

**BEFORE THE NEW MEXICO STATE ENGINEER**

<b>IN THE MATTER OF THE APPLICATIONS )</b>	
<b>BY MOONGATE WATER CO., KENNETH )</b>	<b>Hearing No. 02-023</b>
<b>E. GILLESPIE AND ROBERT M. EDISON )</b>	
<b>FOR PERMITS TO APPROPRIATE THE )</b>	<b>OSE File Nos. LRG-451;</b>
<b>UNDERGROUND WATERS OF THE LOWER )</b>	<b>LRG-452; LRG-453; LRG-</b>
<b>RIO GRANDE UNDERGROUND WATER )</b>	<b>479; LRG-480; LRG-532;</b>
<b>BASIN OF NEW MEXICO )</b>	<b>LRG-533</b>

**REPORT AND RECOMMENDATION**  
**OF THE HEARING EXAMINER**

This matter came on for hearing before Victor Kovach, the State Engineer's designated Hearing Examiner, on May 14, 2003, in Las Cruces, New Mexico. The parties appeared as follows: Kyle W. Gesswein, Esq., represented the Applicant, Moongate Water Company, and Stacey J. Goodwin, Esq., represented the Water Resource Allocation Program (WRAP) of the Office of the State Engineer (OSE). Having considered the pleadings and evidence of record, the Hearing Examiner recommends the following Findings and Order.

**FINDINGS**

1. The State Engineer has jurisdiction of the parties and subject matter.
2. On October 27, 1980, Moongate Water Company (MWC) c/o Louis A. Gariano, owner, filed Applications with the State Engineer numbered LRG-451, LRG-452 and LRG-453 for Permits to appropriate the Underground Waters of the Lower Rio Grande Underground Water Basin. The Applications each propose to appropriate 370 acre-feet per year (afy) of the shallow groundwater of the Lower Rio Grande Underground Water Basin for use in a public community water system located within parts of Sections 2 through 11 inclusive and Sections 15 through 18 inclusive, in Township 22 South, Range 3 East, NMPM, and Sections 31 through 34, inclusive, in Township 21 South, Range 3 East, NMPM. The locations of the proposed wells are described as follows: LRG-451 and LRG-453 to be located in the SW1/4 NE1/4 NE1/4 of Section 8, Township 22 South, Range 3 East, NMPM; and, LRG-452 to be

located in the NW1/4 NE1/4 NE1/4 of Section 8, Township 22 South, Range 3 East, NMPM.

3. On December 2, 1980, Kenneth E. Gillespie filed Applications with the State Engineer numbered LRG-479 and LRG-480 for Permits to Appropriate the Underground Waters of the Lower Rio Grande Underground Water Basin. The Applications each propose to appropriate 370 afy of the shallow groundwater of the Lower Rio Grande Underground Water Basin for use in a community water system to be located in Part of the W1/2 of Section 3, Township 22 South, Range 3 East, NMPM. The proposed wells are to be located in the NE1/4 NE1/4 SE1/4 of Section 4, Township 22 South, Range 3 East, NMPM. The Applications were subsequently assigned to MWC.
4. On January 6, 1981, Robert M. Edison filed Applications with the State Engineer numbered LRG-532 and LRG-533 for Permits to Appropriate the Underground Waters of the Lower Rio Grande Underground Water Basin. The Applications each propose to appropriate 350 afy of the shallow groundwater of the Lower Rio Grande Underground Water Basin for domestic purposes in a public water system located within Part of Section 33, Township 21 South, Range 3 East, NMPM. The proposed wells are to be located in the NW1/4 SW1/4 NE1/4 of Section 33, Township 21 South, Range 3 East, NMPM. The Applications were subsequently assigned to MWC.
5. Affidavits of Publication concerning the subject Applications were duly filed.
6. On August 16, 2001, the subject Applications were each denied by the OSE for the stated reason that "the requested appropriation cannot be applied to beneficial use within a reasonable period of time, and granting said appropriation would be contrary to the conservation of water within the state and detrimental to the public welfare of the state."
7. By letters of aggrievial filed on September 12, 2001, Applicant requested that the denials be set aside and that the matters be set for hearing.
8. Applications LRG-451, LRG-452, LRG-453, LRG-479, LRG-480, LRG-532 and LRG-533 request a total of 2,550 afy for subdivision and public community water use

within a service area located in an area generally known as the East Mesa area near the City of Las Cruces, New Mexico.

9. MWC has existing Permits LRG-370 through LRG-370-S-4, LRG-370-S-7 through LRG-370-S-10 and LRG-371 to divert up to 2,611.54 afy for public community water system use.
10. MWC has diverted 1,420 afy, as of the end of 2002, under its existing permits.
11. Municipalities, counties, state universities, member-owned community water systems, municipal water user associations and public utilities supplying water to municipalities or counties are allowed a water use planning period not to exceed forty (40) years pursuant to NMSA 1978 § 72-1-9 (2000).
12. The City of Las Cruces owns an existing water system serving most of its geographic area. MWC provides water to some individual residents in an area that overlaps with the City's municipal service area.
13. The County of Dona Ana owns an existing water system serving a portion of the County's geographic area. Jeffrey Michael Gariano, vice-president of MWC, testified that the County does not own or operate a water system serving the East Mesa area, where MWC's service area is located. Mr. Gariano indicated that MWC has occasionally provided water to the County for construction and fire protection in the MWC service area.
14. MWC is a public utility. However, MWC has failed to establish that it is a public utility "supplying water to a municipality or county" allowed a forty (40) year water use planning period under NMSA 1978 § 72-1-9 (2000).
15. MWC must establish that it can place the water requested in the subject Applications to beneficial use within a reasonable period of time.
16. MWC has experienced a consistent rate of growth in meter connections, of 160 to 180 new connections per year, for the past twenty years. In December of 1982, MWC had 112 connections and as of the end of 2001, it had 3,345 connections. During that period, average water use for each meter connection ranged from 0.36 to 0.40 afy. MWC estimates that its average water use per connection during 2002 was 0.426 to 0.437 acre-feet.

17. Demand estimates for MWC's service area, based upon a straight-line projection of past meter connection growth into the future, reflect that it will take MWC approximately 20 years to exercise its existing Permits to their full extent.
18. Applicant's witness, James Williams, Ph.D., prepared a Forty Year Water Usage Projection for MWC (Applicant's Exhibit 6), wherein he notes that the linear fashion of growth in connections over the twenty-year period from 1982 to 2001 is remarkable and merits consideration as a baseline for projections.
19. Dr. Williams developed a range of population and water use projections using various assumptions concerning growth in the number of housing units within the MWC service area. Dr. Williams determined that the total number of housing units within the MWC service area grew from 1,562 in 1990, to 3,456 in 2,000, a change of 1,894 units, which is a percentage change of 121.25%.
20. Dr. Williams projected two growth scenarios within the MWC service area for the decade of 2000 - 2010 using different assumptions as to continuation of the growth pattern of the preceding decade of 1990 - 2000. Projection 1 assumes that the percentage growth rate of 121.25%, during the decade of 1990 – 2000, will continue through 2000 – 2010, resulting in an additional 4,190 housing units within the MWC service area, while Projection 2 assumes that the growth in the number of housing units for the decade of 1990 – 2000 would be the same for 2000 – 2010, resulting in an additional 1,894 housing units, as follows:

<u>Year</u>	<u>Housing Units (1)</u>	<u>Housing Units (2)</u>
2000	3,456	3,456
2010	7,646	5,350

21. Under Dr. Williams' Projection 1, the average annual increase in the number of household units for the 2000 – 2010 decade would be 419 (4,190 units ÷ 10 years = 419 units per year). Projection 2 contemplates an average annual increase in the number of household units of 189.4 (1,894 ÷ 10 years = 189.4 units per year).
22. According to information and testimony provided by MWC, it had approximately 3,345 connections at the end of 2001 and, in 2002 it diverted 1,420 acre-feet of water. MWC estimated its average water use per connection during 2002 at 0.426

to 0.437 acre-feet. If MWC's estimate of average use per connection is accurate, it added virtually no new connections in 2002 ( $1,420 \text{ acre-feet} \div 0.426 \text{ estimated average use per connection} = 3,333 \text{ connections}$ ). If MWC's average use per connection in 2002 was actually consistent with its historical use of approximately 0.40 afy per connection, the equivalent number of connections would be approximately 3,550 ( $1,420 \text{ acre-feet} \div 0.40 \text{ historic average use per connection} = 3,550 \text{ connections}$ ) or an increase of approximately 205 connections. These calculations suggest that Dr. Williams' Projections 1 and 2 may both overestimate water use by MWC. In any event, the calculations show that Projection 2 correlates more closely with actual growth in the number of connections by MWC.

23. Under Projection 2, Dr. Williams estimates that there would be 5,350 housing units that MWC could potentially provide water to within the MWC service area in the year 2010. Assuming that MWC provided water to all those potential housing units, at an average annual water usage per connection consistent with historical usage, its estimated diversion for the year 2010 would be approximately 2,140 afy ( $5,350 \text{ connections} \times 0.40 \text{ afy per connection} = 2,140 \text{ afy}$ ).
24. The evidence of record reflects that Applicant is not likely to fully exercise its existing Permits to appropriate up to 2,611.54 afy, plus place the additional water requested under the subject Applications to beneficial use, within a reasonable period of time.
25. The proposed wells would be located two to three miles west of Organ within the Southern Jornada del Muerto sub-basin (SJMB), which is hydrologically connected to the Lower Rio Grande system.
26. The WRAP recommends application of the following administrative criteria for evaluating regional hydrologic effects of applications in the SJMB:
  - a. Hydrologic effects – the John Shomaker and Associates, Inc., (JSAI) model (1996; 2000) should be used to estimate regional hydrologic effects over the forty-year period from 2000 to 2039.
  - b. Recoverable freshwater - one-half of the total freshwater thickness in any model cell be considered recoverable over the forty-year period from 2000 through 2039, with one-half reserved for uses beyond the forty-year period.

- c. Available freshwater – be considered equal to the lesser of the upper 140 feet or one-half of the recoverable freshwater thickness of the aquifer with well completions limited to depths of less than 50% of the freshwater zone thickness.
- d. Limits on water-level declines – a maximum average decline rate of 3.5 feet per year (ft/yr), with additional declines limited to no more than 0.1 ft/yr. Any model cell with a water level decline rate exceeding 3.5 ft/yr should be considered ‘critical’, with no new appropriations allowed in critical cells, unless average effects are less than or equal to 0.1 ft/yr.
- e. Stream depletions – offsets be required for surface water depletions to the Rio Grande that exceed 0.1 afy.

WRAPs’ recommended criteria form an appropriate basis for evaluating the subject Applications with regard to regional hydrologic effects, availability of unappropriated water and estimated stream depletions (WRAP Exhibit 8, Page 5 & Table 2).

- 27. WRAP’s expert hydrologist, Michael Johnson, utilized the JSAI model to estimate existing regional hydrologic effects and those related to the proposed appropriations, including water-level drawdowns and depletions to the Rio Grande. Effects on freshwater zone thickness were estimated from the model drawdown calculations, assuming an average total freshwater thickness of 800 feet for this part of the SJMB.
- 28. WRAP’s model simulations reflect that diversion of up to 370 afy from each of the proposed wells LRG-451, LRG-452 and LRG-453 is possible without exceeding the recommended regional water-level decline limits.
- 29. WRAP’s model simulations reflect that the proposed diversion of up to 370 afy from each of the wells LRG-479 and LRG-480 will result in regional water-level declines that exceed 3.5 ft/yr and result in additional declines in the cell in which they are located that exceed 0.1 ft/yr. WRAP Exhibit 3 indicates that regional decline rate limits would be exceeded by a diversion greater than 40 afy from either one of the wells LRG-479 and LRG-480.
- 30. WRAP’s model simulations reflect that the proposed diversion of up to 350 afy from

wells LRG-532 and LRG-533 would not result in regional water level declines that exceed 3.5 ft/yr.

31. WRAP's model simulations reflect that combined proposed diversion of 2,550 afy of groundwater under the Applications would result in net depletions to the Rio Grande of 20.5 afy after 40 years and 136 afy after 100 years. Simulated net streamflow effects, based upon a combined diversion equivalent to the sum of the amounts that could be diverted from each of the proposed wells without exceeding regional water level decline of 3.5 ft/yr (1,850 afy), are estimated at 19.5 afy after 40 years and 126 afy after 100 years. If the State Engineer determines that the Applications are partially approvable for other than 2,550 afy or 1,850 afy, streamflow depletions would have to be calculated for that amount and equivalent offsets required.
32. Estimates of drawdowns to wells of other ownership within a one-mile radius of the proposed wells, that existed prior to the date of the subject Applications, reflect that combined diversion of either 2,550 afy or 1,850 afy from the proposed wells, will cause ten of the seventeen nearest wells of other ownership to either go dry or incur significant operating inefficiencies within 40 years.
33. Some of the affected wells, including LRG-1796 and LRG-1796-S owned by Mountain View, LRG-3819-S owned by Butterfield Park and LRG-3642 owned by Osborn are used for community water supplies. All of the affected wells are 900 feet or less in depth.
34. The evidence of record reflects that the ability of the owners of the affected wells to regain production by deepening of said wells is questionable.
35. The evidence of record reflects that combined diversion of either 2,550 afy or 1,850 afy from the subject wells would impair existing water rights.
36. MWC has failed to meet its burden to establish that it can place the water that it has applied for to beneficial use within a reasonable period of time and to establish that granting the subject Applications would not impair existing water rights.
37. The subject Applications should be denied.

### **ORDER**

**THEREFORE**, Application Nos. LRG-451, LRG-452, LRG-453, LRG-479, LRG-480, LRG-532, and LRG-533 are denied.

**Respectfully submitted** this \_\_\_\_\_ day of April 2004.

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Victor Kovach  
Hearing Examiner

**I ACCEPT AND ADOPT THE REPORT AND RECOMMENDATION OF THE HEARING EXAMINER THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 2004.**

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**JOHN R. D'ANTONIO, JR., PE  
NEW MEXICO STATE ENGINEER**