

**FINDING OF NO SIGNIFICANT IMPACT**

**DEPARTMENT OF ENERGY FUNDING FOR  
CITY OF CARLSBAD, NM  
DOUBLE EAGLE WATER SYSTEM**

**AGENCY:** U.S. Department of Energy Carlsbad Field Office (DOE CBFO)

**ACTION:** Finding of No Significant Impact (FONSI)

**SUMMARY:** The DOE CBFO is adopting an Environmental Assessment (EA) prepared by the U.S. Department of Interior Bureau of Land Management (BLM) Carlsbad Field Office for the expansion and upgrade of the City of Carlsbad's Double Eagle Water System. The City of Carlsbad has requested authority to spend funding from an existing CBFO infrastructure improvement grant to support the expansion and upgrade of this water system.

The City of Carlsbad currently owns and operates two separate ground water well fields. The Sheeps Draw Well Field is the primary source of water for the City, and the Double Eagle Water System was purchased in the early 1970s as an industrial water system and future source of water for the community. The Double Eagle Water System has been in operation since the 1950s. Over time, the City has expanded both water systems to meet the demands of the greater Carlsbad and surrounding area. The City of Carlsbad is facing ongoing growth in its population and water system customer base, and the Sheeps Draw well field is being depleted. Accordingly, the City is proposing to expand and upgrade its water delivery system to make greater use of its water rights associated with the Double Eagle well field near Maljamar, New Mexico. Many of the components of the existing water delivery system are aging and in disrepair, resulting in high maintenance costs and high levels of water loss. These factors substantially compound the need for the proposed project.

All discussion and analysis related to the potential impacts of construction of the proposed Double Eagle Water System Project are contained in the BLM EA (DOE/EA-1905), which DOE adopts and incorporates herein by reference. The EA that BLM prepared examined potential impacts of two proposed waterline construction and upgrade alternatives, and impacts of the no-action alternative. The BLM also considered, but dismissed, alternatives that would result in significantly greater costs, or would not allow the City to fully utilize its existing water rights for the Double Eagle System. The City of Carlsbad hosted public meetings to discuss improvements to the Double Eagle System on January 20, 2009, and September 16, 2010. In addition, the BLM Carlsbad Field Office publishes a National Environmental Policy Act (NEPA) log for public inspection. This log contains a list of proposed and approved NEPA actions by the BLM field office. The log is located in the lobby of the field office, as well as on the BLM New Mexico

website ([http://www.blm.gov/nm/st/en/prog/planning/nepa\\_logs.html](http://www.blm.gov/nm/st/en/prog/planning/nepa_logs.html)). No public comments were received for this proposed action.

The DOE CBFO reviewed the BLM EA and found that the analysis adequately covered all areas of concern, but did not include a discussion of intentional destructive acts, which it is DOE policy to include in all of its EAs (DOE Memorandum, from the Office of NEPA Policy and Compliance to the DOE NEPA Community, December 1, 2006). Therefore, DOE is including a discussion of intentional destructive acts in this FONSI. Based on the analysis in the EA, and the additional analysis in this FONSI, DOE has determined that funding the proposed action does not constitute a major federal action significantly affecting the quality of the human or physical environment within the meaning of the National Environmental Policy Act, 42 U.S.C. 4321 et seq. Therefore, an environmental impact statement is not required.

**COPIES OF THE DOE EA-1905 (DOI-BLM-NM-P020-11-1414) ARE AVAILABLE FROM:**

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**BACKGROUND:**

The City of Carlsbad currently owns and operates two separate ground water well fields. The Sheeps Draw Well Field is the primary source of water for the City, and the Double Eagle Water System was purchased in the early 1970s as an industrial water system and future source of water for the community. The Double Eagle Water System has been in operation since the 1950s. Over time, the City has expanded both water systems to meet the demands of the greater Carlsbad and surrounding area. The City of Carlsbad is facing ongoing growth in its population and water system customer base, and the Sheeps Draw well field is being depleted. Accordingly, the City is proposing to expand and upgrade its water delivery system to make greater use of its water rights associated with the Double Eagle well field near Maljamar, New Mexico.

Many of the components of the existing water delivery system are aging and in disrepair, resulting in high maintenance costs and high levels of water losses. These factors substantially compound the need for the proposed project. The proposed project is needed to reliably deliver water from the Double Eagle water system to the City of Carlsbad. Without water from Double Eagle, the City would be forced to rely on only the Sheeps Draw wells for water supply. Information from the Eddy County 40-year water plan indicates the Sheeps Draw Well Field is susceptible to drought and exclusive dependence on Sheeps Draw wells would result in water shortages for the City of Carlsbad.

Prior to increasing its dependence on water from the Double Eagle system, the City will need to have the infrastructure in place to sustainably deliver water. It is the goal of this project to lower the risk of using Double Eagle water supplies by reducing the probability and consequence of Double Eagle infrastructure failure by replacing piping that is beyond its useful life, and by installing new segments converting the existing components into a pressurized loop system. The Double Eagle water system operates with a very high rate of water loss as a result of leakage, theft, and/or unmetered use. City water system staff report that leaks in existing water lines are frequent, and the lines require a significant and sustained effort to maintain and repair. The existing water lines presently in service in the Double Eagle transmission and distribution system are aging, with some water lines dating to the original construction of the system in the 1950s. The oldest water lines in the system were typically fabricated of steel or ductile iron. These water lines show evidence of moderate to severe corrosion and joint failure, resulting in chronic leakage.

**PROPOSED ACTION:** DOE is proposing to provide funding to the City of Carlsbad to support the following activities to upgrade the Double Eagle Water System: 1) construction of 7.15 miles of new water line between the City's existing 3-million gallon and 2-million gallon tanks; 2) construction of 8.54 miles of new water line from the 2-million gallon tank to the existing Waste Isolation Pilot Plant (WIPP) water line via an existing Road Right of Way (ROW); and 3) construction of 18.6 miles of new water line from the existing WIPP water line westward along US 62/180 to the eastern City limits. For this action, the BLM would authorize a 50-foot wide ROW (with an additional 20-foot temporary ROW during construction activities) on BLM Federal lands in Eddy and Lea Counties, New Mexico.

**ALTERNATIVES CONSIDERED:** In addition to the proposed action, BLM considered an additional build option and the no-action alternative (i.e., continued use of the water systems as they exist). Under the additional build option, activities conducted would include replacement of 14.6 miles of the existing water line and construction of 18.6 miles of new water line. The no-action alternative would fail to correct concerns associated with the deteriorating Double Eagle System and overuse of the Sheeps Draw System. The no-action alternative is therefore not a reasonable alternative, but was analyzed for baseline purposes.

**ENVIRONMENTAL IMPACTS:** Environmental justice, socioeconomic, waste generation, and cumulative impacts would be negligible. With respect to air quality, various aspects of the proposed action could result in temporary impacts from exhaust emissions, chemical odors, and dust generated from construction activities. The analysis in the EA indicates that these potential impacts to air quality could be reduced by following standard practices for minimizing

disturbances during construction. Impacts to land use include the loss of vegetation, potential soil erosion and contamination (due to equipment spills or leaks), and potential impacts to recreational areas and range land livestock watering units during construction activities. The analysis in the EA indicates that impacts to rangeland, vegetation, and soil could be reduced by following standard practices for construction activities, such as utilizing existing surface disturbance, quickly re-establishing vegetation on disturbed areas, control of noxious weeds, and relocation of livestock watering units as necessary. Impacts to recreational areas can be reduced by proper signage notifying users of potential hazards. Impacts of the proposed action to wildlife and special status species in the localized area of construction may include mortality, disruptions in breeding cycles, habitat degradation and fragmentation, avoidance of habitat during construction activities, and the potential loss of burrows and nests. Impacts to wildlife and special status species can be reduced by using standard mitigation measures, including minimizing cut and fill, periodic surveys for and avoidance of sensitive wildlife habitat, and timing limitations on construction activities. Implementation of the proposed action will cause minor visual impacts to the natural landscape that can be minimized by utilizing best management practices for construction of the water line, including interim reclamation, recontouring, and revegetation. Class III cultural surveys will be conducted prior to the approval of any ground-disturbing activities to identify, and thus avoid, these resources during project construction. Since the proposed project is located in gypsum karst terrain, proposed work may be rerouted to avoid karst features if necessary to minimize impacts due to the presence of cave and karst features. While impacts to climate of the proposed action were considered in the EA, the tools necessary to quantify incremental climatic impacts of specific activities are presently unavailable. As a consequence, impact assessment to climate from the effects of specific anthropogenic activities cannot be performed. Where appropriate and practicable, the EA included qualitative and/or quantitative evaluation of potential contributing factors to climate impact within the project area.

In addition to the direct and indirect impacts described above, BLM analyzed cumulative effects of the proposed action, including other past, present, and reasonably foreseeable future actions in the vicinity of the project area. Overall, socioeconomic impacts from construction activities would be negligible because the number of additional personnel during the construction period would be small. Cumulative impacts to other resource areas are not expected. Therefore, the effects of the proposed action, when combined with those effects due to current and foreseeable activities, would not result in cumulatively significant impacts.

**Consideration of Intentional Destructive Acts:** Water line and other infrastructure construction projects can be the subject of intentional destructive acts ranging from vandalism and theft to sabotage and acts of terrorism intended to disrupt public services. Acts of vandalism and theft are far more likely to occur than sabotage or terrorism. Theft usually involves equipment at the construction site. Vandalism usually occurs in remote areas and is more likely to involve spontaneous acts such as shooting at equipment or pipe. The risk of damage to the proposed project from intentional destructive acts is considered to be very low. The results of any such acts could be expensive to correct, but no substantial impacts to City water service would be anticipated. No significant environmental impacts would be expected from physical damage to the proposed project.

**DETERMINATION:** Based on the information in the EA and the additional analysis provided in this FONSI, DOE determined that providing funding to the City of Carlsbad for the proposed action does not constitute a major federal action significantly affecting the quality of the human or physical environment within the meaning of the National Environmental Policy Act, 42 U.S.C. 4321 et seq. Therefore, the preparation of an environmental impact statement is not required and DOE is issuing this FONSI.

Issued in Carlsbad, New Mexico  
November 4, 2011

Signature on File  
Edward J. Ziemianski, Interim Manager  
U.S. Department of Energy, Carlsbad Field Office