

~~20.6.4.112 RIO GRANDE BASIN - Cochiti reservoir.~~

~~A. Designated Uses: livestock watering, wildlife habitat, warmwater aquatic life, coldwater aquatic life and primary contact.~~

~~B. Criteria:~~

~~(1) At any sampling site: pH within the range of 6.6 to 9.0 and temperature 25°C (77°F). The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.~~

~~(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 235 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).] **RESERVED.**~~

~~[20.6.4.112 NMAC - Rp 20 NMAC 6.1.2109, 10-12-00; A, 05-23-05; Repealed, XX-XX-XX]~~

BASIS FOR CHANGE: The Department proposes to delete this segment because Cochiti Reservoir is entirely within the Pueblo of Cochiti and therefore lies outside state jurisdiction.

20.6.4.113 RIO GRANDE BASIN - The Santa Fe river and perennial reaches of its tributaries from the Cochiti [reservoir] pueblo boundary upstream to the outfall of the Santa Fe wastewater treatment facility.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, secondary contact, and warmwater aquatic life.

B. Criteria:

~~[(1) The use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: [In any single sample: pH within the range of 6.6 to 9.0,] temperature 30°C (86°F) or less, [and] dissolved oxygen 4.0 mg/L or more [Dissolved], and dissolved oxygen 5.0 mg/L or more as a 24-hour average. Values used in the calculation of the 24-hour average for dissolved oxygen shall not exceed the dissolved oxygen saturation value. For a measured value [above] greater than the dissolved oxygen saturation value, the dissolved oxygen saturation value [with] shall be used in calculating the 24-hour average. [The dissolved oxygen saturation value shall be determined from the table set out in Subsection N of 20.6.4.900 NMAC. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.]~~

~~[(2) The monthly geometric mean of E. coli bacteria 548 cfu/100 mL or less, single sample 2507 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).]~~

~~[20.6.4.113 NMAC - Rp 20 NMAC 6.1.2110, 10-12-00; A, 10-11-02; A, 05-23-05; A, XX-XX-XX]~~

BASIS FOR CHANGE: The Department proposes to:

- Exclude waters on tribal lands because these waters are not under state jurisdiction. See Section 103.
- Restructure Subsection B for the reasons given in Section 101.
- Delete both the table reference in Section 900 and the table itself. Dissolved oxygen saturation values can be readily referenced elsewhere, such as on the USGS website: <http://water.usgs.gov/software/DOTABLES/>. Therefore, it is not necessary to include them in the Standards. Furthermore, the table includes only selected values. The actual values usually need to be interpolated, e.g., for an elevation between 6,500 and 7,000 feet. Lastly, were it necessary to publish such a table in the Standards, it would not belong in Section 900 because it does not contain numeric criteria and because it is applicable only to this segment.
- Make minor editorial corrections.

The Department withdraws its proposal to move the phrase "and perennial reaches of its tributaries."

20.6.4.114 RIO GRANDE BASIN - The main stem of the Rio Grande from the [headwaters of] Cochiti [reservoir] pueblo boundary upstream to Rio Pueblo de Taos excluding waters on San Ildefonso, Santa Clara and Ohkay Owingeh pueblos, Embudo creek from its mouth on the Rio Grande upstream to the [junction of the Rio Pueblo and the Rio Santa Barbara] Picuris Pueblo boundary, the Santa Cruz river [below] from the Santa Clara pueblo boundary upstream to the Santa Cruz dam, the Rio Tesuque [below the Santa Fe national forest] except waters on the Tesuque and Pojoaque pueblos, and the Pojoaque river [below Nambe dam] from the San Ildefonso pueblo boundary upstream to the Pojoaque pueblo boundary. Some Rio Grande waters in this segment are under the joint jurisdiction of the state and San Ildefonso pueblo.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, primary contact and warmwater aquatic life; and public water supply on the main stem Rio Grande.

B. Criteria:

(1) ~~[In any single sample: pH within the range of 6.6 to 9.0 and temperature 22°C (71.6°F) or less.]~~
 The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses ~~[listed above in Subsection A of this section]~~, except that the following segment-specific ~~criterion applies~~ criteria apply: 6T3 temperature 22°C (71.6°F) ~~or less~~ and maximum temperature 26°C (78.8°F). In addition, the following criteria based on a 12-month rolling average are applicable to the public water supply use for monitoring and public disclosure purposes only:

<u>Radionuclide</u>	<u>pCi/L</u>
Americium-241	1.9
Cesium-137	6.5
Plutonium-239 and 240	1.5
Strontium-90	3.5
Tritium	4.000

(2) ~~[The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).~~

~~(3)]~~ At mean monthly flows above 100 cfs, the monthly average concentration for: TDS 500 mg/L or less, sulfate 150 mg/L or less and chloride 25 mg/L or less.
 [20.6.4.114 NMAC - Rp 20 NMAC 6.1.2111, 10-12-00; A, 05-23-05; A, XX-XX-XX]

BASIS FOR CHANGE: The Department proposes to:

- Exclude waters on tribal lands because these waters are not under state jurisdiction. See Section 103.
- Add a statement acknowledging that a portion of the Rio Grande is under the joint jurisdiction of the state and San Ildefonso pueblo for the reasons given in Section 106.
- Add public water supply as a designated use on the Rio Grande because the City of Santa Fe plans to divert San Juan-Chama water at the Buckman Direct Diversion on this reach of the Rio Grande. Los Alamos County and Española also have long-term plans to use water from this reach.
- Restructure Subsection B for the reasons given in Section 101.
- Retain the segment-specific criterion of 22°C as the 6T3 temperature and add a maximum temperature of 26°C. These temperature criteria are more stringent than the Section 900.H criteria for the marginal coldwater aquatic life use.
- Add criteria for radionuclides in response to concern that discharges from Los Alamos National Laboratory (LANL) could threaten public water supplies on the Rio Grande. Interested parties have urged the Department to propose radionuclide criteria and pointed to the example of the State of Colorado, which adopted statewide criteria for several radionuclides as well as site-specific criteria downstream of the Rocky Flats site.

The radioisotopes for which the Department proposes to establish criteria are all associated with LANL activities. They do not occur naturally in significant amounts. They have been detected in surface waters on LANL property downstream from discharges of radioactive effluent, as reported in LANL's annual Environmental Surveillance Reports (www.lanl.gov/environment/h2o/reports.shtml). They have also been detected in the Rio Grande, generally at low concentrations, as summarized in Attachment 4. The Department proposes to apply these criteria only to the reach of the Rio Grande in this segment because it is closest to the source and represents the area at greatest risk from potential discharges.

The Department's proposed criteria values rely on the risk coefficients in EPA's 1999 *Cancer Risk Coefficients for Environmental Exposure to Radionuclides – Federal Guidance Report 13* (www.epa.gov/rpdweb00/federal/techdocs.html). This report represents current EPA guidance for estimating the risk of cancer from low-level exposure to radionuclides. The risk coefficients presented in the report have been averaged over age and gender distributions; they are radionuclide specific and represent the health risk per unit of radioactivity absorbed.

To calculate the proposed criteria values, the Department considered the ingestion of radionuclides in water and used the *morbidity* risk coefficients, which estimate the average total risk of experiencing a cancer due to radioactivity exposure whether or not the cancer is fatal. An exposure period of 70 years and water intake rate of 2 liters per day were assumed, the same assumptions used in the calculation of EPA's human health criteria for non-

radioactive contaminants. A lifetime cancer risk of 10^{-5} was used in accordance with Commission practice. The calculation is as follows:

$$CC = LC / (EP \times RC \times DI)$$

where:

- CC = criterion concentration (pCi/L)
- LC = lifetime cancer risk (10^{-5})
- EP = exposure period (70 years or 25,568 days)
- RC = morbidity risk coefficient (pCi⁻¹)
- DI = drinking water intake (2 L/day)

The morbidity coefficients for each radionuclide are as follows:

Radionuclide	Morbidity Risk Coefficient (pCi ⁻¹)
Americium-241	1.0×10^{-10}
Cesium-137	3.0×10^{-11}
Plutonium-239/240	1.3×10^{-10}
Strontium-90	5.6×10^{-11}
Tritium	5.1×10^{-14}

The new criteria would be applicable on a 12-month rolling average basis. Sampling results for the preceding 12 months would be averaged and then compared to the criteria values. The Drinking Water Regulations employ a similar approach for determining whether a public water system is meeting maximum contaminant levels.

The Department is aware that under the Atomic Energy Act of 1954, as amended, the authority to regulate the discharge of these nuclear materials from LANL lies with the US Department of Energy. Absent a change in federal law, CWA requirements cannot be imposed on LANL for these contaminants. For this reason, the Department proposes to restrict the applicability of these criteria to monitoring and public disclosure purposes. The criteria will provide health-based values adopted by rule against which monitoring results can be compared, and this information will be made public. Even if there are limits on the ability of the Commission and EPA to enforce these criteria, their adoption would inform the public of health risks resulting from radioactive contamination.

20.6.4.115 RIO GRANDE BASIN - The perennial reaches of Rio Vallecitos and its tributaries, and perennial reaches of Rio del Oso and perennial reaches of El Rito creek above the town of El Rito.

A. Designated Uses: domestic water supply, irrigation, high quality coldwater aquatic life, livestock watering, wildlife habitat and ~~secondary~~ primary contact; public water supply on the Rio Vallecitos and El Rito creek.

B. Criteria:

~~[(1) In any single sample: specific conductance 300 µmhos/cm or less, pH within the range of 6.6 to 8.8 and temperature 20°C (68°F) or less.]~~ The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses ~~[listed above in Subsection A of this section].~~ except that the following segment-specific ~~criteria apply~~ criteria apply: specific conductance 300 µS/cm or less; the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 235 cfu/100 mL or less.

~~[(2) The monthly geometric mean of E. coli 126 cfu/100 mL or less; single sample 235 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).]~~

[20.6.4.115 NMAC - Rp 20 NMAC 6.1.2112, 10-12-00; A, 05-23-05, A, XX-XX-XX]

BASIS FOR CHANGE: The Department proposes to:

- Add public water supply as a designated use on El Rito Creek because it supplies the public water system at Northern New Mexico Community College, and on Rio Vallecitos because the Vallecitos MDWCA's infiltration gallery is located near this stream. The public water system operated by Vallecitos MDWCA is considered ground water under the direct influence of surface water.
- Restructure Subsection B and change the contact use designation to "primary contact" to be consistent with the assigned criteria for the reasons explained in Section 101.