

FINAL
ENVIRONMENTAL IMPACT
STATEMENT

LINCOLN-PIPESTONE
RURAL WATER
Lake Benton, Minnesota

Existing System North/Lyon County Phase
Northeast Phase Expansion



United States Department of Agriculture

RURAL UTILITIES SERVICE
(THE LEAD AGENCY)

and



U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION 8
(A COOPERATING AGENCY)

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EXECUTIVE SUMMARY

This Environmental Impact Statement (EIS) is being prepared by the U.S. Department of Agriculture (USDA), Rural Utilities Service (RUS) in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321-4347), Council on Environmental Quality's, 40 CFR Part 1500-1508, Regulations for Implementing the Procedural Procedures of NEPA, and the RUS's implementing regulations, 7 CFR Part 1794, Environmental Policies and Procedures. The purpose of the EIS is to evaluate the potential environmental impacts of a project proposal located in southwestern Minnesota. The proposal to which RUS is responding involves providing financial assistance for the development and expansion of a public rural water system. The applicant for this proposal is a public body named Lincoln-Pipestone Rural Water (LPRW). LPRW's main office is located in Lake Benton, Minnesota. Specific project activities are and have included the development of groundwater sources and production well fields and the construction of water treatment facilities and water distribution networks. The counties in Minnesota affected by this proposal include Yellow Medicine, Lincoln, and Lyon Counties and Deuel County in South Dakota

This document is a final EIS (FEIS) prepared subsequent to the preparation of a draft EIS (DEIS). On February 23, 1998 the RUS announced the availability of the DEIS in the Federal Register (63 FR 8901) for the previously constructed LPRW, Existing System North/Lyon County Phase project and the Northeast Expansion Phase project proposal. In addition to the Federal Register, public notices were published in the following newspapers: Ivanhoe Times, Marshall Independent, Canby News, and the Lincoln County Valley Journal in Minnesota; and the Gary International, Clear Lake Courier, and Brookings Register in South Dakota. The DEIS was also made available for public review at a number of locations throughout the area in both Minnesota and South Dakota and was available over the Internet at RUS's website (<http://www.usda.gov/rus/water/ees/eis.htm>). Subsequent to a 60-day public review period, RUS sponsored a public meeting to solicit additional comments from the public. The meeting was held on July 30, 1998 in Canby, Minnesota. The public meeting was announced in the Federal Register (63 FR 3461) on June 24, 1998 and in the above newspapers.

In total RUS received comments from 26 Federal and State agencies, Congressional representatives, public bodies, individuals, and environmental interest and industry groups. The number of comments totaled 79 pages. The following table outlines the commenters, commenter affiliation, and the number of pages of comments received:

Table ES-1 Summary of Public Comments

Commenter	Affiliation	Number of Pages
Minnesota Department of Natural Resources	State Environmental Regulatory Agency	17
South Dakota Department of Environment and Natural Resources	State Environmental Regulatory Agency	4
Minnesota Historical Society	State Agency	1
Subtotal State Agencies	3	22
U. S. Environmental Protection Agency, Region 8	Federal Environmental Regulatory Agency	3
U. S. Department of Interior	Federal Natural Resource Mgmt. Agency	7
U.S. Army Corps of Engineers, Omaha District	U. S. Army	2
U.S. Army Corps of Engineers, St. Paul District	U.S. Army	1
Subtotal Federal Agencies	4	13
East Dakota Water Development District (2 letters)	Public Body	9
Lincoln-Pipestone Rural Water	Public Body	7
City of Minneota, Minnesota	Public Body	1
City of Hazel Run, Minnesota	Public Body	2
Marshall Municipal Utilities (2 letters)	Public Body	3
Minnesota Southwest Regional Development Commission	Public Body	3
Subtotal Public Bodies	6	25
U. S. Senator Paul Wellstone, D-MN/U. S. Congressman David Minge, D-MN	U.S. Congress	1
State Senator Bernie Hunhoff	South Dakota State Legislature	1
Subtotal Congressional	2	2
Natural Audubon Society	Environmental Interest Group	2
Marshall Industries	Industry Interest Group	1
Subtotal Environmental and Industry Interest Groups	2	3
Minnesota Corn Processor	Industry	1
Industry	1	1
Private Citizens	8	13

RUS has determined that the comments, while extensive on a few issues, do not warrant a revision to the DEIS. In accordance with 40 CFR §1503.4, Response to Comments, the CEQ's procedures, where substantive comments were determined to merit individual responses, RUS responded directly to the commenter. All other comments were considered as appropriate in the preparation of the FEIS. Copies of all comments received as part of the DEIS's public comment period and submitted at the July 30, 1998 public meeting are included in Appendix A (Appendix A-1 to A-26).

Since the publication of the DEIS additional data has been collected from observation wells in aquifers utilized by the Burr Well Field and in piezometers from selected fens. This monitoring data has been compiled on graphs and hydrographs and is included in Appendix B. In addition, further groundwater exploration efforts have been performed by the Minnesota Department of Natural Resources (MDNR), South Dakota Department of Environment and Natural Resources (SDDENR) and LPRW. These efforts include test holes and Burr area seismic reflection surveys in Yellow Medicine and Lincoln County, MN and Deuel County, SD and a MDNR summary of Burr Well Field monitoring through 1998. These analyses and reports are included in Appendix C.

In general, the substantive comments received on the DEIS fell into six general areas. The six areas include the following:

1. Projected Water Needs

Within the context of establishing the purpose and need of the proposed action, numerous comments requested clarification and substantiation of projected water needs for the service area supplied by the Burr Well Field, hereinafter referred to as the Burr Source service area. The Burr Source includes groundwater withdrawals from 2 aquifers - the Burr Unit of the Prairie Coteau aquifer (Burr Unit) and the Altamont aquifer. See Figure ES-1 for a map of the entire LPRW system. This figure is a revision of Figure ES-1 and 1-1 in the DEIS.

Data regarding projected water needs was found primarily in Tables 1-8 and 1-11 of the DEIS. This data was provided by LPRW's engineering consulting firm, Dewild Grant Reckert and Associates, Incorporated (DGR). Since one of the sources of confusion in these tables was from the presentation of primary and secondary service areas and how they relate to estimating projected water needs, DGR was asked to revise and resubmit the tables. Previously defined secondary service areas are now referred to in the FEIS as "reserve capacities" and will be discussed below.

Table ES-2 includes LPRW's revised summary of water needs for the entire LPRW system, source capacities, and volume of water pumped between 1993 to 1998 from its various sources.

Insert Figure ES-1

**TABLE ES- 2 SUMMARY OF LPRW
WATER NEEDS AND SOURCE CAPACITY**

LPRW Source Needs	Annual Use Mgpy	Ave. Day kgpd	Peak Day Kgpd	DNR Permit Mgpy	Total Water Pumped						
					1993 Mgpy	1994 Mgpy	1995 Mgpy	1996 Mgpy	1997 Mgpy	1998 Mgpy	
System Demand											
Rural connections	618	1,694	2,880								
City Use	408	1,118	1,981								
Total Water Sold	1,026	2,812	4,861								
Estimated Unmetered or Water Loss	220	604	1,044								
Estimated Drought Demand	103	281	486								
Total Projected Water Needs	1,350	3,697	6,391								
Source of Supply											
Verdi	500	1,371	2,530	683	403	403	425	425	383	403	
Holland	306	838	1,475	500	172	244	287	333	355	374	
Edgerton Well				26	0	0	0	0	0	0	
Burr - Existing System	282	773	1,429	400	0	9	145	215	274	314	
Burr - NE Phase*	210	575	709	130	0	0	27	2	55	116	
Canby (Now provided from Burr)	51	140	248	0							
Total Design Capacity	1,350	3,697	6,391	1,739	574	656	885	975	1,067	1,206	
Note: LPRW has a permit for 26.3 MG/year at Edgerton, however, they do not use that source.											
* Includes an estimate of 109 Mgpy for MMU/MCP											

Source: Madden, J., Dewild Grant Reckert and Associates, personal communication, 1999.

This table estimates annual water need projections for the Burr Source as 492 million gallon per year (Mgpy). This volume includes a planning figure of 109 Mgpy for the City of Marshall, Marshall Municipal Utilities (MMU) and is included in the Burr - NE Phase line item.

In order to estimate Burr Source service area annual water needs a number of factors need to be considered. The Burr Source service area includes the previous Existing System North/Lyon County (ESN/LC) Phase and the proposed Northeast Phase Expansion. The pertinent factors considered include water use for rural connections, rural area municipal users, drought demand, water loss, reserve capacity, and future growth projections.

RUS examined the data supplied by LPRW and negotiated the following engineering design factors. These factors were agreed upon by both parties as being reasonable and, as a result, met RUS guidelines that facilities financed by the Agency be modest in size, design, and cost.

Table ES- 3 Water Needs Engineering Design Factors for Water Need Projections

Engineering Design Factors	Rate
Rural Water Use per connection	236,000 gpy ¹
Municipal Water Use per capita	36,500 gpy ²
Drought Demand Estimates	10% of Annual Use ³
Water Loss	15% of Annual Use ³
Future Growth Projections (rural)	20% of Total Users or 200 rural users ⁴
Emergency or Reserve Capacity	33 Mgy ⁵

¹ Estimated average use per rural connection (for entire LPRW system) is derived from 1997 and 1998 average use data. Average use is 204,949 and 222,544 gallons, respectively. Use of 236,000 gallons is to incorporate a conservative factor for planning purposes, particularly for a system that "matures" whereby additional users connect to the system and water use increases slightly over time.

² Assumes 100 gallons/capita/day. Extrapolated water use rates on a per capita per day rate from LPRW billing data were approximately 70 gallons per capita per day. This factor is considered to be very conservative for planning purposes.

³ RUS agrees with LPRW estimates for and the use of a 10% Drought Demand and 15% Water Loss as being "reasonable" estimates for engineering design purposes.

⁴ RUS agrees with LPRW's projection of a future growth projection (20%) of an additional 200 rural users as being a "reasonably foreseeable growth need". The determination of reasonably foreseeable growth needs is in the context of 7 CFR 1780.7 (c), Eligible Projects.

⁵ Reserve or emergency capacity is defined as that volume of water necessary to provide "back-up" service for one of the other well fields if the well field was to experience production problems or scheduled maintenance. For the purposes of this EIS, RUS has calculated a reasonable or modest reserve capacity for the Burr Well Field as 33 Mgy. This estimate was derived by calculating the volume of water necessary for a 30-day total production loss at the Verdi Well Field. The Verdi Well Field's annual water appropriation for the last 5 years is approximately 400 Mgy; this calculates to a 33 Mgy estimate. The term "reserve capacity" replaces the secondary capacity term used in the DEIS.

Using LPRW supplied data from Table ES-2 and the design factors agreed upon in Table ES-3, LPRW re-submitted the following table.

**Table ES- 4 Summary of Water Need Projections
For the Burr Source Service Area**

Existing System North/Lyon County Phase	Estimated Water Use (gpy)	Mgpy
664 Rural Connections (includes Green Valley)	236,000	156.0
4 Municipalities (Population - 2,126) Taunton (174) Minneota (1,428) Ghent (312) Porter (212)	36,500	77.6
Subtotal		234.0
Engineering Estimates for 10% Drought Demand and 15% Water Loss ³		58.4
Subtotal ESN/LC Phase Water Needs		292.0
Northeast Phase Expansion		
170 Rural Connections	236,000	40.1
2 Municipalities (Population - 385) Echo (304) Hazel Run (81)	36,500	14.1
Subtotal		54.2
Engineering Estimates for 10%Drought Demand and 15% Water Loss		13.5
Subtotal Northeast Phase Expansion Water Needs		67.7
Future Growth Projections⁴ - 200 Rural Connections plus 10% Drought Demand and 15% Water Loss	236,000	59.0
Subtotal Burr Source Service Area		418.7
Emergency or Reserve Capacity		33.0
Total Burr Source Service Area Projected Needs		451.7

Source: Madden, J., Dewild Grant Reckert and Associates, personal communication, April 6, 1999.

Many of the comments regarding projected water needs were received with respect to the volume of LPRW's 5-year water sale contract to MMU. The primary concern of this contract was 1) MMU is an ineligible recipient of RUS programs because it has a population in excess of 10,000 inhabitants and 2) how was the delivery of this water contributing to potential adverse impacts to the surface water resources hydraulically connected to the Burr Unit. Since the revised Tables 1-8, 1-11 and ES-4 contained a planning volume of 109 Mgpy for MMU, RUS had to determine what were the projected water needs for the Burr Source service area without factoring in any water sales to MMU.

To evaluate this projection, RUS used actual water use data of the current ESN/LC phase rural area (rural connections and municipal) users (199 Mgpy) including agreed upon design factors for drought demand (10%), water loss (15%) ($199 \times 1.25 = 249$ Mgpy); water use projections for the Northeast Phase Expansion (68 Mgpy); future growth projections (59 Mgpy); and reserve capacity (33 Mgpy). Based on these estimates, RUS has concluded that the projected water needs for the Burr Source service area excluding water sales to MMU is approximately 409 Mgpy.

Currently, the MDNR Water Appropriation Permit for the Burr Well Field allows annual withdrawals of 400 Mpgy. There is some controversy over the permit regarding whether the 400 Mpgy relates to the Burr Unit only or whether it is a combined total with the Altamont aquifer. According to the MDNR, this volume includes total appropriations from the Burr Unit and Altamont aquifers. At the present time, the Burr Well Field's Water Appropriation Permit is under consideration for an increase to 450 Mpgy with a reduction in withdrawals from the Burr Unit and an increase in the Altamont Aquifer.

Based on current and projected water use needs supplied by LPRW, RUS concludes that the Burr Source service area's projected water needs is 409 Mpgy; LPRW's projection is 452 Mpgy. LPRW's projection may be more accurate with regard to long-range water needs; RUS used actual water use data from a portion of the Burr Source service area that is not yet mature in terms of total user connections. At present permitted capacity (400 Mpgy) and until the Northeast Phase Expansion users are connected, LPRW has adequate production and treatment capacity to serve the rural area users and municipalities in the Burr Source service area. Once the Northeast Phase Expansion rural area users are connected it appears that the Burr Well Field's Water Appropriation Permit may need to be increased to account for reserve capacity and future growth potential. This may only be necessary at some future date. Until these future users are realized and connected, LPRW has some excess capacity in its Burr Well Field and Water Treatment Plant (facilities).

2. LPRW Relationship with and Eligibility of the City of Marshall, Marshall Municipal Utilities (MMU) and Minnesota Corn Processor (MCP) for RUS Programs.

A significant number of comments were received regarding water sales to MMU and MCP and whether MMU or MCP met eligibility requirements for RUS financial assistance. Eligibility requirements for RUS's programs are defined for applicants and the areas to be served. The following citations state RUS program regulations, 7 CFR 1780 PART 1780, Water and Waste Loans and Grants:

§1780.7 Eligibility. Facilities financed by water and waste disposal loans or grants must serve **rural areas**.

(a) Eligible applicant. An applicant must be:

(1) A public body, such as a municipality, county, district, authority, or other political subdivision of a state, territory or commonwealth;

§1780.3 (a) **Rural and rural areas** means any area not in a city or town with a population in excess of 10,000 inhabitants, according to the latest decennial census of the United States.

Therefore based on the above citations, the City of Marshall, while a rural community, is not an eligible applicant for RUS programs because it has a population in excess of 10,000 inhabitants. The MCP is located within the incorporated area of Marshall and therefore, by definition, is located in a non-rural area.

While RUS does not oppose or prohibit its borrowers from supplying water to non-rural users, the Agency's loan and grant funds may not be used to finance any portion of the cost of a facility which serves those areas. If users in non-rural areas are proposed during facility planning, those users must contribute a proportionate share of facility costs in accordance with RUS regulations.

As discussed above, LPRW and MMU negotiated and signed a 5-year water sales contract for the delivery of 300,000 gpd or 109 Mgy, largely for delivery to MCP. This volume of water is being supplied from current excess capacity at the Burr facilities. This excess capacity is being drawn from current reserve and projected future growth capacities built into the Burr facilities.

From existing documentation and RUS case files, it is clear that LPRW and MMU and/or MCP were considering and having discussions regarding water sale contracts throughout the planning and engineering design activities of the two phases (ESN/LC and Northeast Phase Expansion) being considered in this EIS. Despite LPRW's repeated propositions to MMU and MCP for service, a water sales contract was not signed until 1997.

Whether LPRW (452 Mgy) or RUS's (409 Mgy) projected water needs for rural Burr Source service area users are used, the Burr facilities' production and treatment capacities exceed those needs. Based on LPRW's original Water Appropriation Permit request, the Burr facilities were apparently designed for annual appropriations of at least 800 Mgy. Upon subsequent review, RUS has determined that a portion of the design capacity built into the Burr facilities does not meet RUS's criteria that the facility be modest in size, design, and cost. All future RUS funding decisions will consider this fact.

3. Contingency Plan

Numerous comments were received regarding the inclusion of a contingency plan in the proposed Water Resource Management Plan (WRMP). The WRMP was developed as a mitigation measure in the DEIS. The primary purposes of the WRMP are to:

- formalize well field operational and management activities designed to minimize reductions in the potentiometric surface in the Burr Unit of the Prairie Coteau aquifer; and
- establish monitoring protocols in Minnesota and South Dakota to evaluate effects to the surface water resources hydraulically connected to the Burr Unit.

RUS agrees with the inclusion of a Contingency Plan into the WRMP. The contents, components, and appropriateness of the Contingency Plan will conform to standards developed by the MDNR with technical assistance from the U.S. Environmental Protection Agency, if desired.

In the event of a determination of significant adverse impacts to surface water resources hydraulically connected to the Burr Unit, comments received propose that possible contingencies could include:

- discontinuing water sales to MMU;
- securing water supplies from adjacent water utilities, such as the Big Sioux Community Water System which has reported excess capacity or the City of Canby; and
- developing a supplemental well field, as discussed in the EIS as RUS's preferred alternative. The exploration and development of a supplemental well field is not dependent upon a determination of a significant adverse impact to surface water features (see item 5 below).

4. Water Budget for Lake Cochrane

Commenters from South Dakota requested that RUS undertake additional efforts to quantify groundwater contributions to Lake Cochrane. In the DEIS RUS concluded that the information that would be necessary to quantify the overall percentage of groundwater contribution in relation to surface water inputs to the Lake Cochrane water budget and the percentage of the contribution from shallow aquifers versus the Burr Unit is incomplete and unavailable. The cost and technical difficulty of obtaining such information for evaluating reasonably foreseeable impacts by the Agency has been determined to exorbitant and unreasonable, particularly in light of the work already accomplished by the SDDENR. RUS concurs and does not dispute the SDDENR's Lake Cochrane water budget. While RUS agrees that the data would be beneficial if available, RUS also believes enough information is available to make reasonable natural resource decisions regarding groundwater appropriations in the area. Therefore, RUS will not supplement SDDENR's existing data regarding Lake Cochrane water budget.

5. Supplemental Well Field and Exploration Efforts

Many comments were received regarding one component of RUS's preferred alternative. The primary issue of concern related to the proposal of a supplemental well field. The DEIS recommended that LPRW develop a supplemental well field to assist in meeting the water supply needs of the Burr Source service area. At the time of this recommendation, the water needs analysis projected that the water needs of the Burr Source service area was 628 Mgy. Based on closer examination and using engineering design criteria agreed upon between LPRW and RUS engineers, the range of projected water needs for rural area users and municipalities of the Burr Source service area is 409 Mgy (RUS) to 452 Mgy (LPRW). These estimated volumes exclude water sales to MMU.

Given that LPRW has sufficient production and treatment capacity to meet the needs of the rural area users in the Burr Source service area as originally designed, particularly if

MDNR grants the permit currently under consideration (450 Mgy), and if LPRW discontinues water sales to MMU after the 5-year contract is concluded, then the immediate development of the supplemental well field is less critical. While RUS still believes that the supplemental well field is necessary and will consider financing its proportionate share of developmental costs, the immediacy of developing the well field is reduced if water supply to MMU is discontinued. If LPRW continues to provide water to MMU on a long-term basis then the time for developing a supplemental well field should be expedited with MMU providing its proportionate share of capital costs in accordance with RUS regulations.

Comments were received regarding the necessity of additional exploration efforts to locate the supplemental well field. Subsequent to publishing the DEIS, the MDNR, SDDENR, and LPRW conducted additional groundwater exploration efforts to help identify potential well development sites for the Altamont aquifer. These efforts consisted of additional test holes (see Appendix C-3) and seismic reflection surveys (see Appendix C-1)

The two test holes that were drilled in the area south of the Burr Well Field did not find similar Altamont sand layers found in borings drilled in adjacent areas. MDNR concluded that the wide variation of sand thickness within a relatively small area suggest depositional and stratigraphic complexities that require additional test drilling to define.

In addition to the above test holes, during the 1998 field season the MDNR performed 17 seismic lines in Yellow Medicine and Lincoln County, Minnesota and Deuel County, South Dakota near the Burr Well Field. The purpose of the seismic survey, as stated in the report, was to better define the Quaternary stratigraphy in the area around the Burr Well Field and to explore for a sand aquifer that is deeper than and not connected to the Prairie Coteau aquifer. Lower Quaternary sand units correlate to the aquifer referred in the EIS as the Altamont aquifer. Of the seismic surveys performed by the MDNR, the report recommended that an area north of the Burr Well Field may be the most promising area for test drilling for lower Quaternary sands.

6. Speculative Nature of Conclusions

Numerous comments were received that challenged the Agency with regard to its conclusions concerning the evaluation of potential effects to surface water resources from groundwater appropriations at the Burr Well Field. Of particular concern was that the current period of record has occurred during a period of relatively high precipitation and that this limited duration of observations reduces the Agency conclusions to speculation. Given the limited amount of data available to all reviewers, RUS agrees that drawing definitive conclusions either asserting or rejecting potential effects to surface water resources is speculative. However, RUS believes that enough data is available at this time to draw reasonable conclusions and to support making informed natural resource decisions regarding groundwater appropriations at the Burr Well Field.

In order to avoid or minimize the potential for any significant adverse environmental impacts to surface water resources in the area, the most significant parameter appears to be minimizing reductions of the potentiometric surface in the Burr Unit. Data collected before and after the DEIS's publication (see Appendix B) indicate that continued appropriation of groundwater at the Burr Well Field (see graphs B-3 through B-10) has caused steady declines in the potentiometric surface in observation wells (see B-11 through B-23). While these declines correlate with continued pumping from the Burr Unit, it is unknown whether these effects are causing significant adverse environmental impacts to the surface water resources hydraulically connected to the Burr Unit. With regard to the fens, the MDNR reports concerns to these resources (Appendix C-2, page 17) from current pumping rates which have ranged between 400 - 800 gpm since April 1997 to the present (Appendix B-4). The MDNR recommended in their February 19, 1999 interoffice memorandum (Appendix C-2) that impact thresholds established in fen monitoring points be re-evaluated with consideration be given to transferring these thresholds to potentiometric surface elevations. RUS supports MDNR on this proposal.

Reductions of the potentiometric surface in and around Lake Cochrane have also occurred. These reductions are on the order of less than 1 foot (Appendix B-22) at the west of the lake with minimal effect in an observation well 2.5 miles west of the lake (Appendix B-23). Whether these relatively minor reductions are adversely impacting Lake Cochrane is unknown at this time.

As stated on page 113 in the DEIS "Lake Cochrane's ecological system is today a product of several natural factors and many human activities that affect it either intentionally or unintentionally. And these activities are themselves changing, e.g., changes are and have been frequently made in the natural inflow and the outflow characteristics of the lake either through engineering structures or by the filling in of the natural drainage channel between Lake Oliver and Lake Cochrane. Therefore, it is not possible, nor would it be meaningful, to predict specific potential effects on the lake caused by a decrease in groundwater inflow.

Furthermore, even if it were certain that Burr Well Field pumping would cause a decrease in the groundwater inflow into Lake Cochrane, the ecological effects of that [pumping] cannot be reliably distinguished from the ecological effects of human management actions or activities."

RUS's preferred alternative and one of the proposed mitigation measures recommends that MDNR limit production pumping rates in wells developed in the Burr Unit and also formalizes well field operational procedures that minimizes reductions in the potentiometric surface. Implementing these recommendations and mitigation measures along with the collection of longer term monitoring data covering an entire climatic cycle will allow all parties to evaluate on an on-going basis any effects to surface water resources. Once more definitive monitoring data is collected, the alleged speculative

nature of today's conclusions regarding environmental impacts will be reduced and more informed natural resource decisions can be made. If it is determined that significant adverse environmental impacts are occurring to these resources, then appropriate actions could be taken by the MDNR, SDDENR or USEPA in accordance with established statutory and regulatory procedures. If conditions warrant modifying the permit conditions at the Burr Well Field, the MDNR could make any changes they determine to be appropriate.

Preferred Alternative and Conclusions

After carefully considering all of the comments received from the public and Federal and State environmental regulatory agencies, RUS continues to support the preferred alternative as outlined in the DEIS with slight modifications. The preferred alternative is as follows:

- Finance the Northeast Phase Expansion.
- Continue to maintain the Burr Well Field as a primary water source. To minimize reductions in the potentiometric surface, RUS supports limiting pumping rates from wells developed in the Burr Unit of the Prairie Coteau aquifer to 400-525 gpm with a corresponding annual appropriation rate.
- At some future date, supplement existing wells at the Burr Well Field with a new well field in an area south-southeast or north-northeast of the current Burr Well Field or where sufficient aquifer materials can be found. This new well field could utilize both the Burr Unit and Altamont aquifers in a configuration similar to that at the Burr Well Field or any other configuration determined by the MDNR as appropriate. Raw water from this well field could be transported to the Burr Water Treatment Plant for treatment and distribution to LPRW customers.
- RUS recommends that the MDNR consider integrating the proposed Water Resource Management Plan into the Burr Well Field's Water Appropriation Permit.

Mitigation Measures

In order to avoid or minimize any significant adverse environmental impacts to the surface water resources that are hydraulically connected to the Burr Unit, RUS believes that it is necessary to formalize and establish a comprehensive methodology to monitor on-going groundwater appropriations and effects to surface water resources. In addition, it would be appropriate to enable all concerned parties to provide input into evaluating these activities. Therefore, to accomplish these goals RUS will establish as a mitigation measure and as a condition of financing the Northeast Phase Expansion a requirement that LPRW prepare a Water Resource Management Plan (WRMP).

The WRMP should formalize all procedures, protocols, and methodologies to monitor in a comprehensive fashion groundwater appropriations at the Burr Well Field and effects to the surface water resources hydraulically connected to the Burr Unit. The following components should be included in the WRMP:

1. Contingency Plan - the plan should document impact thresholds established by MDNR and outline what procedures LPRW will take in the event water appropriations from the Burr Unit are restricted.
2. Well Field Operation and Management Plan - this plan should be designed to minimize reductions in the potentiometric surface in the Burr Unit.
3. Supplemental Well Field Exploration Plan
4. Monitoring Plan - formalize monitoring well locations; establish standard methodologies or procedures for data collection, documentation, and information sharing.

While RUS recommends that the MDNR consider integrating the WRMP into the Burr Well Field's Water Appropriation Permit, it can not require that it do so. RUS will evaluate the technical sufficiency of the WRMP through consultations with hydrogeologists at the USEPA, Region 8. The mechanism for this consultation will be provided for through RUS's cooperating agency agreement with USEPA, Region 8. RUS will condition its concurrence with the WRMP and the release of funds for the Northeast Phase Expansion area subject to consultations with the MDNR and the USEPA and LPRW being able to obtain the appropriate Water Appropriation Permit(s) from the MDNR.

In the DEIS, RUS proposed that LPRW formalize an agreement with South Dakota to establish monitoring procedures and protocols to evaluate the effects of groundwater appropriations from the Burr Unit on surface water resources in South Dakota. The purpose of this agreement was to formalize monitoring input to the WRMP from South Dakota officials. RUS has decided to remove this requirement for the following reasons:

1. Governors from both South Dakota and Minnesota have already formally pledged in writing to cooperate on evaluating the effects of groundwater appropriations to the surface water resources hydraulically connected to the Burr Unit.
2. RUS believes that the MDNR has the appropriate statutory and regulatory procedures in-place to allow for South Dakota's input into their Water Appropriation Permitting process.
3. All regulatory issues, concerns, or conditions related to MDNR's Water Appropriation Permit at the Burr Well Field from South Dakota should be directed at MDNR not LPRW.

Provided all of the above conditions are met, RUS is prepared to approve LPRW's application for the Northeast Phase Expansion proposal. In addition, RUS is willing to consider in accordance with RUS regulations and subject to the availability of funding

development costs for a supplemental well field.

While RUS supports the development of a supplemental well field, based on monitoring compiled to date it does not appear that surface water resources around the Burr Well Field are being significantly impacted at this time. However, until more definitive conclusions can be drawn from longer term monitoring data, exploration and possible development of the supplemental well field should continue. It does not appear however, that an immediate sense of urgency is justified, rather supplemental well field development should be a long-term goal with exploration being the short-term goal.