinfectant in the water being delivered to the distribution system, regardless of whether the residual level of disinfectant was restored to at least 0.2 milligrams per liter within 4 hours.

~~[4.]~~***(b)*** An event occurs which may affect the ability of the treatment plant to produce safe, potable water, including, but not limited to, spills of hazardous materials in the watershed and failures of the unit treatment process.

~~[5.]~~***(c)*** An outbreak of waterborne disease that is potentially attributable to the water system occurs.

~~[6.]~~***(d)*** There is a failure to meet the minimum concentration times time for any given day.

Sec. 33. NAC 445A.539 is hereby amended to read as follows:

NAC 445A.539 Periodic performance of sanitary survey of watershed; report of survey. (NRS 445A.860**)**

1. ***Unless an alternate frequency is otherwise required to maintain a watershed control program to meet the requirements for filtration avoidance under NAC 445A.525 or Cryptosporidium oocyst treatment requirements in Section 21,*** ~~[A]~~***a*** sanitary survey of the watershed of a public water system must be performed by a qualified professional engineer or other person approved by the Division or the appropriate district board of health at least once every 5 years.

2. A report of the survey, including:

(a) A physical and hydrogeological description of the watershed;

(b) A summary of the data compiled in monitoring the quality of the water;

(c) A description of activities and sources of contamination;

(d) A description of any significant changes that have occurred since the last survey which could affect the quality of the water;

(e) A description of the ability of the system to meet the requirements of NAC 445A.520, 445A.521, 445A.526 and 445A.529 to 445A.540, inclusive; and

(f) Any recommendations for corrective actions,

➥ must be submitted to the Division or the appropriate district board of health not less than 60 days after the completion of the survey.

Sec. 34. NAC 445A.540 is hereby amended to read as follows:

NAC 445A.540 Requirements for notification of persons served by system. (NRS 445A.860**)**

1. A supplier of water shall notify persons served by the public water system:

(a) If he has not installed a system for filtration by June 29, 1993, and has not met the requirements of NAC 445A.525; or

(b) Whenever an outbreak of waterborne disease occurs.

2. Beginning on or after June 29, 1993, or on the date a system for filtration is installed, whichever is later, a supplier of water shall notify persons served by the public water system whenever there is a failure to comply with:

(a) The requirements for treatment or the standards of performance specified in NAC 445A.520, 445A.521 or 445A.526; or

(b) The monitoring requirements specified in NAC 445A.527.

3. The notification required by:

(a) Subsection 1, and paragraph (a) of subsection 2 must be given in the manner required for violations of techniques of treatment as set forth in NAC 445A.485; and

(b) Paragraph (b) of subsection 2 must be given in the manner required for violations of monitoring requirements as set forth in NAC 445A.485.

~~[4. If there is a failure to comply with the requirements set forth in paragraph (a) of subsection 2, the notice must include the following language:~~

~~The Division of Environmental Protection of the State Department of Conservation and Natural Resources sets standards for drinking water and has determined that the presence of microbiological contaminants in water is a health concern at certain levels of exposure. If water is treated inadequately, microbiological contaminants in that water may cause disease. Symptoms may include diarrhea, cramps, nausea and jaundice, and any associated headaches and fatigue. These symptoms, however, are not only associated with disease-causing organisms in drinking water but also may be caused by a number of factors other than your drinking water. The United States Environmental Protection Agency has set standards for treating drinking water to reduce the risk of these adverse health effects. Treatment such as filtering and disinfecting the water removes or destroys microbiological contaminants. Drinking water that is treated to meet these standards is associated with little to none of this risk and should be considered safe.]~~

Sec. 35 NAC 445A.65555 is hereby amended to read as follows:

NAC 445A.65555 "Approved backflow testing laboratory" defined. (NRS 445A.860**)** "Approved backflow testing laboratory" means:

1. The Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California; or

2. Any other person or entity who the ~~[health authority]~~ ***Division or the appropriate district board of health*** determines:

(a) Is competent and possesses the necessary facilities to investigate and evaluate assemblies for the prevention of backflow;

(b) Adheres to the procedures for testing and certification set forth in the *American Water Works Association Standards*; and

(c) Is independent of any manufacturers of assemblies for the prevention of backflow.

Sec. 36 Chapter 445A of NAC is hereby amended by adding:

"Commission" has the meaning ascribed to it in NRS 445A.8075.

Sec. 37 NAC 445A.65795 is hereby amended to read as follows:

NAC 445A.65795 "Contamination" defined. (NRS 445A.860**)** "Contamination" means an impairment of water quality by chemical substances or biological organisms which the ~~[health authority]~~ ***Division or the appropriate district board of health*** determines to be sufficient to create a risk or threat to the public health.

Sec. 38 NAC 445A.65825 is hereby amended to read as follows:

NAC 445A.65825 "Determined to be compatible with drinking water" defined. (NRS 445A.860**)** "Determined to be compatible with drinking water" means that a product is determined to be compatible with drinking water through:

1. Certification of the product by its manufacturer, after the product has been tested in accordance with Standard 14, 42, 44, 53, 54, 55, 58, 60 or 61, as appropriate, of the American National Standards Institute and the National Sanitation Foundation International;

2. Compliance of the materials in the product with 21 C.F.R § 177.2420; or

3. Certification of the product by an independent laboratory approved by the ~~[health authority.]~~ ***Division or the appropriate district board of health.***

Sec. 39 NAC 445A.6583 is hereby amended to read as follows:

NAC 445A.6583 "Disinfection" defined. (NRS 445A.860**)** "Disinfection" means:

1. The introduction of chlorine or another chemical oxidant, or of another agent approved by the ~~[health authority]~~***Division or the appropriate district board of health***, in such a concentration and for such a period of contact as is sufficient to kill or inactivate pathogenic or indicator microbiological organisms; or

2. The performance of another process approved by the ~~[health authority]~~***Division or the appropriate district board of health*** in such a manner as to kill or inactivate pathogenic or indicator microbiological organisms.

Sec. 40 Chapter 445A of NAC is hereby amended by adding:

"District board of health" has the meaning ascribed to it in NRS 445A.812.

Sec. 41 NAC 445A.6583 is hereby amended to read as follows:

NAC 445A.6585 ***"Division" and*** **"Division of Environmental Protection" defined. (**NRS 445A.860**)** ***"Division" and*** "Division of Environmental Protection" ~~[means the Division of Environmental Protection of the State Department of Conservation and Natural Resources]~~ ***has the meaning ascribed to it in NRS 445A.814***.

Sec. 42 NAC 445A.6603 is hereby amended to read as follows:

NAC 445A.6603 "Groundwater under the direct influence of surface water" defined. (NRS 445A.860**)** "Groundwater under the direct influence of surface water" means any water beneath the surface of the ground that the ~~[Health]~~ Division ***or the appropriate district board of health*** has determined to have:

1. A significant occurrence of insects or other macroorganisms;

2. Algae or large-diameter pathogens such as *Giardia lamblia* or *Cryptosporidium* spp.; or

3. Significant and rapid shifts in water characteristics such as turbidity, temperature, conductivity or pH which closely parallel climatic or surface water conditions.

Sec. 43 NAC 445A.66055 is hereby repealed:

~~[NAC 445A.66055 "Health authority" defined. (NRS 445A.860) "Health authority" means the officers and agents of the district board of health of the health district in which the area of service of a public water system is located or, if none, the officers and agents of the Health Division.]~~

Sec. 44 NAC 445A.66055 is hereby repealed:

~~[NAC 445A.6606 "Health Division" defined. (NRS 445A.860) "Health Division" means the Health Division of the Department of Health and Human Services.]~~

Sec. 45 Chapter 445A of NAC is hereby amended by adding:

"Nevada State Health Division" means the Health Division of the Department of Health and Human Services.

Sec. 46 NAC 445A.6623 is hereby amended to read as follows:

NAC 445A.6623 "Pollution" defined. (NRS 445A.860**)** "Pollution" means an alteration of the chemical, physical, biological or radiological integrity of water that:

1. Impairs the quality of the water to such an extent that the impairment adversely and unreasonably affects those aesthetic qualities which would have made the water desirable for domestic use; and

2. Does not impair the quality of the water to such an extent that the ~~[health authority]~~ ***Division or the appropriate district board of health*** determines that the impairment creates a risk or threat to the public health.

Sec. 47 Chapter 445A of NAC is hereby amended by adding:

"State Board of Health" has the meaning ascribed to it in NRS 439.030.

Sec. 48 NAC 445A.66585 is hereby amended to read as follows:

NAC 445A.66585 "Water project" defined. (NRS 445A.860**)** "Water project" means the initial construction, or any renovation, modification or expansion, of:

1. Each portion of a public water system that begins operation after February 20, 1997; or

2. Each portion of a public water system that began operation on or before February 20, 1997, if the portion of the public water system is involved in:

(a) The collection, pumping, treatment, storage or distribution of water; or

(b) The boosting, sustaining or reducing of water pressure,

➥ except any construction, renovation, modification or expansion approved by ~~[a health authority]~~ ***the Nevada State Health Division or the appropriate district board of health*** or other appropriate governmental entity before February 20, 1997.

Sec. 49 NAC 445A.66585 is hereby amended to read as follows:

NAC 445A.6662 Applicability of provisions. (NRS 445A.860**)**

1. Except as otherwise provided in subsection 2, the provisions of NAC 445A.65505 to 445A.6731, inclusive, apply to every public water system in this State.

2. Except for water projects performed after February 20, 1997, NAC 445A.65505 to 445A.6731, inclusive, do not apply to a public water system which the ~~[Health]~~ Division ***or the appropriate district board of health*** determines, based on a sanitary survey and past performance, to be safe and not subject to pollution or contamination as a result of the location, protection, construction, operation or maintenance of that public water system.

Sec. 50 NAC 445A.66635 is hereby amended to read as follows:

NAC 445A.66635 ~~[Health]~~ Division: Payment of prescribed fees required. (NRS 445A.860**)** The ~~[Health]~~ Division shall not issue or renew any permit to operate a public water system or, except as otherwise provided in subsection 2 of NAC 445A.6669, review plans to construct, modify or expand such a system until the fees prescribed in NAC 445A.6664 have been paid.

Sec. 51 NAC 445A.6664 is hereby amended to read as follows:

NAC 445A.6664 ~~[Health]~~ Division: Prescribed fees. (NRS 439.150**,** 439.200**,** 445A.860**)**

1. The ~~[Health]~~ Division shall charge and collect fees for its service, as follows:

(a) Except as otherwise provided in subsection 2 of NAC 445A.6669, for reviewing an application for a permit to construct, modify or expand a public water system:

(1) If the public water system is a community water system:

(I) For reviewing on-site or off-site improvement plans for the construction of a new community water system within an existing subdivision or for a new subdivision or for the modification or expansion of an existing community water system within an existing subdivision..... : $250

Plus $3 for each connection for supply of water to customers.

(II) For reviewing plans to construct, modify or expand a community water system which is not part of a subdivision..... 300

(III) For reviewing plans to construct, modify or expand a treatment facility of a community water system..... .. 0.1 percent of the capital cost of the treatment facility, not to exceed $3,250

(2) If the public water system is not a community water system, for reviewing any plans to construct, modify or expand the public water system..... 200

(b) For issuing an annual permit to operate a public water system:

(1) If the system is a community water system:

Number of connections for service to customers	
25 or less.....	$225
26 - 3,000.....	225
	Plus 75 cents for each connection for service between 26 and 3,000 connections.
3,001 - 10,000.....	2,500
	Plus 60 cents for each connection for service between 3,001 and 10,000 connections.
10,001 - 50,000.....	6,700
	Plus 25 cents for each connection for service between 10,001 and 50,000 connections.
50,001 - 100,000.....	16,700
	Plus 10 cents for each connection for service between 50,001 and 100,000 connections.
over 100,000.....	21,700

(2) If the system is not a community water system and regularly serves at least 25 of the same persons for more than 6 months per year..... 225

(3) If the system is not a community water system or a public water system that serves at least 25 of the same persons for more than 6 months per year..... 100

(c) Except as otherwise provided in subsection 2, for issuing an annual permit to operate a treatment facility based on the capacity of the treatment facility as follows:

(1) Less than 500,000 gallons per day..... .... $150
(2) At least 500,000 gallons per day but less than 1 million gallons per day..... 250
(3) At least 1 million gallons per day but less than 5 million gallons per day..... ... 1,500
(4) At least 5 million gallons per day but less than 10 million gallons per day..... ... 2,000
(5) At least 10 million gallons per day but less than 50 million gallons per day..... ... 3,000
(6) At least 50 million gallons per day but less than 100 million gallons per day..... ... 4,000
(7) At least 100 million gallons per day or more..... ... 7,500

2. An applicant for a permit to operate a treatment facility that only provides treatment related to chlorination is not required to pay the fees set forth in paragraph (c) of subsection 1.

3. As used in this section:

(a) "Capital cost of the treatment facility" means the cost estimated by an engineer to construct, modify or expand the treatment facility.

(b) "Community water system" means a public water system which:

(1) Has at least 15 service connections used by residents for an entire year; or
(2) Regularly serves at least 25 residents for an entire year.

Sec. 52 NAC 445A.6645 is hereby amended to read as follows:

NAC 445A.66645 Administrative review of action taken by ~~[Health]~~ Division. (NRS 445A.860**)**

1. A person who has reason to believe that an action taken by the ~~[Health]~~ Division pursuant to NAC 445A.65505 to 445A.6731, inclusive, is incorrect or based on inadequate knowledge may obtain an administrative review of the matter only as provided in this section.

2. The aggrieved person may, not later than 10 working days after receiving notice of the action, request an informal discussion with the employee responsible for the action and his immediate supervisor.

3. If the informal discussion does not resolve the problem, the aggrieved person may, not later than 10 working days after the date scheduled for the informal discussion, request an informal conference by submitting a letter to the Bureau of ~~[Health Protection Services]~~***Safe Drinking Water*** of the ~~[Health]~~Division requesting the conference. The informal conference must be held within 60 days after the Bureau receives the letter at a place, date and time mutually agreed upon by the aggrieved person and the Bureau. Except as otherwise provided in subsections 3 and 4, the informal conference is the final administrative hearing on the matter.

4. If the informal conference does not resolve the problem and the action taken by the ~~[Health]~~Division consisted of:

(a) The denial of an application for a permit;
(b) The suspension or revocation of a permit; or
(c) The modification of or refusal to modify a permit,

➥ the aggrieved person may request a hearing pursuant to ~~[NAC 439.190]~~***NRS 445A.610***. ***The request must be in writing to the Commission no later than 10 days after the date on which the person received notice of the determination by the Division.***

5. The Bureau of ~~[Health Protection Services]~~***Safe Drinking Water*** may waive any of the provisions of subsections 1 to 4, inclusive. The Bureau shall provide the aggrieved person with written notice of any waiver it grants pursuant to this subsection regarding his grievance.

Sec. 53 NAC 445A.6665 is hereby amended to read as follows:

NAC 445A.6665 Special exceptions to provisions. (NRS 445A.860**,** 445A.935**)** The ~~[Health]~~Division***, or the appropriate district board of health with the concurrence of the Division,*** may grant a supplier of water a special exception from any of the provisions of NAC 445A.65505 to 445A.6731, inclusive, if the special exception:

1. Is justified by an engineer;

2. Involves an advance in technology, improvement in materials, or alternative method of construction or operation that will not be detrimental to the public health; and

3. Will not conflict with the provisions of NAC 445A.66615.

Sec. 54 NAC 445A.6666 is hereby amended to read as follows:

NAC 445A.6666 Prerequisites to approval of tentative and final map for proposed subdivision. (NRS 439.200**,** 445A.860**)** If a subdivision is proposed to be located in the area of service of a public water system, the ~~[health authority]~~***Division or the appropriate district board of health*** shall not approve:

1. A tentative map for the proposed subdivision unless the ~~[health authority]~~***Division or the appropriate district board of health*** receives an acknowledgment of water service for the proposed subdivision.

2. A final map for the proposed subdivision unless:

(a) The ~~[health authority]~~***Division or the appropriate district board of health*** receives:

(1) A commitment for water service for the proposed subdivision; and

(2) If the public water system is an existing public water system, a copy of the plan prepared pursuant to subsection 3 of NAC 445A.66725.

(b) The plans submitted pursuant to NRS 278.385 for the installation of water meters or other devices to measure water delivered to each user of water in the subdivision provide that the water meters or other devices will be installed in appropriate protective boxes.

Sec. 55 NAC 445A.66665 is hereby amended to read as follows:

NAC 445A.66665 Plan for restoration of services in emergency. (NRS 445A.860**)**

1. A supplier of water shall:

(a) Develop an organized plan of predetermined activities for the public water system to restore its services in the contingency that an emergency, including any failure of power, mechanical or electrical failure or natural disaster, reduces the capability of the public water system to supply the water demanded by its customers within its area of service. The plan must include any actions necessary for responding to any breaks in a water main of the public water system.

(b) Submit a copy of the plan to the ~~[health authority]~~***Division or the appropriate district board of health***~~[or the county clerk of the county in which the public water system is located]~~.

~~[2. For a public water system that:~~

~~(a) Began operation on or before February 20, 1997, compliance with subsection 1 is required not later than January 1, 1999.~~

~~(b) Begins operation after February 20, 1997, compliance with subsection 1]~~***(c) Plan submittal*** is required not later than 18 months after the public water system begins operation.

Sec. 56 NAC 445A.6667 is hereby amended to read as follows:

NAC 445A.6667 Manual of operations and maintenance. (NRS 445A.860**)** A supplier of water shall prepare a manual of operations and maintenance regarding all of the facilities of the public water system and submit the manual to the ~~[health authority]~~***Division or the appropriate district board of health*** for review and approval. The manual must:

1. Describe normal procedures for the operation and maintenance of each facility of the public water system and procedures for use in emergencies.

2. Include any plans required pursuant to NAC 445A.535 or subsection 9 of NAC 445A.66795.

3. Be maintained at each facility of the public water system at all times for use by the operators and other personnel of the facility

Sec. 57 NAC 445A.6668 is hereby amended to read as follows:

NAC 445A.6668 Program for assessment of sources of groundwater for vulnerability to contamination. (NRS 445A.860**)** A supplier of water may elect to participate in the program of the ~~[Health]~~ Division for the assessment of sources of groundwater for vulnerability to contamination. Pursuant to that program, the ~~[Health]~~Division may evaluate a source of water used by a public water system and, based upon its determination of the susceptibility of the source to contamination, authorize a reduction in the required frequency for monitoring the water quality of the source for the presence of certain contaminants. The ~~[Health]~~Division shall base such a determination upon:

1. Any previous results from the monitoring of water quality.
2. The proximity of a source of groundwater to potential sources of contamination.
3. The environmental persistence and potential mobility of any identified contamination.
4. Any policies and procedures that could be carried out to control potential sources of contamination.
5. The potential effects in the worst possible case of a release from a potential source of contamination.
6. The physical features and conditions in place to protect the source of groundwater from potential sources of contamination, including the design and construction of the well, the type of soil and the hydrogeological environment.

Sec. 58 NAC 445A.66685 is hereby amended to read as follows:

NAC 445A.66685 Standards for design and construction of system. (NRS 445A.860**)**

1. The design and construction of a public water system must comply with the provisions of:

(a) NAC 445A.65505 to 445A.6731, inclusive.

(b) The *American Water Works Association Standards*.

(c) Standards 14, 42, 44, 53, 54, 55, 58, 60 and 61 of the American National Standards Institute and the National Sanitation Foundation International.

(d) *Recommended Practice for Backflow Prevention and Cross-Connection Control*.

(e) *Recommended Standards for Water Works*.

(f) For public water systems in Carson City, Fallon, Reno, Sparks, Yerington, Douglas County, Lander County, Lyon County, Nye County or Washoe County, *Standard Specifications for Public Works Construction*.

(g) For public water systems in Boulder City, Henderson, North Las Vegas, the Big Bend Water District or the Las Vegas Valley Water District, *Uniform Design and Construction Standards for Water Distribution Systems*.

(h) The *Uniform Plumbing Code*.

(i) Any other engineering standards approved by the ~~[Health]~~Division.

2. If there is any conflict between any of the provisions described in subsection 1, the most stringent of those provisions prevails.

Sec. 59 NAC 445A.6669 is hereby amended to read as follows:

NAC 445A.6669 Prerequisites to commencement of water project; waiver of prerequisites; exceptions. (NRS 445A.860**)**

1. Except as otherwise provided in this section, a supplier of water shall, before commencing a water project:

(a) Submit to the ~~[health authority]~~***Division or the appropriate district board of health***, with the appropriate fees, an application for approval of the water project that complies with the requirements of NAC 445A.66695;

(b) Submit any monitoring results, reports, or documentation required by Section 16 for Source Water Monitoring and NAC 445A.526 for Disinfection Profiling and Benchmarking; and

~~[(b)]~~ ***(c)*** Obtain the ~~[health authority's]~~***Division's or the appropriate district board of health's*** review and written approval of the water project.

2. ~~[A health authority]~~***The Division or the appropriate district board of health*** may waive the provisions of subsection 1 if:

(a) The water project is limited to a modification or expansion of a distribution system which:

(1) Involves 500 feet or less of the distribution system;

(2) Affects not more than 5 percent of the total number of service connections to the public water system; or

(3) Increases the total number of service connections to the public water system by not more than 5 percent;

(b) The water project otherwise complies with the provisions of NAC 445A.65505 to 445A.6731, inclusive;

(c) The supplier of water:

(1) Employs or contracts with an engineer to carry out the provisions of NAC 445A.66705 regarding the water project;

(2) Submits to the ~~[health authority]~~***Division or the appropriate district board of health*** a copy of its manual of operations and maintenance for the public water system; and

(3) Submits to the ~~[health authority]~~***Division or the appropriate district board of health*** annual reports which:

(I) Summarize the status of work on the water project; and

(II) Contain maps depicting the distribution system, as it is being built.

3. The provisions of subsection 1 do not apply to any activities necessary for:

(a) The maintenance of any facilities of a public water system, except for the relining or recoating of storage tanks; or

(b) The repair of any facilities of a public water system in an emergency. The supplier of water shall notify the ~~[health authority]~~***Division or the appropriate district board of health*** immediately, by telephone, when an emergency exists that threatens the quality of water.

Sec. 60 NAC 445A.66695 is hereby amended to read as follows:

NAC 445A.66695 Application for approval of water project. (NRS 445A.860**)** An application for approval of a water project must contain:

1. Complete plans for the water project, including the details of any improvements to be made and all work to be performed on-site.

2. Complete specifications to supplement the plans for the water project.

3. A design report that:

(a) Describes the water project and basis for design of the water project;

(b) Provides the criteria for design, data and other pertinent information defining the water project; and

(c) Establishes the adequacy of the proposed water project to meet the needs of the public water system.

4. Chemical, physical, bacteriological and radiological analyses of any new sources of water which are proposed to be used, which:

(a) Are conducted by a properly certified laboratory; and

(b) Indicate that the water complies with the provisions of NAC 445A.450 to 445A.492, inclusive.

5. The requirements for fire flow and fire demand.

6. Any other pertinent information required by the ~~[health authority]~~***Division or the appropriate district board of health*** to evaluate the application.

Sec. 61 NAC 445A.6671 is hereby amended to read as follows:

NAC 445A.6671 Approval of water project: Prerequisites; effective period; revocation. (NRS 445A.860**)**

1. A ~~[health authority]~~***Division or the appropriate district board of health*** shall not approve a water project unless the application for approval of the water project demonstrates that the water project will comply with the applicable provisions of NAC 445A.65505 to 445A.6731, inclusive.

2. Approval of a water project is effective for 1 year, except that a ~~[health authority]~~***Division or the appropriate district board of health*** may extend this period in 1-year increments if:

(a) Work is being performed on the water project; and

(b) The ~~[health authority]~~***Division or the appropriate district board of health*** receives a schedule of work and periodic updates on the progress of the water project.

3. ~~[A health authority]~~***The Division or the appropriate district board of health*** shall revoke its approval of a water project if work on the water project:

(a) Does not commence within 1 year after the approval of the water project becomes effective; or

(b) Ceases for a continuous period of 1 year.

Sec. 62 NAC 445A.66715 is hereby amended to read as follows:

NAC 445A.66715 Performance and inspection of work on water project; certification of substantial compliance with approved plans and specifications. (NRS 445A.860**)**

1. Work on a water project must be:

(a) Performed in substantial compliance with the plans and specifications approved for the water project by the ~~[health authority]~~***Division or the appropriate district board of health***. Approval of the ~~[health authority]~~***Division or the appropriate district board of health*** is required before carrying out any proposed changes in materials, equipment, quantities, configurations or

processes, and before any additions or deletions of infrastructure, which would affect the quality or quantity of water.

(b) Inspected by qualified representatives of the supplier of water.

2. Within 30 days after the completion of a water project, the supplier of water shall certify to the ~~[health authority]~~***Division or the appropriate district board of health*** that the water project was completed in substantial compliance with the plans and specifications approved for the water project by the ~~[health authority]~~***Division or the appropriate district board of health***.

Sec. 63 NAC 445A.6672 is hereby amended to read as follows:

NAC 445A.6672 Existing systems: Minimum capacities; minimum pressure and velocity of water; total capacity of groundwater system; timely completion of water projects. (NRS 445A.860**)** A supplier of water for an existing public water system shall:

1. Ensure that the public water system maintains a sufficient capacity for the development and treatment of water, and a storage capacity of sufficient quantity, to satisfy the requirements of all users of the public water system under the conditions of maximum day demand and peak hour demand.

2. Ensure that the residual pressure in the distribution system is:

(a) At least 20 psi during conditions of fire flow and fire demand experienced during maximum day demand;

(b) At least 30 psi during peak hour demand; and

(c) At least 40 psi during maximum day demand.

➥ Unless otherwise justified by an engineer and approved by the ~~[health authority]~~***Division or the appropriate district board of health***, high head losses must be avoided by maintaining normal water velocities at approximately 8 feet per second during all conditions of flow other than fire flow.

3. If the public water system relies exclusively on water wells as its source of water, ensure that the total capacity of the system is sufficient to meet:

(a) The maximum day demand, fire flow and fire demand when all the facilities of the system are functioning; or

(b) The average day demand, fire flow and fire demand when the most productive well of the system is not functioning,

➥ whichever is greater. When computing total capacity for this purpose, credit must be given for any storage capacity.

4. Ensure that water projects are completed in such a manner as to meet the actual maximum day demand, peak hour demand, fire flow and fire demand for developments of property in the area of service of the public water system.

Sec. 64 NAC 445A.66725 is hereby amended to read as follows:

NAC 445A.66725 Existing systems: Determination of total capacity preparation, maintenance and dissemination of certain information, analyses, plans and reports. (NRS 445A.860**)** A supplier of water for an existing public water system shall:

1. Determine the total capacity of the public water system through engineering analyses that use historical data or other guidelines or parameters accepted by the engineering profession and, upon request, submit documentation of that capacity to the ~~[health authority]~~***Division or the appropriate district board of health***. When analyzing the total capacity of the public water system with regard to requirements for maximum day demand, only the alternative pumping

capacity and the storage capacity of the public water system may be considered as sources of supply.

2. When assessing the total capacity of the public water system and the need for water projects to meet future commitments, use a network hydraulic analysis of the public water system. The analysis must be prepared by an engineer.

3. Prepare a plan for the timely completion of any water projects required to meet the anticipated needs of developers of property within the area of service of the public water system and, upon request, provide a copy of the plan to the ~~[health authority]~~***Division or the appropriate district board of health***.

4. Maintain:

(a) A current list of the users of the public water system.

(b) A copy of each pending acknowledgment of water service it has issued.

5. Provide to the ~~[health authority]~~***Division or the appropriate district board of health***, upon request and at no charge, any data, technical information or engineering analyses or reports necessary to determine the acceptability of any technologies, processes, products, facilities or materials associated with the design, construction, operation or maintenance of the public water system.

Sec. 65 NAC 445A.66735 is hereby amended to read as follows:

NAC 445A.66735 New systems: Capacity for development and treatment of water. (NRS 445A.860**)**

1. A supplier of water for a new public water system shall ensure that, except as otherwise justified by an engineer and approved by the ~~[health authority]~~***Division or the appropriate district board of health*** pursuant to subsection 2, the public water system's capacity for the development and treatment of water, whether surface water or groundwater, or both, is sufficient to provide, when the demand for water in the area of service of the system is:

(a) Not more than 100 residential equivalents, at least 2 gallons per minute per residential equivalent for metered systems and 2.5 gallons per minute per residential equivalent for unmetered systems.

(b) More than 100 but not more than 250 residential equivalents, at least 1.5 gallons per minute per residential equivalent for metered systems and 2 gallons per minute per residential equivalent for unmetered systems.

(c) More than 250 but not more than 500 residential equivalents, at least 1.2 gallons per minute per residential equivalent for metered systems and 1.7 gallons per minute per residential equivalent for unmetered systems.

(d) More than 500 residential equivalents, at least 1 gallon per minute per residential equivalent for metered systems and 1.5 gallons per minute per residential equivalent for unmetered systems.

2. The ~~[health authority]~~***Division or the appropriate district board of health*** may, after evaluation on a case-by-case basis, revise the minimum requirements set forth in subsection 1 when an area of service involves unique circumstances or applications of water, including an area of service that contains mines or large residential lots or has extraordinary industrial, institutional, commercial or other nonresidential needs.

Sec. 66 NAC 445A.6674 is hereby amended to read as follows:

NAC 445A.6674 Storage capacity. (NRS 445A.860**)** Except as otherwise provided in NAC 445A.66755:

1. A supplier of water shall ensure that:

(a) An existing public water system maintains a storage capacity that, as determined by an engineer on the basis of historical data, accepted engineering judgment and a network hydraulic analysis, is sufficient to ensure that the total capacity of the public water system will meet current and anticipated demands for water while maintaining the pressures indicated in NAC 445A.6711.

(b) A new public water system maintains a storage capacity that is sufficient to provide the amount of water required for sufficient operating storage, emergency reserve and fire demand.

2. Storage requirements for fire demand must be calculated according to the requirements of the fire authority. The ~~[health authority]~~***Division or the appropriate district board of health*** shall evaluate the design of a public water system based upon appropriate documentation of those requirements.

3. A supplier of water for an existing public water system shall ensure that the total storage capacity and capacity of booster pumps for each zone of pressure in the distribution system are sufficient to meet the maximum day demand within that zone. Water stored in a higher zone of pressure may be provided to serve a lower zone of pressure if:

(a) An appropriate pressure regulator is installed between the zones; and

(b) The requirements for the higher zone of pressure are not compromised.

Sec. 67 NAC 445A.66745 is hereby amended to read as follows:

NAC 445A.66745 Operating storage. (NRS 445A.860**)** Except as otherwise provided in NAC 445A.66755:

1. An existing public water system must maintain an operating storage in such an amount as an engineer determines, based upon historical data and the system's capacity for the development and treatment of water, to be sufficient for the system to meet requirements for maximum day demand.

2. A new public water system must, except as otherwise justified by an engineer and approved by the ~~[health authority]~~***Division or the appropriate district board of health***, maintain an operating storage equal to 700 gallons for each residential equivalent in the area of service of a metered system and 1,225 gallons for each residential equivalent in the area of service of an unmetered system.

Sec. 68 NAC 445A.6676 is hereby amended to read as follows:

NAC 445A.6676 Development and treatment of sources of water: General requirements. (NRS 445A.860**)**

1. The development or treatment of a source of water for a public water system must comply with the applicable provisions of:

(a) NAC 445A.66765 to 445A.6696, inclusive; and

(b) NAC 445A.495 to 445A.540, inclusive.

2. An engineer who designs such a project shall demonstrate to the ~~[health authority]~~***Division or the appropriate district board of health*** that:

(a) Any source of water selected for development contains a sufficient quantity of available water to ensure that the total capacity of the public water system is adequate; and

(b) Any water intended to be supplied to users of the public water system will meet the standards set forth in NAC 445A.450 to 445A.492, inclusive, for microbiological, physical, chemical and radiological quality.

3. A supplier of water shall, within any applicable economic, technical and legal limitations, obtain water from the best source available.

Sec. 69 NAC 445A.66765 is hereby amended to read as follows:

NAC 445A.66765 Treatment facilities: General requirements; use of point-of-entry or point-of-use treatment devices; prerequisites to selection of design. (NRS 445A.860**)**

1. Treatment facilities must be capable of producing water that complies with the requirements of NAC 445A.450 to 445A.492, inclusive. If a treatment facility is designed to meet primary standards, the facility must use the best available technology to attain that purpose. If a supplier of water proposes to meet secondary standards by using point-of-entry treatment devices or point-of-use treatment devices, or both, the proposal must be reviewed and approved by the ~~[health authority]~~***Division or the appropriate district board of health*** before it is carried out.

2. Before a supplier of water selects a design for a treatment facility, it shall cause an engineer to conduct an investigation to determine the physical, chemical, microbiological and radiological characteristics of the raw water to be treated. The investigation must include:

(a) A determination of any seasonal variations in the quality of the raw water; and

(b) A sanitary survey of the relevant portions of the public water system in this State, to identify potential sources of contamination that could affect the quality of the water at its source, at any impoundments of the water and at any facilities for the delivery of the water.

Sec. 70 NAC 445A.6677 is hereby amended to read as follows:

NAC 445A.6677 Treatment facilities: Prerequisites to use. (NRS 445A.860**)**

1. A supplier of water shall, before using a treatment facility:

(a) Submit to the ~~[health authority]~~***Division or the appropriate district board of health*** the information regarding the design of the facility set forth in subsection 2; and

(b) Obtain the ~~[health authority's]~~***Division's or the appropriate district board of health's*** review and written approval of the design of the facility.

2. ***In addition to any requirements of Section 16,*** ~~[T]~~***t***he information required pursuant to subsection 1 includes:

(a) The range of the quality of water to be treated at the facility.

(b) The results of any relevant pilot studies.

(c) A schematic diagram of the facility.

(d) The critical criteria for the design of the facility, including, without limitation, the average day demand, maximum day demand, peak hour demand, rates of loading and backwashing, rates for the feeding of chemicals and capability for handling solids.

(e) Detailed plans and specifications for the facility.

(f) Verification that the materials to be used in the facility are determined to be compatible with drinking water.

(g) Any other information the ~~[health authority]~~***Division or the appropriate district board of health*** determines necessary to complete its review.

Sec. 71 NAC 445A.66775 is hereby amended to read as follows:

NAC 445A.66775 Treatment facilities: Selection of site. (NRS 445A.860**)** A supplier of water shall:

1. Before plans and specifications are prepared for a treatment facility, consult with the ~~[health authority]~~***Division or the appropriate district board of health*** regarding the selection of a site for the facility; and

2. When selecting such a site, consider the applicable topography and conditions of the soil and any potential hazards from earthquake, fire, flood and other causes.

Sec. 72 NAC 445A.6678 is hereby amended to read as follows:

NAC 445A.6678 Treatment facilities: Determination of necessary amount of redundancy. (NRS 445A.860**)** A supplier of water shall, before a treatment facility is designed, consult with the ~~[health authority]~~***Division or the appropriate district board of health*** regarding the amount of redundancy the ~~[health authority]~~***Division or the appropriate district board of health*** will determine is necessary for the facility. The ~~[health authority]~~***Division or the appropriate district board of health*** shall base that determination upon the number of connections to be served, the availability of other sources of water acceptable to the ~~[health authority]~~***Division or the appropriate district board of health*** and the capability of the public water system to control the use of water.

Sec. 73 NAC 445A.66785 is hereby amended to read as follows:

NAC 445A.66785 Treatment facilities: Design and construction. (NRS 445A.860**)** A treatment facility must:

1. Be designed in such a manner as to ensure:

(a) The reliable operation of the facility; and

(b) That the public water system can meet its current demands for water.

2. Except as otherwise specifically allowed by the ~~[health authority]~~***Division or the appropriate district board of health***:

(a) Ensure that at any time the facility is the sole source of water for the public water system, the total capacity of the system is sufficient to meet the maximum day demand, peak hour demand and fire flow for the area of service of the system.

(b) Include at least two devices each for pumping, mixing chemicals, flocculation, sedimentation, filtration and disinfection.

(c) Be constructed in such a manner as to allow individual devices required pursuant to paragraph (b) to be taken out of service without disrupting the operation of the facility.

(d) Have drains and pumps of such a size as to allow the removal of water within a reasonable time.

(e) Have a standby source of power available to allow the operation of essential functions when the regular source of power fails.

(f) When filtration is used, discharge filtered water after backwashing into a system for waste.

(g) If the facility does not have a person present on a 24-hour basis, include a device that automatically shuts off the facility when the facility is not operating properly.

Sec. 74 NAC 445A.66795 is hereby amended to read as follows:

NAC 445A.66795 Treatment facilities: Submission of information regarding application of chemicals. (NRS 445A.860**)** If the design of a treatment facility includes the application of

chemicals, a supplier of water shall submit to the ~~[health authority]~~***Division or the appropriate district board of health*** with the information required pursuant to NAC 445A.6677:

1. Descriptions of the equipment for feeding the chemicals, including the minimum and maximum rates of feeding.

2. A description of the location of the feeders, layout of piping and points of application.

3. A description of the facilities for the storage and handling of the chemicals.

4. Specifications for the chemicals to be used.

5. A description of the procedures for operation and control, including proposed rates of application.

6. Descriptions of the testing equipment and monitoring procedures to be used.

7. The results of any chemical, physical or biological tests, and any other tests, performed to determine the optimum chemical treatment.

8. A description of the assemblies for the prevention of backflow proposed to be used for protection against cross-connections.

9. A plan for the safety of persons operating the facility which conforms to any applicable state or federal requirements for occupational safety and health.

Sec. 75 NAC 445A.66805 is hereby amended to read as follows:

NAC 445A.66805 Treatment facilities: Quality of chemicals; labeling of containers for shipping chemicals; storage of chemicals. (NRS 445A.860**)** In a treatment facility:

1. Each chemical used for the treatment of water must be determined to be compatible with drinking water.

2. Containers for the shipping of chemicals must be labeled in such a manner as to include:

(a) The name, purity, concentration and date of manufacture of each chemical.

(b) The name and address of the supplier of the chemical.

(c) Any other information required by any applicable state or federal statutes or regulations for occupational safety and health.

3. Storage space for chemicals must:

(a) Be adequate for the storage of a sufficient supply of chemicals. Unless the ~~[health authority]~~***Division or the appropriate district board of health*** determines that the availability of alternative supplies of chemicals warrants otherwise, a supplier of water shall maintain at least a 30-day supply of chemicals.

(b) Be adequate for the convenient and efficient handling and delivery of chemicals.

(c) Maintain conditions of dry storage.

(d) Provide adequate ventilation.

Sec. 76 NAC 445A.6682 is hereby amended to read as follows:

NAC 445A.6682 Fluoridation. (NRS 439.200**,** 445A.055**,** 445A.860**)**

1. On or before March 1, 2000, all water delivered for human consumption in a county whose population is 400,000 or more by a:

(a) Public water system that serves a population of 100,000 or more; or

(b) Water authority,

➥ must be fluoridated.

2. In a county whose population is less than 400,000, all requests that fluoride be added to the water supply for the reduction of the incidence of dental caries must be referred to the ~~[health authority]~~ ***Health Division***, who shall send the request to the ***State*** ~~[b]~~***B***oard of ~~[h]~~***H***ealth for

consideration. In addition to any approval required pursuant to NRS 445A.025 to 445A.050, inclusive, the following must agree to a request to add fluoride to the water supply:

(a) The public water system;

(b) The county board of health;

(c) The State Board of Health;

(d) The local dental and medical society, or if there is none, the state dental and medical society; and

(e) The local governing authority.

➥ If such approval is granted, the fluoridation of the water must be provided in accordance with the provisions of this section.

3. The State Board of Health will exempt a public water system or water authority from the requirement of fluoridation of the groundwater in its wells if the public water system or water authority submits documentation to the State Board of Health that demonstrates that its system for the production of groundwater:

(a) Produces less than 15 percent of the total average annual water production of the public water system or water authority for the years in which drought conditions are not prevalent; and

(b) Is part of a combined regional and local system for the distribution of water that is served by a fluoridated source.

4. A public water system or water authority that is required to fluoridate all water delivered for human consumption pursuant to subsection 1 shall:

(a) Cease fluoridation of that water during an emergency related to fluoridation of the water;

(b) Submit to the ***Nevada State*** Health Division within 30 days after the emergency occurs, a written notice describing the emergency and the length of time during which the public water system or water authority ceased fluoridation of the water; ~~[and]~~

(c) Resume fluoridation of the water when the emergency no longer exists~~[.]~~***;***

(d) Report to the Nevada Division of Environmental Protection if the emergency related to fluoridation of the water resulted in an exceedance of the secondary maximum contaminant level for fluoride, set forth in subsection 2 of NAC 445A.455; and

(e) Comply with all monitoring, reporting and public notice provisions in NAC 445A.456 and NAC 445A.485.

5. A public water system or water authority that is required to fluoridate all water delivered for human consumption pursuant to subsection 1 may cease fluoridation of that water during a period of routine maintenance if the public water system or water authority:

(a) Submits to the ***Nevada State*** Health Division ***and the Division of Environmental Protection*** within 30 days before the period of routine maintenance, a written notice describing the maintenance and the length of time during which the public water system or water authority will cease fluoridation of the water; and

(b) Resumes fluoridation of the water when the maintenance is completed.

6. In addition to meeting the standards set forth in NAC 445A.450 to 445A.492, inclusive, a public water system or water authority shall maintain in all water it delivers for human consumption:

(a) A minimum concentration of fluoride that is not less than 0.7 ppm; and

(b) A maximum concentration of fluoride that does not exceed 1.2 ppm.

7. The introduction of a chemical for fluoridation into the facilities of a public water system or water authority must be made:

(a) Through accurate feeding equipment; and

(b) In accordance with *Water Fluoridation: A Manual for Engineers and Technicians*.

8. The feeding equipment must be maintained in accordance with *Water Fluoridation: A Manual for Engineers and Technicians*.

9. The feeding equipment must be controlled in such a manner that fluoride is added to the facilities of the public water system or water authority only when those facilities and the related equipment for supplying water are functioning properly. Electrical power to the feeding equipment must be wired in conjunction with the pumping or flow control equipment of the public water system or water authority in such a manner that fluoride cannot be introduced into the supply of water when the water is not flowing. Pumps for feeding chemicals must be equipped with flow detectors which ensure that the injection of chemicals stops when the well or booster pumps stop.

10. Either gravimetric or volumetric dry-feed equipment or positive displacement liquid-feed equipment with an accuracy within 5 percent is required. When liquid-feed equipment is used, at least two solution tanks must be available for the preparation and storage of the fluoride solution.

11. A person who handles chemicals that are added to the water in the fluoridation process shall comply with the requirements relating to protective equipment set forth in section 5.3.4 of the *Recommended Standards for Water Works*.

12. Each public water system and water authority shall:

(a) Maintain a kit which is approved by the ~~[health authority]~~ ***Nevada State Health Division or the Division of Environmental Protection*** for testing the concentration of fluoride in water.

(b) Adjust the concentration of fluoride if the natural concentration of fluoride in the water delivered for human consumption by the public water system or water authority is not within the permissible concentrations of fluoride set forth in subsection 6.

(c) Take samples from one or more points in the distribution system that are approved by the ~~[health authority]~~ ***Nevada State Health Division in consultation with the Division of Environmental Protection***.

(d) Test or monitor the concentration of fluoride daily after its introduction into the facilities of the public water system or water authority and maintain accurate records of the results of that testing or monitoring.

(e) Report the results of the daily testing or monitoring to the ~~[health authority]~~ ***Nevada State Health Division*** at least monthly and in accordance with any written instructions prescribed by the ~~[health authority]~~ ***Nevada State Health Division***.

(f) Not less than once a week, have a properly certified laboratory verify the results of the testing or monitoring for at least 1 day using the methods approved in the *Standard Methods for the Examination of Water and Wastewater*. The ~~[health authority]~~ ***Nevada State Health Division*** may take samples from points in the distribution system approved by it pursuant to paragraph (c) to test the samples for control purposes.

(g) Follow any written instructions of the ~~[health authority]~~ ***Nevada State Health Division*** for the sampling of water to which fluoride has been added.

(h) Keep a record or copy of the results of the daily testing or monitoring on the premises of its facility or at a convenient location near the premises for the period specified in 40 C.F.R. § 141.33. The record or copy must be available for inspection by the ~~[health authority]~~ ***Nevada State Health Division or the Division of Environmental Protection*** upon request.

(i) In the fluoridation of water, only use fluoride that meets the requirements set forth in standards B701-94, B702-94 and B703-94 of the *American Water Works Association Standards*.

(j) Notify the ***Nevada State*** Health Division as soon as possible, but not later than the end of the next business day, if:

(1) The concentration of fluoride in the water that is delivered for human consumption does not meet the levels of concentration required by subsection 6; or

(2) Any other event occurs that may affect the ability of the public water system or water authority to produce safe, potable water.

(k) Comply with the provisions of:

(1) This section;

(2) The *Recommended Standards for Water Works*;

(3) The *Standard Methods for the Examination of Water and Wastewater*;

(4) *Water Fluoridation: A Manual for Engineers and Technicians*; and

(5) Standards B701-94, B702-94 and B703-94 of the *American Water Works Association Standards*.

➥ If there is a conflict between any of the provisions described in this paragraph, the most stringent of those provisions prevails.

13. As used in this section:

(a) ~~["Health authority" has the meaning ascribed to it in NAC 445A.66055, except that with regard to a county whose population is 400,000 or more, "health authority" means the officers and agents of the Health Division.~~

~~(b)]~~ "Water authority" has the meaning ascribed to it in NRS 377B.040.

Sec. 77 NAC 445A.66825 is hereby amended to read as follows:

NAC 445A.66825 Disinfection of water: General requirements. (NRS 445A.860**)**

1. In addition to any disinfection required pursuant to NAC 445A.526, a supplier of water shall provide for the continuous disinfection, in accordance with NAC 445A.66825 to 445A.6685, inclusive, of any groundwater used by the public water system which:

(a) Does not comply with primary standards;

(b) Is obtained from a well that is located or constructed in a manner that varies from the requirements of NAC 445A.65505 to 445A.6731, inclusive; or

(c) Is distributed through a distribution system that is constructed in a manner that varies from the requirements of NAC 445A.65505 to 445A.6731, inclusive.

2. A supplier of water shall:

(a) Locate any facilities for disinfection in such a manner that the facilities are accessible throughout the entire year.

(b) Provide adequate housing for equipment used for disinfection and for the storage of disinfectants.

3. If a supplier of water proposes to use any disinfectants other than chlorine, including iodine, ozone, chlorine dioxide, chloramines or ultraviolet light, the supplier of water shall, before preparing the final plans and specifications for the facility, submit the proposal to and obtain the approval of the ~~[health authority]~~***Division or the appropriate district board of health***.

(a) If chlorine dioxide, ultraviolet light or ozone are used for inactivation of Cryptodsporidium, Giardia lamblia, and or viruses, the disinfection practice must comply with NAC 445A.526.

4. Chloramines may be used as a secondary disinfectant to maintain an effective residual of disinfectant in a distribution system only if the ~~[health authority]~~***Division or the appropriate***

district board of health, after conducting an evaluation of each proposal for such a use on a case-by-case basis, determines that chloramines are suitable for that use.

Sec. 78 NAC 445A.6683 is hereby amended to read as follows:

NAC 445A.6683 Disinfection of water: Chlorination. (NRS 445A.860**)** If chlorine is used for the disinfection of water:

1. The disinfection must be accomplished with liquefied or gaseous chlorine, calcium hypochlorite or sodium hypochlorite.

2. The supplier of water shall use chlorinators that:

(a) Feed chlorine into solution by gas or feed hypochlorite by positive displacement or erosion;

(b) Are determined to be compatible with drinking water; and

(c) Are designed in a manner which ensures that a chlorine residual of not less than 0.05 mg/l is maintained at all times and at all locations in the distribution system.

3. The supplier of water shall provide and maintain a kit of spare parts for all chlorinators which is adequate for the repair of any parts that are subject to wear and breakage. If the supplier of water does not have the ability to repair chlorinators in an expeditious manner, he must provide a complete backup set of equipment for chlorination.

4. The application of chlorine must be by automatic control, except that manual control may be used where a system for chlorination only treats water of reasonably constant flow and quality. If the application of chlorine is by automatic control:

(a) Flow proportional control must be used where the quality of the water is reasonably constant and the rate of flow is not reasonably constant; and

(b) Residual flow control must be used under other conditions.

5. The chlorine must be applied:

(a) Continuously at a point in such a manner that, based on the pH, temperature and biological quality of the water, the presence in the water of any ammonia or substances that produce taste or odor, and any other pertinent factors, will provide for the maximum period of contact and maximum mixing. Where necessary, appropriate baffles or methods of blending must be provided.

(b) In a manner that minimizes the formation of chloro-organic compounds that are significant to the public health.

(c) If groundwater is being treated, by applying the chlorine at the wellhead, an inlet for a storage tank or a pipeline in a manner that will provide an adequate period of contact to inactivate enteric viruses and kill bacteria, parasites and other pathogens.

6. The piping for chlorinators must be designed in such a manner as to prevent contamination of the supply of treated water by water of uncertain or nonpotable quality. Unless otherwise approved by the ~~[health authority]~~***Division or the appropriate district board of health***, only finished water may be used in a chlorinator.

7. The supplier of water shall:

(a) Provide equipment for testing chlorine residual which is capable of:

(1) Performing the procedures identified in *Standard Methods for the Examination of Water and Wastewater*; and

(2) Measuring chlorine residual to the nearest 0.05 mg/l or 0.05 ppm.

(b) If surface water is chlorinated, provide automatic recorders of chlorine residual.

Sec. 79 NAC 445A.6684 is hereby amended to read as follows:

NAC 445A.6684 Use of gaseous chlorine: Location, storage and maintenance of equipment. (NRS 445A.860**)**

1. Except as otherwise justified by an engineer and approved by the ~~[health authority]~~***Division or the appropriate district board of health***, gaseous chlorine or equipment for the use of gaseous chlorine must not be located in a building where there are any living quarters.

2. Cylinders of gaseous chlorine:

(a) Must not be stored in areas where they are exposed to direct sunlight or are readily accessible to unauthorized persons.

(b) Must be isolated from the operating areas of a public water system and anchored or otherwise restrained, through the use of a chain or other device, to prevent their falling over. A valve stem wrench or valve handle must be maintained on each cylinder so that the supply of gaseous chlorine can be shut off quickly in the case of an emergency. The valve protection hood must be kept in place except when a cylinder is in operation.

Sec. 80 NAC 445A.66845 is hereby amended to read as follows:

NAC 445A.66845 Use of gaseous chlorine: Chlorine room. (NRS 445A.860**)** In a facility of a public water system where gaseous chlorine is used for the disinfection of water:

1. The chlorinator, the cylinders of gaseous chlorine and a scale or other device suitable for determining the amount of gaseous chlorine contained in each cylinder must be kept above grade in a separate, reasonably gastight and corrosion-resistant room where:

(a) No ammonia is stored; and

(b) Any openings to the remainder of the facility are sealed.

2. The chlorine room must be provided with screened vents near the floor which terminate outdoors through a reasonably gastight duct at a point which is not less than 8 feet above the surrounding grade and where gaseous chlorine will not sink into spaces below the surface of the ground. Mechanical ventilation must be used. The exhaust system must be capable of providing not less than one air change per minute in the room.

3. The door to the chlorine room must open outward to the exterior of the building and be equipped with a push bar for quick exit. The room must be equipped with a latch that locks by key in such a manner that the key can be inserted in the lock outside of the door to the room. The room must be locked at all times except when personnel are inside.

4. A shatter-resistant window must be provided in the wall or door of the chlorine room. The window must provide a clear and unobstructed view of the inside of the room and be not less than 256 square inches in size. Adequate artificial illumination must be provided to allow the observation and maintenance of the equipment in the room.

5. Switches for the operation of the exhaust fan and the artificial illumination must be located on the outside of the chlorine room.

6. The floor area of the chlorine room must be of adequate size to house the chlorinator, cylinders, scale and any appurtenances.

7. The device for feeding chlorine must be designed in such a manner that during accidents or interruptions in the supply of water, or a break in the system, the feeder positively and automatically shuts off the supply of gaseous chlorine and vents any leaking gas outside of the chlorine room at a safe point of discharge. Feed lines must not carry any pressurized gas outside the room. The room must be equipped with a properly functioning device for detecting any leakage of gaseous chlorine which is acceptable to the ~~[health authority]~~***Division or the***

appropriate district board of health and which includes an audible and visual alarm and a telemetric device that automatically dials the telephone number of a responsible person. A leakage test kit, consisting of a 56-percent solution of ammonia and a sponge swab, must also be provided and used.

8. The chlorinator must be of a solution-feed type which is designed to prevent backflow and capable of delivering chlorine at its maximum rate without releasing gaseous chlorine into the chlorine room. Pressure relief valves must discharge to the outside atmosphere in a safe area.

9. The temperature in the chlorine room must not fall below 55°F or the temperature that the manufacturer of the chlorinator indicates is necessary for the proper operation of the chlorinator, whichever is higher. A means to keep the temperature above that level must be provided. The cylinders must be protected from direct sources of heat. Appropriate measures must be taken to avoid the condensation of chlorine in feed lines and associated equipment that can result when the feeding equipment is cooler than the cylinder.

10. Two self-contained breathing apparatuses, which are designed for use in a chlorine atmosphere and of a type compatible with any applicable requirements of the fire authority and state and federal standards for occupational safety and health, must be located outside of the chlorine room in a closed, unlocked cabinet or similarly secure place. A cylinder of compressed air, for replacement of the cylinders attached to the self-contained breathing apparatuses, and a record book for recording any use of the apparatuses, must also be kept in the cabinet or similarly secure place.

11. There must be posted:

(a) Outside of the chlorine room, a description of the first-aid measures for treating victims of chlorine exposure and the telephone number of the supplier of the gaseous chlorine.

(b) On the door to the chlorine room, in a location where it is readily visible to any person approaching the door, a sign stating "CAUTION - CHLORINE GAS" and "DANGER." The telephone numbers of persons to contact in case of a leak or other emergency must be prominently displayed on or near the sign.

Sec. 81 NAC 445A.6686 is hereby amended to read as follows:

NAC 445A.6686 Water wells: Establishment of redundant capacity for development and treatment of water. (NRS 445A.860**)** ~~[A health authority]~~***The Division or the appropriate district board of health*** may require a supplier of water to establish a redundant capacity for the development and treatment of water if:

1. A water well is the sole source of water for the public water system; and

2. Based upon the remoteness of the facilities, availability of spare parts, access to equipment and other factors in a particular case, the ~~[health authority]~~ ***Division or the appropriate district board of health*** determines that the redundancy is desirable to protect the public health and ensure the availability of safe and reliable drinking water.

Sec. 82 NAC 445A.66865 is hereby amended to read as follows:

NAC 445A.66865 Water wells: Location. (NRS 445A.860**)**

1. Before designing and carrying out a proposal for the location of a water well, a supplier of water shall:

(a) Submit to the ~~[health authority]~~ ***Division or the appropriate district board of health*** information on any flood zone that includes the proposed location; and

(b) In consultation with the ~~[health authority]~~ ***Division or the appropriate district board of health***, identify all potential sources for the pollution or contamination of groundwater at the proposed location.

2. Except as otherwise justified by an engineer and approved by the ~~[health authority]~~ ***Division or the appropriate district board of health***, no water well may be located:

(a) Within 50 feet of a gravity sanitary sewer or gravity storm sewer; or

(b) Within 150 feet of a wastewater force main, wastewater lift station, septic tank or absorption field, or any other source of pollution or contamination.

Sec. 83 NAC 445A.66875 is hereby amended to read as follows:

NAC 445A.66875 Water wells: Documentation of right to divert water. (NRS 445A.860**)** Before a public water system uses a water well as a source of water, the supplier of water shall submit to the ~~[health authority]~~ ***Division or the appropriate district board of health*** documentation indicating that the supplier of water has a legal right to divert water from the well for municipal, quasi-municipal or domestic purposes.

Sec. 84 NAC 445A.6688 is hereby amended to read as follows:

NAC 445A.6688 Water wells: Determination and reporting of yield characteristics of well. (NRS 445A.860**)** After the construction of a water well and before the attachment of a permanent pump to the well, the supplier of water shall:

1. Cause a step drawdown test and a constant discharge aquifer test, or another engineering investigation or analysis suitable for determining the characteristics of the well for the production of water, to be performed on the well and submit the results of the tests, investigation or analysis to the ~~[health authority]~~ ***Division or the appropriate district board of health***. The supplier of water shall coordinate its activities with the Division of Environmental Protection***, Bureau of Water Pollution Control,*** to ensure that any discharge of water resulting from the tests, investigation or analysis will not violate any standards for water quality.

2. Determine the well yield for the well and submit that information to the ~~[health authority]~~ ***Division or the appropriate district board of health***.

Sec. 85 NAC 445A.66885 is hereby amended to read as follows:

NAC 445A.66885 Water wells: Prerequisites to use after construction, modification or reconditioning. (NRS 445A.860**)**

1. After the construction of a water well is completed and before any water from the well is allowed to enter a public water system, the supplier of water shall:

(a) Submit to the ~~[health authority]~~ ***Division or the appropriate district board of health*** a copy of a chemical analysis conducted by a properly certified laboratory which indicates that the water complies with the provisions of NAC 445A.450 to 445A.492, inclusive; and

(b) If the supplier of water proposes to blend, dilute or otherwise treat the water to attain compliance with any of those provisions:

(1) Submit to the ~~[health authority]~~ ***Division or the appropriate district board of health*** a complete description of the proposal, as prepared by an engineer; and

(2) Obtain the approval of the proposal by the ~~[health authority]~~ ***Division or the appropriate district board of health***.

2. After the construction of any modification or reconditioning of a water well is completed and before the well is placed into service:

(a) The well and any associated pumping equipment must be disinfected in compliance with *American Water Works Association Standard C654*; and

(b) A satisfactory bacteriological analysis of a sample of the water from the well must be submitted to the ~~[health authority]~~ ***Division or the appropriate district board of health***.

Sec. 86 NAC 445A.6694 is hereby amended to read as follows:

NAC 445A.6694 Springs: Prerequisites to development; reports after development; approval for use. (NRS 445A.860**)**

1. Before commencing the construction of any improvements for the development of a spring as a source of water for a public water system, the supplier of water shall submit to the ~~[health authority]~~***Division or the appropriate district board of health*** for its review and approval:

(a) Detailed plans and specifications for the work.

(b) The statement of an engineer indicating the measured or anticipated rate and quantity of flow from the spring.

(c) Documentation that the supplier of water has a legal right to divert water from the spring for municipal, quasi-municipal or domestic purposes.

(d) The results of an analysis of water quality, performed by a properly certified laboratory, which demonstrates that the water complies with the provisions of NAC 445A.450 to 445A.492, inclusive.

(e) A map that shows the location of any source of pollution or contamination in the area and indicates the owner of the land where the source is located.

2. After the development of a spring as a source of water for a public water system, the supplier of water shall submit to the ~~[health authority]~~***Division or the appropriate district board of health***:

(a) A microscopic particulate analysis which shows that the water from the spring is not groundwater under the direct influence of surface water.

(b) Information regarding the rate of flow developed from the spring.

(c) A depiction of the development of the spring as built.

3. Water from a spring must not be introduced into a public water system until the use of the water is approved, in writing, by the ~~[health authority]~~***Division or the appropriate district board of health***.

Sec. 87 NAC 445A.66945 is hereby amended to read as follows:

NAC 445A.66945 Springs: Establishment of zone of protection. (NRS 445A.860**)**

1. If a spring is used as a source of water for a public water system, the supplier of water shall establish a zone of protection for the spring, as determined by technically defensible analyses of the specific conditions of the site, to protect the source of water from the establishment of a source of pollution or contamination. To ensure the availability of that protection, the supplier of water shall:

(a) Execute a written agreement not to locate or permit a source of pollution or contamination within any part of the zone of protection he owns; and

(b) Obtain the written agreement of all other owners of land within the zone of protection not to locate or permit a source of pollution or contamination within the zone of protection.

2. The agreements required by subsection 1 must be binding on all heirs, successors and assigns of the property owners, and:

(a) If the property is not public land, recorded in the office of the county recorder of each county in which the property is located, together with a description of the property. A copy of the recorded instrument must be submitted to the ~~[health authority]~~***Division or the appropriate district board of health*** for its review.

(b) If the property is public land, a copy of the written agreement must be submitted to the ~~[health authority]~~***Division or the appropriate district board of health*** for its review.

Sec. 88 NAC 445A.6695 is hereby amended to read as follows:

NAC 445A.6695 Springs: Allowance of source of pollution or contamination within zone of protection. (NRS 445A.860**)**

1. Except as otherwise provided in subsection 2, no source of pollution or contamination is allowed within a zone of protection established pursuant to NAC 445A.66945.

2. The ~~[health authority]~~***Division or the appropriate district board of health*** may:

(a) Allow sewer lines within the zone of protection, subject to such precautionary conditions as the ~~[health authority]~~***Division or the appropriate district board of health*** deems appropriate.

(b) Authorize other exceptions to the provisions of subsection 1 if the ~~[health authority]~~***Division or the appropriate district board of health*** determines, after evaluating the particular situation in each case, that there are special circumstances which justify each exception.

Sec. 89 NAC 445A.66955 is hereby amended to read as follows:

NAC 445A.66955 Springs: Covering of device for collection of water. (NRS 445A.860**)** Except as otherwise justified by an engineer and approved by the ~~[health authority]~~***Division or the appropriate district board of health***, a device for the collection of water from a spring which is used as a source of water for a public water system, whether the device consists of collection tile, perforated PVC, infiltration boxes or tunnels, must be:

1. Covered with a minimum of 10 feet of impervious soil cover that extends a minimum of 15 feet in all horizontal directions up gradient from the device for the collection of water; or

2. Where it is impossible to comply with the requirements of subsection 1, covered with an impermeable liner. If an impermeable liner is necessary:

(a) The liner must have a total thickness of at least 12 mils and all seams of the liner must be folded or welded in such a manner as to prevent leakage.

(b) The liner must be determined to be compatible with drinking water.

(c) The liner must be installed in such a manner as to ensure its integrity. There must not be any stones that are 2 inches or more in any dimension, or that have any sharp edges, located within 6 inches of the liner.

(d) A minimum of 2 feet of relatively impervious soil cover must be placed over the liner.

(e) The liner and soil cover must extend a minimum of 15 feet in all horizontal directions up gradient from the device for the collection of water.

➥ If warranted by the physical circumstances of a particular spring, the ~~[health authority]~~***Division or the appropriate district board of health*** may require more stringent criteria for the design of an impermeable liner than the criteria set forth in this subsection.

Sec. 90 NAC 445A.6696 is hereby amended to read as follows:

NAC 445A.6696 Springs: Development. (NRS 445A.860**)** Except as otherwise justified by an engineer and approved by the ~~[health authority]~~***Division or the appropriate district board of health***, if a spring is used as a source of water for a public water system:

1. A diversionary channel must be constructed in such a manner as to be capable of diverting from the area of the spring all anticipated runoff of surface water.

2. Each area for the collection of water from the spring must have at least one junction box, which can be locked, suitable for the inspection of the spring and the testing of water from the spring.

3. All collection boxes and junction boxes must incorporate access by manholes, air vents and overflow piping. The lids for those boxes must be gasketed, and the chambers of those boxes adequately screened and vented. Vents must be elbowed downward and placed not less than 12 inches nor more than 18 inches off the ground.

4. Any vegetation which is located within 100 feet of the spring and has a root system greater than 2 feet in length must be removed.

5. A permanent device for measuring the flow of water must be installed. The device, which may consist of a weir, must be properly housed and otherwise protected.

6. The spring must be developed in such a manner as to eliminate, as thoroughly as possible, the ponding of water within the area for collection. Where the ponding of water is unavoidable, the excess must be collected as drainage and routed down gradient beyond the immediate area for collection in a controlled manner which avoids the possibility for pollution or contamination of the spring.

Sec. 91 NAC 445A.66965 is hereby amended to read as follows:

NAC 445A.66965 Pumping facilities: General requirements. (NRS 445A.860**)** A supplier of water shall ensure that:

1. Each pumping facility of the public water system is designed and constructed in compliance with the provisions of NAC 445A.66965 to 445A.6706, inclusive.

2. The design of the pumping facilities of the public water system are appropriate to maintain requirements for the quality, quantity and pressure of water.

3. Except as otherwise justified by an engineer and approved by the ~~[health authority]~~***Division or the appropriate district board of health***, the public water system does not use any pumps installed in subsurface vaults.

4. If it is necessary to install any pumps in suction lift, appropriate priming systems are provided.

Sec. 92 NAC 445A.67025 is hereby amended to read as follows:

NAC 445A.67025 Pumping facilities: Suction piping. (NRS 445A.860**)** Except as otherwise justified by an engineer and approved by the ~~[health authority]~~***Division or the appropriate district board of health***, a supplier of water shall ensure that, with regard to the suction piping of the public water system:

1. The velocity of water in the piping does not exceed 3 feet per second.

2. The diameter of the piping is at least 2 inches greater than that of the inlet for the pump.

3. The reducer between the piping and the pump is an eccentric reducer and not a concentric reducer.

4. A fitting is installed between the inlet valve and pump which will allow easy removal of the pump. For pumps in suction lift, unions must not be used, and valves, except for foot valves, must not be installed on suction lines.

5. There is a continuous slope up from the surface of the water to the pump. The suction line must be as straight as possible, and the restriction of suction must be minimized.

6. If there is a valve on the suction line, there is installed between the valve and the pump, preferably on a spool, a gauge that:

(a) Operates within the appropriate range of pressure; and

(b) Is equipped with a pet cock or ball valve. Except when the gauge is being read, the pet cock and ball valve must remain closed.

7. If elbows are required in the suction line, the elbows are of a sufficiently long radius to minimize head loss.

8. Each inlet of a suction pipe in a suction well or clear well is:

(a) Bell-shaped in such a manner as to reduce head loss at the entrance. Square-cut inlets are prohibited.

(b) Adequately submerged, in accordance with the specifications of the manufacturer, at a depth of at least six times the diameter of the pipe.

(c) Located away from:

(1) The floor of the suction well or clear well at a distance specified by the manufacturer of the pump or, in the absence of such a specification, at a distance of not less than four nor more than five times the diameter of the pipe.

(2) The sidewall of the suction well or clear well at a distance specified by the manufacturer of the pump or, in the absence of such a specification, at a distance of not less than one-half the diameter of the pipe nor more than the diameter of the pipe.

9. If an inlet screen is installed:

(a) The inlet screen is designed in such a manner that an adequate flow can enter the pump when half of the screen is plugged.

(b) The diameter of the screen inlet is at least three times the diameter of the suction pipe inlet.

10. If a foot valve is used, the diameter of the foot valve is at least 2 inches greater than that of the inlet piping.

11. If a pump is connected to a header used for suction:

(a) The connection is at an angle relative to the header of not less than 30 degrees nor more than 45 degrees; or

(b) If it is necessary to connect the pump to the header at an angle of 90 degrees, the pump is located away from the header at a distance of at least eight times the diameter of the suction pipe.

12. If a pump is in suction head, a valve is installed in the suction line to facilitate the removal of the pump for maintenance. The valve must not be used to throttle the pump.

Sec. 93 NAC 445A.6703 is hereby amended to read as follows:

NAC 445A.6703 Pumping facilities: Discharge piping. (NRS 445A.860**)** Except as otherwise justified by an engineer and approved by the ~~[health authority]~~***Division or the appropriate district board of health***, a supplier of water shall ensure that, with regard to the discharge piping of the public water system:

1. A concentric reducer or eccentric reducer is installed at the pump, such that the diameter of the discharge pipe is at least 2 inches greater than that of the discharge of the pump.

2. A fitting, which may consist of a spool or union, is installed on a discharge pipe to facilitate the removal of the pump. A gauge with a pet cock or ball valve must also be installed on the discharge pipe.

3. A check valve or other suitable type of valve is installed just beyond the fitting required by subsection 2, to prevent the reversal of flow through the pump. On pumping installations of:

(a) Low pressure, a swing check valve may be used.

(b) High pressure, a silent check valve or automatic check valve, or another suitable valve, must be used. The engineer who designs such an installation shall seek to minimize the potential for water hammer.

4. Another valve is installed just beyond the check valve required pursuant to subsection 3, to isolate the discharge and to provide for a positive shutdown of the system when repair is required.

5. Isolation valves are not used for the control of flow or pressure and remain only in a fully open or a fully closed position. If the control of flow or pressure is desired, other valves must be installed.

6. The piping is arranged in such a manner as to avoid high spots. An air and vacuum valve, which is piped to a drain, must be provided.

7. The piping is rigidly supported and restrained in such a manner as to prevent movement.

Sec. 94 NAC 445A.6705 is hereby amended to read as follows:

NAC 445A.6705 Pumping facilities: Power. (NRS 445A.860**)**

1. The source of power for a pumping system must be electric, except that the ~~[health authority]~~***Division or the appropriate district board of health*** may authorize the use of an alternative source of power where warranted. Alternative sources of power must be installed in accordance with applicable electrical, building and mechanical codes.

2. Where a failure of power would cause the public water system to cease its minimum essential service:

(a) The supply of power must be provided by at least two independent sources; or

(b) A standby or auxiliary source of power must be provided.

Sec. 95 NAC 445A.67055 is hereby amended to read as follows:

NAC 445A.67055 Pumping facilities: Heating, ventilation and lighting. (NRS 445A.860**)**

1. If any equipment of a pumping system is used during winter, the equipment must be adequately heated in a manner that ensures the safe and efficient operation of the components of the pumping system. If a pump house is not occupied by any personnel, the heat must only be sufficient to prevent any freezing of the equipment and processes for treatment. If a pumping installation will not be used during winter, the equipment must be isolated and drained in such a manner as to prevent damage from freezing.

2. A pumping station must have adequate ventilation, as provided by windows, doors, roof ventilators and other means. Except as otherwise approved by the ~~[health authority]~~***Division or the appropriate district board of health***, forced ventilation that results in at least six changes of air per hour must be provided for all rooms, compartments, pits, vaults and other enclosures below the ground floor, and in any area where an unsafe atmosphere may develop or excessive heat may build up.

3. A pumping station must be adequately lighted in a manner that provides a safe and functional environment for work. The electrical wiring for the lighting system must conform to applicable electrical and building codes.

Sec. 96 NAC 445A.6706 is hereby amended to read as follows:

NAC 445A.6706 Pumping facilities: Hydropneumatic systems. (NRS 445A.860**)**

1. Hydropneumatic systems:

(a) Must not be used in a public water system with 150 or more service connections.

(b) Shall be deemed inadequate for protection from fire and the storage of water.

2. If a hydropneumatic system is used:

(a) The tank and its appurtenances must be completely housed and, except as otherwise approved by the ~~[health authority]~~***Division or the appropriate district board of health***, located above the normal surface of the ground. If the ~~[health authority]~~***Division or the appropriate district board of health*** authorizes the location of the tank or any appurtenances below the ground, there must be adequate drainage, heating, ventilation, lighting, maintenance and protection from flood.

(b) The hydropneumatic system must be designed to provide a minimum pressure of at least 30 psi at all points in the distribution system during peak hour demand. A pressure gauge must be installed on the inlet line for the pressure tank.

(c) The pressure tanks must be constructed in such a manner that:

(1) The tanks meet anticipated requirements for pressure.

(2) The interior coatings of the tanks are determined to be compatible with drinking water.

(3) The tanks are equipped with a 24-inch access manhole, a drain, control equipment that consists of a pressure gauge, a glass for sighting water, an air blowoff and a means for adding air, and pressure-operated controls for starting and stopping the pumps.

(4) Bypass piping is provided that will facilitate the repair or coating of the tanks.

(5) The amount of the gross volume, as expressed in gallons, of the hydropneumatic tank is at least ten times the amount of the capacity, as expressed in gallons per minute, of the largest pump in the hydropneumatic system.

(d) At least two pumping units must be provided. The capacity of the wells and pumps in the hydropneumatic system must be at least ten times the average day demand.

(e) The method used to adjust the volume of air must be approved by the ~~[health authority]~~***Division or the appropriate district board of health***. The compressors must deliver an adequate volume of air, which has been filtered and is free of oil, to the pressure tank.

Sec. 97 NAC 445A.67075 is hereby amended to read as follows:

NAC 445A.67075 Storage structures: Materials. (NRS 445A.860**)**

1. Except as otherwise provided in subsection 3, storage tanks must:

(a) Consist of welded steel and comply with *American Water Works Association Standard* D100;

(b) Consist of factory-coated, bolted steel and comply with *American Water Works Association Standard* D103;

(c) Consist of reinforced concrete of portland cement;

(d) Consist of prestressed concrete and comply with *American Water Works Association Standard* D110; or

(e) Consist of fiberglass-reinforced plastic and comply with *American Water Works Association Standard* D120.

2. Reservoirs with floating covers may be used for the storage of water only if approved by the ~~[health authority]~~***Division or the appropriate district board of health*** after evaluation on a case-by-case basis. If so approved, such a reservoir must have a lining and cover composed of a flexible membrane which conforms to the requirements of:

(a) Standard 54 of the American National Standards Institute and the National Sanitation Foundation International; and

(b) *American Water Works Association Standard* D130.

3. The ~~[health authority]~~***Division or the appropriate district board of health*** may authorize a public water system to use a storage tank composed of galvanized steel if:

(a) The plans and specifications for the tank are submitted to the ~~[health authority]~~***Division or the appropriate district board of health***.

(b) The tank is assembled and hot-dip galvanized, and any other coating is applied, at a factory. The tank must not be modified at another location unless the modification is inspected by an engineer and approved by the ~~[health authority]~~***Division or the appropriate district board of health***.

(c) Any material used to coat the tank is determined to be compatible with drinking water. Before being introduced into service, the tank must be sampled for the presence of volatile organic chemicals.

(d) An analysis of the quality of water in the tank demonstrates that the stored water will not corrode the tank and the only material used to coat the tank is a galvanized coating.

(e) The construction of the tank complies with *American Water Works Association Standard* D103.

4. This section does not:

(a) Prohibit ~~[a health authority]~~***the Division or the appropriate district board of health*** from:

(1) Disallowing the use of galvanized storage tanks in a public water system; or

(2) Imposing more stringent requirement for the construction of a galvanized storage tank.

(b) Apply to the use of galvanized tanks for any purpose other than the storage of water for a public water system.

Sec. 98 NAC 445A.6708 is hereby amended to read as follows:

NAC 445A.6708 Storage structures: Design and construction. (NRS 445A.860**)**

1. Storage tanks must:

(a) Be designed by an engineer, structurally competent and constructed of materials that are acceptable to the ~~[health authority]~~***Division or the appropriate district board of health***.

(b) Employ a foundation that is appropriate for the type of tank and complies with the *American Water Works Association Standards*.

2. A supplier of water shall provide means for the drainage of storage structures. Storage structures that provide pressure directly to the distribution system must be designed in such a manner that they can be isolated from the distribution system and drained for cleaning or maintenance without any loss of pressure in the distribution system.

3. Storage structures must have a device for overflow that is brought down to an elevation of not less than 12 inches nor more than 24 inches above the surface of the ground, is sloped for complete drainage and discharges over a drainage inlet, plunge pool or splash plate without causing erosion. The outlet of the drain must be protected with an angled flapper valve and

located in such a manner that any discharge is visible. The device must be sufficiently large to dispose of overflow at a rate that equals the maximum rate for filling the structure. The device must have an air gap and must not discharge directly into a sanitary sewer or a storm sewer. Discharge from the device must be controlled in a manner that does not present a hazard to or cause a nuisance for any existing or contemplated development of property.

4. Storage tanks must contain vents that:

(a) Prevent external pressures from causing the tank to buckle; and

(b) Are designed in such a manner as to:

(1) Prevent the entrance of rain and surface water; and

(2) Exclude dust, birds, insects and other animals as much as possible.

➥ For the purposes of this subsection, "vent" does not include a device for overflow.

5. Vents, devices for overflow, drain outlets and other openings in a storage tank must be constructed and located in such a manner as to protect the stored water from contamination. Top and side vents must be screened and turned downward, except that mushroom vents in the center of the roof are acceptable. Screens used for venting air must be constructed of a stainless steel that is not susceptible to damage by corrosion and must have not less than 22 nor more than 24 mesh per inch. Drain outlets must have an air gap. Vents in buried structures must be not less than 24 inches nor more than 36 inches above the finished grade.

6. The discharge pipes from all storage structures must be located in a manner that will prevent the flow of sediment into the distribution system. A removable silt stop, of not less than 4 inches nor more than 6 inches, must be installed on the floor of a storage structure over the discharge pipe.

7. Storage structures must have a device for indicating the level of water in the structure. Automatic controls and set points must be provided which are adequate to maintain the level of water. Alarms to indicate respectively that the level of the water is too high or too low must be installed in or transmitted by telemetry to a prominent location. The design and operation of such a structure must provide for an adequate turnover of stored water. If a public water system has two or more storage structures located at different hydraulic elevations, the ~~[health authority]~~***Division or the appropriate district board of health*** may require the public water system to install altitude control valves or similar controls.

8. Steel storage tanks must have:

(a) Two manholes, each with a diameter of 30 inches, in the side of the tank that allow entry into the interior of the tank for cleaning and maintenance.

(b) One manhole on the roof of the tank. The manhole must have a curbing or frame around its opening that:

(1) Extends at least 4 inches above the surface of the roof;

(2) Is gasketed;

(3) Is hinged on one side; and

(4) Is equipped with a cover that:

(I) Is watertight;

(II) Can be locked; and

(III) Overlaps the curbing by at least 2 inches.

9. Storage structures and their appurtenances, including vents, riser pipes and devices for overflow, must be designed in such a manner as to prevent any freezing that would interfere with the proper functioning of the structures and their appurtenances.

10. Each catwalk located over finished water stored by a public water system must have a solid floor with raised edges and be constructed in such a manner that shoe scrapings and other dirt will not fall into the finished water.

11. Sampling taps must be provided in a vault at a storage tank which are appropriate for facilitating the collection of samples of stored water for chemical analyses and for ascertaining the concentration of coliform bacteria.

12. If necessary to allow for any differential movement of a storage tank caused by settling or seismic activity, the inlet and discharge piping of the tank must be provided with flexible coupling.

Sec. 99 NAC 445A.67085 is hereby amended to read as follows:

NAC 445A.67085 Storage structures: Coatings; disinfection. (NRS 445A.860**)**

1. All metal surfaces of a storage structure must be properly protected by the application of paint or another coating. The coating used must not result in the transfer of any substance into the water which imparts a taste or odor to the water or causes the water to exceed any primary or secondary standards. All internal coatings must be determined to be compatible with drinking water.

2. A storage tank, whether coated in the field or in the factory, must not be placed into service unless:

(a) The tank is cured for the appropriate time.

(b) After the tank is cured, the tank is filled with water and the water is retained in the tank for 5 days.

(c) The water retained in the tank is tested on the sixth day by a properly certified laboratory for the presence of volatile organic chemicals.

(d) The results of the test are submitted to and approved by the ~~[health authority]~~***Division or the appropriate district board of health***.

3. Storage structures must be disinfected before being put into service for the first time and after being entered for cleaning, repair or painting. The disinfection must be conducted in accordance with *American Water Works Association Standard* C652. The disposal of any heavily chlorinated water that results from the process of disinfection must be coordinated with the Division of Environmental Protection***, Bureau of Water Pollution Control***. Before the structure is placed into operation after disinfection, two samples of water in the structure, taken at least 24 hours apart, must indicate that any concentration of coliform bacteria in the structure meets primary standards.

Sec. 100 NAC 445A.67115 is hereby amended to read as follows:

NAC 445A.67115 Distribution system: Design; diameter of water mains; connection to fire hydrant. (NRS 445A.860**)**

1. Before designing a water main for a public water system, an engineer shall perform a network hydraulic analysis on the public water system, based upon the requirements for flow and pressure set forth in NAC 445A.6672 to 445A.66735, inclusive, and 445A.6711.

2. Except as otherwise authorized by the ~~[health authority]~~***Division or the appropriate district board of health*** on a case-by-case basis, the inside diameter of the water mains of a public water system must have a nominal size of at least 6 inches.

3. A water service lateral that serves a fire hydrant must, if the water service lateral is:

(a) Not more than 150 feet in length, be not less than 6 inches in diameter.

(b) More than 150 feet in length, be of a diameter that is justified by an engineer and approved by the ~~[health authority]~~***Division or the appropriate district board of health***.

➥ A fire hydrant must not be connected to a water main or water service lateral that does not have a sufficient capacity for fire flow.

4. A distribution system for mobile home parks and recreational vehicle parks must be designed in compliance with the *Uniform Plumbing Code*.

Sec. 101 NAC 445A.6712 is hereby amended to read as follows:

NAC 445A.6712 Distribution system: Dead ends. (NRS 445A.860**)**

1. A distribution system must be designed, to the extent possible, in such a manner as to eliminate dead ends and form a grid system or system of arterial loops. Except as otherwise justified by an engineer and approved by the ~~[health authority]~~***Division or the appropriate district board of health***, tree systems are prohibited.

2. Where a dead end cannot be eliminated, it must:

(a) If the flow and pressure is sufficient, terminate with:

(1) A gate valve of the same size as the water main; and

(2) A fire hydrant; or

(b) Terminate with a flushing device approved by the ~~[health authority]~~***Division or the appropriate district board of health***. The flushing device must be of a sufficient size to provide a velocity of at least 2.5 feet per second in the water main being flushed. No flushing device may be connected directly to any sewer line.

Sec. 102 NAC 445A.67135 is hereby amended to read as follows:

NAC 445A.67135 Distribution system: Release and blowoff valves. (NRS 445A.860**)**

1. Air and vacuum valves, air release valves or hydrants must be installed at high points in water mains where air tends to accumulate.

2. Suitably sized blowoff valves must be provided in appropriate locations at low points in water mains with diameters of 20 inches or more. Blowoff valves must have air gaps and must not discharge directly into sewer lines.

3. Except as otherwise provided in subsection 4, the openings of any vents in a valve required pursuant to this section must:

(a) Be located at least 1 foot above the grade of the ground surface; and

(b) Have a discharge pipe that is screened, elbowed and faced downward in such a manner as to protect the pipe from traffic and other disturbances. The screen must not be susceptible to damage by corrosion and must have not less than 22 nor more than 24 mesh per inch.

4. If compliance with subsection 3 is impracticable, the ~~[health authority]~~***Division or the appropriate district board of health*** may, on a case-by-case basis, authorize below-grade openings in vents. If so authorized:

(a) The openings must be located in subsurface chambers or pits which are adequately drained and are not subject to flooding; and

(b) The drains from the chambers or pits must have air gaps and must not be connected directly to any sewer lines.

Sec. 103 NAC 445A.67145 is hereby amended to read as follows:

NAC 445A.67145 Distribution system: Construction. (NRS 445A.860**)**

1. Except as otherwise provided in this section, a water main must be installed:

(a) For public water systems in Carson City, Fallon, Reno, Sparks, Yerington, Douglas County, Lander County, Lyon County, Nye County or Washoe County, in compliance with *Standard Specifications for Public Works Construction and American Water Works Association Standards*.

(b) For public water systems in Boulder City, Henderson, North Las Vegas, the Big Bend Water District or the Las Vegas Valley Water District, in compliance with *Uniform Design and Construction Standards for Water Distribution Systems* and the *American Water Works Association Standards*.

(c) For public water systems in other areas of the State, in compliance with the *American Water Works Association Standards*.

(d) Except as otherwise provided in paragraphs (a), (b) and (c), in compliance with the procedures for installation recommended by the manufacturer of the water main.

2. Except as otherwise provided in this subsection, water mains must be installed in areas that are dedicated for public use as streets or highways or are otherwise sufficiently open to the public to facilitate access for maintenance and emergency repairs. Water mains may be constructed on private property, under structures or in or under bodies of water only if approved by the ~~[health authority]~~***Division or the appropriate district board of health***.

3. Piping for a distribution system must be designed and constructed in such a manner that appropriate measures, as determined by frost depth, type of backfill and surface loads, are taken for trenching, bedding and refilling. Water mains must be:

(a) Properly bedded and covered with a sufficient amount of earth or other insulation to prevent freezing.

(b) Installed with at least 36 inches of cover over the piping or at least 12 inches below frost depth, whichever is deeper.

4. The design and construction of a distribution system must provide for the avoidance of pressure surges and water hammer through the use of reaction blocking and similar methods. Where appropriate, water mains, tees, bends, plugs and hydrants must have thrust blocks, thrust anchors or joints designed to prevent movement. Water mains located on a slope must be restrained in such a manner as determined appropriate by an engineer.

5. Locator tape, magnetic tape or conductive wire and tape must be installed in the trench above a water main.

6. A water main must not be placed into service after its initial construction until:

(a) The water main has been disinfected in accordance with *American Water Works Association Standard* C651. The disposal of any spent chlorine solutions must be coordinated with the Division of Environmental Protection.

(b) An analysis of the water main which indicates that it meets primary standards for coliform bacteria has been obtained and reported to the ~~[health authority]~~***Division or the appropriate district board of health***.

7. The piping installed in a distribution system must, if the piping consists of:

(a) Ductile iron, be pressure tested in accordance with *American Water Works Association Standard* C600;

(b) PVC, be pressure tested in accordance with *American Water Works Association Standard* C605; or

(c) Another material, be pressure tested in accordance with:

(1) For public water systems in Carson City, Fallon, Reno, Sparks, Yerington, Douglas County, Lander County, Lyon County, Nye County or Washoe County, *Standard Specifications for Public Works Construction*;

(2) For public water systems in Boulder City, Henderson, North Las Vegas, the Big Bend Water District or the Las Vegas Valley Water District, *Uniform Design and Construction Standards for Water Distribution Systems*; or

(3) For public water systems in other areas of the State, the requirements of the ~~[health authority]~~***Division or the appropriate district board of health***,

➥ before the piping is flushed, disinfected or sampled for an analysis of water quality.

8. During the construction of a distribution system, any openings in unfinished piping or appurtenances must be sealed at the end of each working day in such a manner as to prevent the entry of birds and other animals, dirt, trench water and other sources of pollution or contamination.

Sec. 104 NAC 445A.6716 is hereby amended to read as follows:

NAC 445A.6716 Separation of lines: Sewer service lateral parallel to water main or water service lateral. (NRS 445A.860**)** If a sewer service lateral parallels a water main or water service lateral, the sewer service lateral must be in a separate trench and:

1. Located:

(a) At least 12 inches lower than the water main or water service lateral, as measured vertically from the exterior walls of the pipes; and

(b) At least 48 inches away from the water main or water service lateral, as measured horizontally from the exterior walls of the pipes; or

2. If compliance with subsection 1 is impracticable, located in such a manner as is authorized by the ~~[Health]~~ Division.

Sec. 105 NAC 445A.6717 is hereby amended to read as follows:

NAC 445A.6717 Separation of lines: Sewer main crossing water service lateral. (NRS 445A.860**)**

1. If a sewer main crosses a water service lateral, the sewer main must be located:

(a) At least 18 inches lower than the water service lateral, as measured vertically from the exterior walls of the pipes; or

(b) If compliance with paragraph (a) is impracticable, in such a manner as is authorized by the ~~[Health]~~ Division.

2. If a water service lateral is in place at the time a sewer main is constructed and must be relocated to comply with this section, the relocation must be performed:

(a) With the approval of and in accordance with the procedures and standards of the supplier of water; or

(b) If compliance with paragraph (a) is impracticable, in such a manner as is authorized by the ~~[Health]~~ Division.

Sec. 106 NAC 445A.67175 is hereby amended to read as follows:

NAC 445A.67175 Separation of lines: Sewer service lateral crossing water main or water service lateral. (NRS 445A.860**)**

1. If a sewer service lateral crosses a water main or water service lateral, the sewer service lateral must be located:

(a) At least 12 inches lower than the water main or water service lateral, as measured vertically from the exterior walls of the pipes; or

(b) If compliance with paragraph (a) is impracticable, in such a manner as is authorized by the ~~[Health]~~ Division.

2. If a water main or water service lateral is in place at the time a sewer service lateral is constructed and must be relocated to comply with this section, the relocation must be performed:

(a) With the approval of and in accordance with the procedures and standards of the supplier of water; or

(b) If compliance with paragraph (a) is impracticable, in such a manner as is authorized by the ~~[Health]~~Division.

Sec. 107 NAC 445A.6718 is hereby amended to read as follows:

NAC 445A.6718 Separation of lines: Lines across surface water. (NRS 445A.860**)**

1. A supplier of water shall consult with the ~~[health authority]~~***Division or the appropriate district board of health*** before preparing any plans for the construction of a pipeline of the public water system across any surface water, regardless of whether the crossing will be over or under the surface of the water.

2. If the pipeline will cross over the surface of the water, the pipe must be adequately supported and anchored, protected from damage and freezing, and accessible for repair and replacement.

3. Except as otherwise provided in subsection 4, if the pipeline will cross under the surface of the water, the pipe must be:

(a) Covered with at least 5 feet of backfill; and

(b) Enclosed in a pipe sleeve or encased with at least 4 inches of cement slurry.

4. If the pipeline will cross under the surface of a channel of water that is 15 or more feet wide:

(a) The pipe must be constructed with watertight mechanical joints that are capable of deflection.

(b) Isolation valves must be located at both ends of the crossing in such a manner that the length of the crossing can be isolated for testing, repair and sampling. The isolation valves must be easily accessible and must not be subject to flooding. The isolation valve closest to the source of the supply of water must be located in a manhole or valve chamber which is large enough for human access. The manhole or valve chamber must contain a permanent sampling tap and means for pressure testing the pipe.

(c) The pipe must be enclosed in a pipe sleeve or encased with at least 4 inches of cement slurry.

Sec. 108 NAC 445A.67185 is hereby amended to read as follows:

NAC 445A.67185 Cross-connections and backflow: General requirements. (NRS 445A.860**)** A supplier of water shall:

1. Ensure that there are no unprotected connections between the supplies of water, systems for the pumping, storage and treatment of water, and distribution system of the public water system and any source of pollution or contamination pursuant to which any unsafe water or other degrading material can be discharged or drawn into the public water system as a result of backsiphonage or backpressure.

2. Develop and carry out a program for the control of cross-connections that is approved by the ~~[health authority]~~***Division or the appropriate district board of health***. Except for a program that has been approved by ~~[a health authority]~~***the Nevada State Health Division or an appropriate district board of health*** before February 20, 1997, a program for the control of cross-connections must:

(a) Be submitted to the ~~[health authority]~~***Division or the appropriate district board of health*** for its approval no later than:

(1) January 1, 1999; or

(2) Eighteen months after the public water system begins operation,

➥ whichever is later.

(b) Include:

(1) A schedule for implementation.

(2) A plan for inspecting the properties served by the public water system to determine the potential risk of cross-connection and backflow.

(3) A plan for testing and tracking all primary assemblies for the prevention of backflow which are intended to protect the public water system upstream from a service connection. The plan must provide for the annual testing of those assemblies and for the retention of records from that testing.

(4) A list of the particular assemblies for the prevention of backflow which may be used in the public water system or on service connections to the public water system.

(5) A list of the measures the supplier of water will take to enforce the program if any customers of the system fail to comply with the program.

(c) Ensure compliance with NAC 445A.67185 to 445A.67255, inclusive.

(d) Except as otherwise provided in NAC 445A.67185 to 445A.67255, inclusive, comply with the provisions of:

(1) The *Uniform Plumbing Code*;

(2) *Recommended Practice for Backflow Prevention and Cross-Connection Control*; and

(3) The *Manual of Cross-Connection Control*.

➥ If there is any conflict between any of the provisions described in this paragraph, the most stringent of those provisions prevails.

Sec. 109 NAC 445A.67195 is hereby amended to read as follows:

NAC 445A.67195 Cross-connections and backflow: Minimum types of protection for particular service connections. (NRS 445A.860**)** Except as otherwise provided in NAC 445A.67185 to 445A.67255, inclusive, or authorized by the ~~[health authority]~~***Division or the appropriate district board of health***, the minimum type of protection from cross-connection required for a service connection to:

1. A public building or any building:

(a) That contains a hotel, motel, casino, condominium or town house, or any apartments;

(b) Used for commercial purposes where a specific business activity has not been identified; or

(c) In which one or more sewage pumps or sewage ejectors have been installed,

➥ consists of a reduced pressure principle assembly.

2. A building that:

(a) Has multiple stories and booster pumps or elevated tanks to distribute potable water; or

(b) Exceeds 40 feet in height, as measured from the service connection to the highest water outlet,

➥ consists of a double check valve assembly.

3. A class 1, class 2 or class 3 fire sprinkler system consists of a double check valve assembly.

4. A class 4, class 5 or class 6 fire sprinkler system consists of a reduced pressure principle assembly.

5. A hydronic heating system that contains any chemical additives consists of a reduced pressure principle assembly.

6. A baptismal font of a church consists of a reduced pressure principle assembly.

7. A facility for bottling beverages consists of a reduced pressure principle assembly.

8. A brewery consists of a reduced pressure principle assembly.

9. A cannery, facility for the processing of food, packing house or rendering facility consists of a reduced pressure principle assembly.

10. A facility for cold storage consists of a reduced pressure principle assembly.

11. A dairy processing facility consists of a reduced pressure principle assembly.

12. A restaurant or other facility in which food is served consists of a reduced pressure principle assembly.

13. A dental clinic consists of a reduced pressure principle assembly.

14. A hospital, medical building or clinic consists of a reduced pressure principle assembly.

15. A convalescent home or nursing home consists of a reduced pressure principle assembly.

16. A sanitarium consists of a reduced pressure principle assembly.

17. A morgue, mortuary or facility for conducting autopsies consists of a reduced pressure principle assembly.

18. A laboratory, including, without limitation, a laboratory of a teaching institution or another biological or analytical facility, consists of a reduced pressure principle assembly.

19. A facility of a school, college or university consists of a reduced pressure principle assembly.

20. A facility for the production of motion pictures consists of a reduced pressure principle assembly.

21. A facility for the publishing or printing of a newspaper consists of a reduced pressure principle assembly.

22. A veterinary clinic, pet shop or facility for grooming pets consists of a reduced pressure principle assembly.

23. A laundry or dry cleaning facility consists of a reduced pressure principle assembly.

24. A dyeing facility consists of a reduced pressure principle assembly.

25. A facility for mechanical, chemical or electrochemical plating consists of a reduced pressure principle assembly.

26. Any portable spraying or cleaning equipment consists of an air gap.

27. A pool or spa consists of a reduced pressure principle assembly.

28. A park for mobile homes or recreational vehicles consists of a reduced pressure principle assembly.

29. A facility located on a waterfront, including, without limitation, a fishery, fish hatchery, dock or marina, consists of a reduced pressure principle assembly.

30. A facility for the production of power consists of a reduced pressure principle assembly.

31. A facility for the production, storage or transmission of oil or gas consists of a reduced pressure principle assembly.

32. A facility that handles, processes or stores radioactive materials or substances consists of a reduced pressure principle assembly.

33. A facility for processing sand or gravel consists of a reduced pressure principle assembly.

34. A system for storm drainage, the collection of sewage or the distribution of reclaimed wastewater consists of an air gap.

35. A facility in which:

(a) Water is used to manufacture, store, compound or process chemicals for industrial purposes;

(b) Chemicals are added to water used in the compounding or processing of products;

(c) Chemicals are added to the supply of water; or

(d) The supply of water is used for the transmission or distribution of chemicals,

➥ consists of a reduced pressure principle assembly.

36. A facility for the manufacture of aircraft or missiles consists of a reduced pressure principle assembly.

37. A facility for the manufacture, repair or washing of motor vehicles consists of a reduced pressure principle assembly.

38. A facility for the manufacturing or processing of film consists of a reduced pressure principle assembly.

39. A facility for the manufacturing of ice consists of a reduced pressure principle assembly.

40. A facility for the manufacturing, processing or cleaning of metal consists of a reduced pressure principle assembly.

41. A facility for the manufacturing of natural or synthetic rubber consists of a reduced pressure principle assembly.

42. A facility for the manufacturing of paper or paper products consists of a reduced pressure principle assembly.

43. Any other facility for manufacturing, processing or fabricating consists of a reduced pressure principle assembly.

Sec. 110 NAC 445A.67205 is hereby amended to read as follows:

NAC 445A.67205 Cross-connections and backflow: Minimum types of protection for service connection to auxiliary supply of water or irrigation system. (NRS 445A.860**)** Except as otherwise provided in NAC 445A.67185 to 445A.67255, inclusive, the minimum type of protection required for a service connection to:

1. An auxiliary supply of water must consist of a double check valve assembly or reduced pressure principle assembly, as determined by the supplier of water and approved by the ~~[health authority]~~***Division or the appropriate district board of health***.

2. An irrigation system, including a system for irrigating median strips, must consist of:

(a) A pressure vacuum breaker or double check valve assembly, as determined by the supplier of water and approved by the ~~[health authority]~~***Division or the appropriate district board of health***; or

(b) Except as otherwise authorized by the ~~[health authority]~~***Division or the appropriate district board of health***, if facilities have been installed for pumping, injecting or applying fertilizers, pesticides or other hazardous systems, a reduced pressure principle assembly.

Sec. 111 NAC 445A.6721 is hereby amended to read as follows:

NAC 445A.6721 Cross-connections and backflow: Minimum types of protection for other service connections; resolution of conflicting requirements; imposition of more stringent requirements. (NRS 445A.860**)**

1. The ~~[health authority]~~***Division or the appropriate district board of health*** shall determine, on a case-by-case basis, the minimum type of protection from cross-connection required for any type of service connection which is not specified in NAC 445A.67185 to 445A.67255, inclusive.

2. If there is any conflict between any of the provisions of NAC 445A.67185 to 445A.67255, inclusive, regarding the type of protection from cross-connection required for a particular type of service connection, the most stringent of those provisions prevails.

3. The ~~[health authority]~~***Division or the appropriate district board of health*** or supplier of water may impose requirements regarding the installation and use of assemblies for the prevention of backflow which are more stringent than the provisions of NAC 445A.67185 to 445A.67255, inclusive.

Sec. 112 NAC 445A.6723 is hereby amended to read as follows:

NAC 445A.6723 Cross-connections and backflow: Installation of air gap. (NRS 445A.860**)** Except as otherwise authorized by the ~~[health authority]~~***Division or the appropriate district board of health***, if an air gap is installed on a service connection:

1. The air gap must be located as closely as practicable to the service connection, on the opposite side of the service connection from the public water system.

2. All piping from the service connection to the receiving tank must be above grade and visible.

3. There must be no type of outlet, tee, tap, take-off or connection to or from the service line between the service connection and the air gap.

4. Expansion tanks or pressure relief valves must be provided as appropriate for the potential threat of water hammer and thermal expansion.

Sec. 113 NAC 445A.67235 is hereby amended to read as follows:

NAC 445A.67235 Cross-connections and backflow: Installation of reduced pressure principle assembly. (NRS 445A.860**)** Except as otherwise authorized by the ~~[health authority]~~***Division or the appropriate district board of health***, if a reduced pressure principle assembly is installed on a service connection:

1. The reduced pressure principle assembly must be installed:

(a) In a horizontal and level position, except that the reduced pressure principle assembly may be installed in a vertical position if the assembly has been:

(1) Specifically designed for operation in that position; and

(2) Tested and certified to be suitable for operation in that position by an approved backflow testing laboratory.

(b) As closely as practicable to the service connection, on the opposite side of the service connection from the public water system.

(c) Above ground and, to the extent possible, not less than 12 inches nor more than 36 inches above the finished grade, as measured from the bottom of the assembly.

(d) At a site with adequate drainage, or with drain piping, for any fluid that is discharged when the assembly is activated.

(e) In such a manner that no part of the assembly will be submerged during normal conditions of operation and weather.

(f) In such a manner as to be readily accessible for maintenance and testing.

2. The reduced pressure principle assembly must not be installed below grade, in any subsurface vault, or in any vault, chamber or pit where there is any potential that the relief valve could become submerged.

3. The reduced pressure principle assembly must have a free-flowing drain with an air gap.

4. There must be no type of outlet, tee, tap, take-off or connection to or from the service line between the service connection and the reduced pressure principle assembly.

5. Expansion tanks or pressure relief valves must be provided as appropriate for the potential threat of water hammer and thermal expansion.

6. The reduced pressure principle assembly may be installed indoors if the installation complies with subsections 1 to 5, inclusive, and has a clearance of:

(a) At least 12 inches on top;

(b) At least 24 inches on the side with test cocks; and

(c) At least 12 inches on the other sides.

Sec. 114 NAC 445A.6724 is hereby amended to read as follows:

NAC 445A.6724 Cross-connections and backflow: Installation of double check valve assembly. (NRS 445A.860**)** Except as otherwise authorized by the ~~[health authority]~~***Division or the appropriate district board of health***, if a double check valve assembly is installed on a service connection:

1. The double check valve assembly must be installed:

(a) In a horizontal and level position, except that the double check valve assembly may be installed in a vertical position if the assembly has been:

(1) Specifically designed for operation in that position; and

(2) Tested and certified to be suitable for operation in that position by an approved backflow testing laboratory.

(b) As closely as practicable to the service connection, on the opposite side of the service connection from the public water system.

(c) Above ground and, to the extent possible, not less than 12 inches nor more than 36 inches above the finished grade, as measured from the bottom of the assembly.

(d) In such a manner as to be readily accessible for maintenance and testing.

2. There must be no type of outlet, tee, tap, take-off or connection to or from the service line between the service connection and the double check valve assembly.

3. Expansion tanks or pressure relief valves must be provided as appropriate for the potential threat of water hammer and thermal expansion.

4. The double check valve assembly may, if above-grade installation is impracticable and the ~~[health authority]~~***Division or the appropriate district board of health*** approves of the installation, be installed in a below-grade vault in such a manner that:

(a) The top of the double check valve assembly is not more than 8 inches below grade.

(b) There is:

(1) At least 12 inches of clearance between the bottom of the vault and the bottom of the double check valve assembly;

(2) At least 24 inches of clearance between the side of the vault and the side of the double check valve assembly with test cocks; and

(3) At least 12 inches of clearance between the side of the vault and the other sides of the double check valve assembly.

(c) To the extent warranted by climatic conditions, the double check valve assembly is protected from freezing.

(d) The vault has adequate drainage to prevent the accumulation of water, which drains to daylight, to free-draining soil or to a sufficient amount of gravel placed under the vault to provide for free drainage and prevent the accumulation of water under the vault. A vault that does not have an integrated bottom must be placed on a layer of gravel which is not less than 3 inches deep.

(e) The vault is protected from vandalism.

(f) The vault is not located in an area subject to vehicular traffic.

5. The double check valve assembly may be installed indoors if:

(a) The installation complies with subsections 1 to 4, inclusive; and

(b) The double check valve assembly has a clearance of:

(1) At least 12 inches on top;

(2) At least 24 inches on the side with test cocks; and

(3) At least 12 inches on the other sides.

Sec. 115 NAC 445A.67265 is hereby amended to read as follows:

NAC 445A.67265 Duties after loss of pressure in distribution system. (NRS 445A.860**)** Except as otherwise authorized by the ~~[Health]~~ Division, if any part of a distribution system loses all pressure, the supplier of water shall, before placing that part of the distribution system back into service:

1. Inform the customers of the public water system within the affected portion of its area of service of the need to boil their water before consumption.

2. Collect, on 2 or more consecutive days, samples of water from that part of the distribution system which indicate that the presence of any coliform bacteria complies with primary standards.

Sec. 116 NAC 445A.6728 is hereby amended to read as follows:

NAC 445A.6728 Water hauling: General requirements. (NRS 445A.860**)** Water hauling may be used only:

1. In an emergency or on a temporary basis when water hauling is the only means of distributing drinking water to the customers of a public water system; and

2. If:

(a) The proposal for water hauling is submitted to and approved by the ~~[health authority]~~***Division or the appropriate district board of health*** before the water hauling begins;

(b) Each vehicle to be used for water hauling is inspected by the ~~[health authority]~~***Division or the appropriate district board of health*** before it is used for water hauling and annually thereafter; and

(c) The supplier of water ensures that the water hauling complies with NAC 445A.67275 to 445A.6731, inclusive.

Sec. 117 NAC 445A.67285 is hereby amended to read as follows:

NAC 445A.67285 Water hauling: Sanitation and disinfection. (NRS 445A.860**)** If ~~[a health authority]~~***the Division or the appropriate district board of health*** approves the use of water hauling:

1. The water must be obtained only from a source that:

(a) Meets primary and secondary standards; and

(b) Has been approved by the ~~[health authority]~~***Division or the appropriate district board of health*** before the water is obtained.

➥ The supplier of water shall provide the ~~[health authority]~~***Division or the appropriate district board of health*** with evidence of compliance with this subsection.

2. The supplier of water shall provide for:

(a) The sanitary transfer of water from its source to the tanks used for water hauling and from those tanks to the tanks owned or used by customers of the public water system.

(b) The sampling and analysis of the hauled water, at a frequency approved by the ~~[health authority]~~***Division or the appropriate district board of health***, to determine whether the hauled water meets primary standards for coliform bacteria. If the water in any vehicle fails to meet those standards, the vehicle must not be used for water hauling until further testing indicates that the contamination has been eradicated. The supplier of water shall provide the ~~[health authority]~~***Division or the appropriate district board of health*** with evidence of compliance with this paragraph.

(c) The sanitation and disinfection of the tanks used for water hauling and of the lines and appurtenances used for the transfer and distribution of the water. After it is constructed, cleaned or repaired, and before it is placed into service:

(1) Such a tank, line or appurtenance must be disinfected in accordance with *American Water Works Association Standard* C651. The disposal of any spent chlorine solutions must be coordinated with the Division of Environmental Protection.

(2) An analysis of the tank, line or appurtenance which indicates that it meets primary standards for coliform bacteria must be obtained and reported to the ~~[health authority]~~***Division or the appropriate district board of health***.

3. The chlorine residual in the hauled water must be not less than 1 mg/l and not more than 5 mg/l.

4. Except as otherwise authorized by the ~~[health authority]~~***Division or the appropriate district board of health***, the vehicles used for water hauling must be used only for the distribution of potable water and must never have contained, hauled or carried any materials or substances other than water from a source approved by the ~~[health authority]~~***Division or the appropriate district board of health***.

5. There must be no modification of the facilities where the water is obtained or the tanks in which the water is hauled without the prior approval of the ~~[health authority]~~***Division or the appropriate district board of health***.

6. The tanks used for water hauling must be cleaned and disinfected with a chlorine solution, at such frequencies as the ~~[health authority]~~***Division or the appropriate district board of health*** determines appropriate, in accordance with the following procedure:

(a) A sufficient amount of chlorine must be added to the tank to bring the chlorine residual to not less than 50 ppm.

(b) The chlorine solution in the tank must be agitated thoroughly and allowed to contact the tank and any attached hoses for not less than 30 minutes.

(c) The disposal of the spent chlorine solution must be coordinated with the Division of Environmental Protection.

Sec. 118 NAC 445A.6729 is hereby amended to read as follows:

NAC 445A.6729 Water hauling: Log of activities. (NRS 445A.860**)** If ~~[a health authority]~~***the Division or the appropriate district board of health*** approves the use of water hauling, the supplier of water shall maintain a log of its activities relating to the water hauling which must include:

1. The dates of hauling.
2. The amounts hauled.
3. An identification of each vehicle used for hauling.
4. The source of the water hauled.
5. The concentration of chlorine in the water hauled.
6. The places where the water was delivered.
7. Copies of any relevant contracts or other agreements.
8. The results of the required analyses for coliform bacteria.

Sec. 119 NAC 445A.67295 is hereby amended to read as follows:

NAC 445A.67295 Water hauling: Construction of equipment. (NRS 445A.860**)** If ~~[a health authority]~~***the Division or the appropriate district board of health*** approves the use of water hauling:

1. Any containers, tanks, hoses, fittings, piping or other equipment used to store, haul or transfer the water must be constructed of materials and coatings determined to be compatible with drinking water.

2. The tanks used for hauling and equipment used for the delivery of the water must be readily accessible for cleaning.

3. A tank used for hauling must have:

(a) A manhole of adequate size for the maintenance of the tank.

(b) A drain on the bottom which is adequate for the complete drainage of the tank.

4. Each opening in a tank used for hauling or a fitting used for the delivery of water must be tightly sealed by gasket, threaded joint, weld or similar means.

5. Each end of a hose or fitting used for the delivery or receipt of water must have a threaded or clamped cap. The cap must be in place when the hose or fitting is not in use and properly stored when the hose or fitting is in use.

6. A tank used for the hauling or storage of water must have an air relief vent that:

(a) Terminates downward; and

(b) Is covered with a metal screen that is resistant to damage by corrosion and has not less than 22 nor more than 24 mesh per inch.

7. The discharge line from each pump or tank must have a check valve, located as near to the pump or tank as is practicable.

8. A tank used for water hauling must be filled:

(a) From an overhead standpipe which is equipped with a testable double check valve assembly and approved by the ~~[health authority]~~***Division or the appropriate district board of health***;

(b) From a distribution system which is equipped with a testable double check valve assembly and approved by the ~~[health authority]~~***Division or the appropriate district board of health***; or

(c) By another method approved by the ~~[health authority]~~***Division or the appropriate district board of health***.

➥ If a standpipe is used, the standpipe must terminate a distance of at least two times the diameter of the pipe above the opening used for filling the tank, and the discharge end of the pipe must be capped when not in use.

9. The area used for filling a tank used for water hauling must be:

(a) Composed of concrete; and

(b) Properly drained and maintained in such a manner as to prevent the occurrence of standing water.

Sec. 120 NAC 445A.67305 is hereby amended to read as follows:

NAC 445A.67305 Water hauling: Marking of vehicles. (NRS 445A.860**)** If ~~[a health authority]~~***the Division or the appropriate district board of health*** approves the use of water hauling, a vehicle used for that purpose must be marked in such a manner that:

1. The name and address of the person or other entity responsible for performing the water hauling appear on both sides of the tank, or on both of the doors of the vehicle, in letters that are completely legible at all times from a distance of 50 feet.

2. The words "domestic water," "drinking water," or "potable water" appear on both sides of the tank in letters that are completely legible at all times.

Sec. 121 NAC 445A.6731 is hereby amended to read as follows:

NAC 445A.6731 Water hauling: Equipment of vehicles for disinfection and testing. (NRS 445A.860**)** If ~~[a health authority]~~***the Division or the appropriate district board of health*** approves the use of water hauling, a vehicle used for that purpose must have available:

1. A chorine solution with a concentration of not less than 50 mg/l nor more than 100 mg/l for the disinfection of any hose, fitting or cap that becomes contaminated during the transfer of water.

2. Strips or other devices for testing the concentration of chlorine which are:

(a) Approved by the ~~[health authority]~~***Division or the appropriate district board of health***; and

(b) Sufficient for determining the chlorine residual in the hauled water and in the solution required by subsection 1.