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National Nuclear Security Administration

NEPA Compliance Review – DOE/EA 1409

for Modifications to the Proposed Project Analyzed in the *Environmental Assessment for the Proposed Issuance of an Easement to Public Service Company of New Mexico for the Construction and Operation of a 12-inch Natural Gas Pipeline within Los Alamos National Laboratory, Los Alamos, New Mexico.*

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Department of Energy
National Nuclear Security Administration
Los Alamos Site Office

Introduction

On July 30, 2002, DOE/NNSA issued a Finding of No Significant Impact (FONSI) and the final *Environmental Assessment for the Proposed Issuance of an Easement to Public Service Company of New Mexico for the Construction and Operation of a 12-inch Natural Gas Pipeline within Los Alamos National Laboratory, Los Alamos, New Mexico (DOE/EA-1409)* **(DOE 2002)**. A change to the proposed alignment of the natural gas pipeline has been recommended since that time, along with a change to the manner of pipeline installation where it would cross a streambed within Los Alamos Canyon; these changes require that NNSA perform a subsequent NEPA compliance review.

Council on Environmental Quality's NEPA implementing regulations codified at Title 40, Section 1502.9 (c) of the Code of Federal Regulations **(40 CFR 1502.9[c])** require federal agencies to prepare a supplement to an EIS when an agency makes substantial changes in the proposed action that are relevant to environmental concerns, or there are circumstances or information relevant to concerns and bearing on the proposed action or its impacts. DOE's own NEPA implementing procedures state: "When it is unclear whether or not an EIS supplement is required, DOE shall prepare a Supplement Analysis." **(10 CFR 1021.314(c))**, and, also, with regard to programmatic NEPA documents, "DOE shall evaluate site-wide EAs by means of an analysis similar to the Supplement Analysis to determine whether the existing site-wide EA remains adequate, whether to prepare a new site-wide EA, revise the FONSI, or prepare a site-wide EIS, as appropriate" **(10CFR1021.330(e))**. In this case, several of the EAs and FONSIs under consideration are both programmatic and site-wide in nature; this NEPA compliance review will, therefore, be similar to a Supplement Analysis in scope.

Background

Construction of this project was delayed through 2003 and 2004 due to elevated wildfire concerns and regional long-term drought conditions. Given the enhanced moisture levels in Los Alamos Canyon as a result of the above-normal precipitation over the last winter, Public Service Company of New Mexico (PNM) would like to proceed with the project and complete engineering and construction of the project by the end of calendar year 2005 while the risk of wildfire occurrence is somewhat reduced. Involved project personnel have recently recommended realigning the natural gas pipeline route within Los Alamos Canyon. Specifically, the natural gas pipeline would be constructed along an existing unpaved (gravel covered) access roadway located within the canyon reach rather than along the earlier proposed route that would place the gas pipeline parallel to existing overhead electrical lines located within Los Alamos Canyon along a raised "bench" area. The proposed realignment is shown in Figure 1. Involved project personnel have also recommended changing the method of installing the gas pipeline at the streambed crossing locations from the earlier proposal for slant drilling under the streambed to trenching through the stream at pipeline crossing locations.

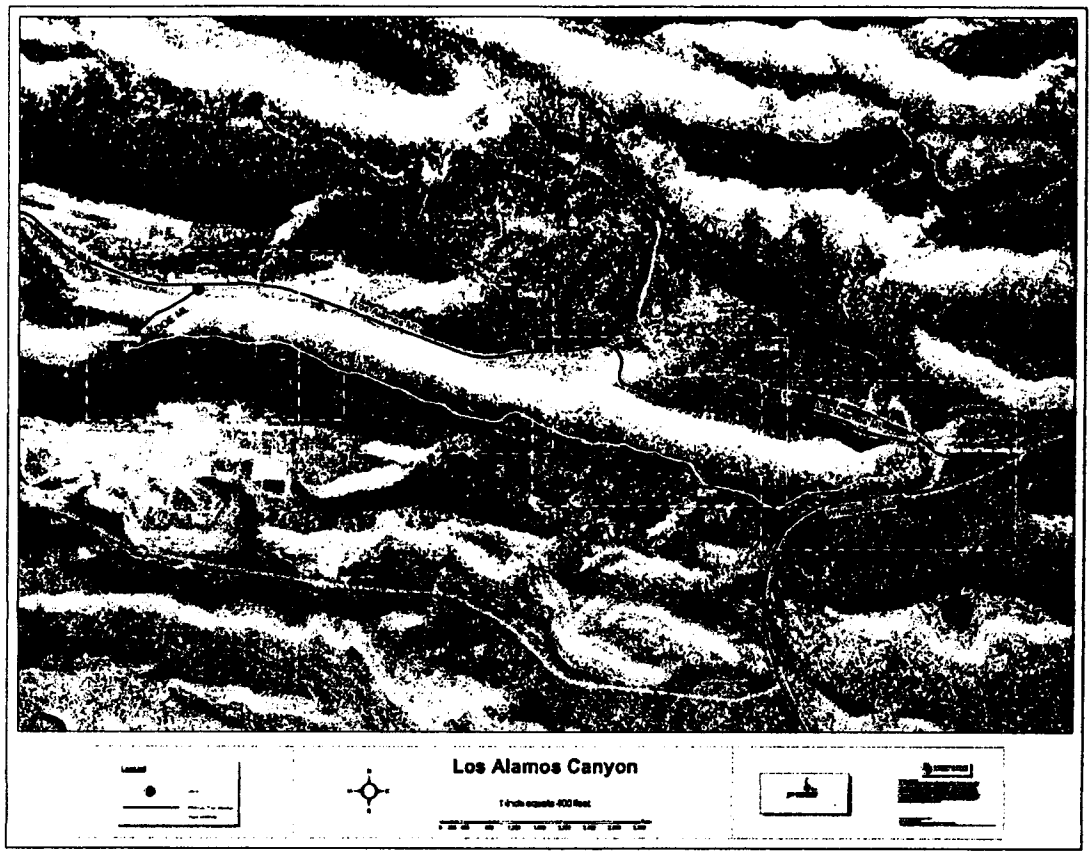

Figure 1. The proposed PNM natural gas pipeline would be located along the existing unpaved access road in Los Alamos Canyon and would connect with existing natural gas pipelines on either end to provide more redundancy and reliability for Los Alamos National Laboratory, Los Alamos County and northern New Mexico customers.

Description of the Modified Proposed Action

NNSA would grant an easement to the Public Service Company of New Mexico (PNM) to construct, operate, and maintain approximately 15,000 feet (4,500 meters) of 12-inch (in.) (30-centimeter [cm]) coated steel natural gas transmission mainline on NNSA-administered land within LANL in Los Alamos Canyon. The new natural gas pipeline would begin at the existing valve setting located at the bottom of Los Alamos Canyon near the Los Alamos County water well pump house and adjacent to the existing 12-in. (30-cm) PNM gas transmission mainline. The realignment modification to the project would result in the gas pipeline being placed along an existing unpaved road that traverses most of the length of Los Alamos Canyon; at the easternmost end the pipeline route would turn northeast near State Road (SR) 4 and the pipeline would be connected to the existing 12-in. (30-cm) coated steel gas transmission mainline located within the right-of-way (ROW) of SR 502.

Placing the line next to, or in some cases, under the existing unpaved road in Los Alamos Canyon was identified as a potential alternative pipeline route in DOE/EA-1409 but was

dismissed from further impact analysis at that time. The route originally proposed and analyzed in DOE/EA-1409 would place the gas pipeline along an existing electric power line corridor in the canyon area, but project personnel now favor the roadside route location for several reasons. Although the roadside route would require additional pipe bends and pipe fittings, cost estimates for installing the pipeline have now been refined and are not as great between the two alternative route locations as originally expected. The originally proposed route along the electric power line would require cutting into the mesa sides abutting the bench area in order to install a new service road, which is an additional requirement that was not anticipated when the 2002 EA was prepared, and the impacts of this requirement were not analyzed for the proposed route in that EA. Routing the pipeline along the existing road in the canyon would not require this additional activity and therefore the impacts of that action would be avoided.

An additional modification to the project has also been recommended with regard to the method by which the gas pipeline would be installed at the canyon streambed crossing locations. The installation method proposed and analyzed in DOE/EA-1409 involved the use of a boring machine to bore under the streambed. The method of installation now being recommended is trenching across the streambed.

This NEPA Compliance Review compares the impacts of installing the natural gas pipeline along the existing road route to the installation impacts of installing the pipeline in the location analyzed in DOE/EA-1409 in order to determine if these impacts are bounded by the prior impact analysis that supported a FONSI for DOE/EA-1409.

Review of Applicable EA's and EIS's

Two environmental assessments and one environmental impact statement were completed during the past few years by DOE that were identified as being potentially relevant with regard to analyzing the impacts of the proposed gas pipeline realignment. The relevant EAs were reviewed to determine whether potential impacts that could result from implementing the proposed modifications to the gas pipeline project as it was identified in DOE/EA-1409 were either already addressed or would be bounded by these prior analyses. The EA's are:

DOE/EA-1431: Environmental Assessment for the Proposed Trails Management Program at Los Alamos National Laboratory, Los Alamos, New Mexico (DOE 2003)

This EA analyzed the proposed implementation of a Trails Management Program at LANL to address LANL trails use by the public, LANL workers, and officially invited guests. A FONSI was issued for this proposed program establishment on September 2, 2003. The changes to the proposed alignment of the gas pipeline within Los Alamos Canyon would not be effected by the trails management program, nor would that program be affected by the new gas pipeline location.

DOE/EA-1329: Environmental Assessment for the Wildfire Hazard Reduction and Forest Health Improvement Program at Los Alamos National Laboratory, Los Alamos, New Mexico (DOE 2000)

This EA, which was issued together with a FONSI on August 10, 2000, analyzes the implementation of a Wildfire Hazard Reduction and Forest Health Improvement

Program at LANL. Forest thinning actions have been conducted within Los Alamos Canyon over the past four years. Changing the proposed natural gas pipeline alignment would neither affect nor be affected by future thinning or forest maintenance activities.

DOE/EIS- 0293: Final Environmental Impact Statement for the Conveyance and Transfer of Certain Lands Administered by the DOE and Located at Los Alamos National Laboratory, Los Alamos and Santa Fe Counties, New Mexico (DOE 1999)

A portion of the proposed gas pipeline routes are located within the White Rock Y Tract identified in the March 2000 Record of Decision (ROD) for implementing DOE's preferred alternative analyzed in the subject EIS. In its ROD, DOE determined that it should retain the part of the White Rock Y Tract under consideration for the proposed easement to PNM. Should this conveyance decision change, any utility easements would be transferred with the land.

Potential Consequences of Proposed Project Modification

This section compares potential impacts from implementing the proposed modification to the Los Alamos Canyon gas pipeline alignment with the impacts to environmental resources and circumstances previously analyzed in DOE/EA-1409.

Land Use: The impact to land use would be the same as that in DOE/EA-1409 regardless of which of the two subject gas pipeline alignments were used. Land in Los Alamos Canyon would continue to be used as a "reserve" for LANL operations.

Geologic Setting: The impact to the geologic setting would be less than originally analyzed in DOE/EA-1409 if the gas pipeline were realigned along the existing road. Construction, maintenance, grading, and other activities related to the pipeline and their associated impacts would be the same for either subject alignment location, but use of the route along the existing road would eliminate the need to blade away several tons of rock making up the "toe" portions of mesa sides abutting the raised "bench" area in order to achieve a near-flat work area for the original route parallel to the electric power lines. An additional service road for service and maintenance of the natural gas pipeline in this area was analyzed as part of the Proposed Action in DOE/EA-1409; with the realignment of the gas pipeline along the existing service road, this additional road would no longer be necessary. Soil and geological impacts associated with the pipeline installation and new service road construction, therefore, would not occur if the existing road route were used.

Water Resources: Projected impacts to surface and groundwater resources would be about the same as originally analyzed in DOE/EA-1409 if the gas pipeline were realigned to the road location, and if the pipeline were installed by trenching across the canyon streambed. Construction of the natural gas pipeline along the existing road route could have slight temporary, short-term effects on surface water quality in Los Alamos Canyon if surface water is present at the time that the pipeline is installed (the canyon stream normally flows with snow runoff or after storm events; in the fall and winter the stream is either at its lowest flow and/or flows only intermittently along the stream reach). The gas

pipeline construction activities would involve soil disturbance from the use of heavy machinery to provide access, trenching, and leak testing of the newly constructed pipeline regardless of which of the two subject pipeline routes was used; in either case Best Management Practices would be employed to avoid excessive storm water runoff from fill material piled next to the trenches during pipeline construction. Potential surface water impacts from leak testing the pipeline would be the same for either of the two subject pipeline routes. Workers would trench down to a depth sufficient to install the gas pipeline beneath the level of the streambed at the streambed crossing locations within Los Alamos Canyon. Although routing the gas pipeline along the road route would require four additional stream crossings as compared to the other subject route parallel to the electric power lines, the trenching process would integrate Best Management Practices and temporary stream diversion methods, as appropriate, so that stream surface water quality would not be affected long term and only slightly affected temporarily. Ground water quality is expected to remain unchanged due to realignment of the pipeline.

Floodplains/Wetlands: The potential impacts to nearby floodplains and wetlands from installing the pipeline along the realigned route and trenching across the streambed would be about the same as for the gas pipeline route analyzed in DOE/EA-1409; no long-term effects to the floodplain or the wetland areas (or potential wetland areas) in Los Alamos Canyon would be likely. The realignment along the existing road would result in most of the gas pipeline being located adjacent to, and south of, the Los Alamos Canyon floodplain. Realignment of the pipeline along the newly recommended route would no longer require trenching along the bench above the floodplain area during construction. Therefore, a loss of approximately 17.5 ac (7.0 ha) of vegetated area to accommodate the trenching along the "bench" is no longer anticipated thereby diminishing the likelihood of soil erosion from storm events into the lower lying floodplain area. Locating the gas pipeline along the road route would require some tree removal along its length in various places although the corridor there would not be clear cut, and the pipeline would cross into the floodplain area six times at the streambed crossing locations. Best Management Practices would be integrated into the project during the construction of the pipeline so that soil erosion into the floodplain and potential down stream wetland areas would be unlikely.

Biological Resources: The impact to biological resources would be less than analyzed in DOE/EA-1409 if the pipeline were realigned along the existing road location in Los Alamos Canyon. Minimal short-term and long-term effects to vegetation and biota would be expected from construction of the proposed gas pipeline along either of the two subject route locations. Less vegetation would need to be removed if the gas pipeline were placed along the existing road alignment as compared to the originally proposed pipeline route parallel to the existing electric line in Los Alamos Canyon so that less wildlife habitat would be lost or compromised. Constructing the pipeline within the fall and winter months would avoid the spring time mating season of many wildlife species, therefore decreasing the potential that sounds and movements within the canyon reach would interfere in any wildlife mating practices or subsequent reproductive needs.

Air Quality: The impact to air quality due to changing the gas pipeline route location within Los Alamos Canyon would be the same as that anticipated and analyzed in DOE/EA-1409. Construction of the realigned gas pipeline along the roadway would be

expected to result in the same short-term, temporary, localized emissions associated with vehicle and equipment exhaust, as well as possible particulate (dust) emissions from excavation and construction activities. Dust suppression methods would be used to reduce fugitive dust emissions for either route location used. The project air emissions would not be expected to exceed either the National Ambient Air Quality Standards or the New Mexico Ambient Air Quality Standards.

Visual Resources: The impacts to the Los Alamos Canyon view shed would be slightly less than those originally analyzed in DOE/EA-1409 if the gas pipeline were located along the existing service road. Heavy equipment, hauling operations, staging areas, and site preparation activities would create local temporary adverse visual effects for either of the two subject pipeline routes used, particularly near the intersection of Los Alamos Canyon with SR 4. The aesthetic qualities of the canyon would, however, be expected to return to pre-construction conditions faster if the gas pipeline were relocated along the existing road bed than if it were located along the gas pipeline route analyzed in DOE/EA-1409. This would be due both to eliminating the cut across portions of the rock face, which would be visible from a distance, and eliminating the removal of vegetation and subsequent construction and maintenance of an additional service road along the electric power lines.

Cultural Resources: The impacts to cultural resources for realigning the gas pipeline along the road would be less than originally analyzed in DOE/EA-1409. Several archaeological sites are located directly along the gas pipeline route that would parallel the electric power line but there are no archaeological sites located directly along the existing road route. Therefore, the construction, operation, and maintenance of the gas pipeline along the existing road in Los Alamos Canyon would not affect the recorded prehistoric archaeological sites in the area. Nearby archaeological sites would be marked and avoided by other project related activities, such as staging of equipment and materials.

Utilities and Infrastructure: Impacts to utilities and infrastructure would be the same as those originally analyzed in DOE/EA-1409 for either of the subject gas pipeline routes. There is an existing electrical distribution power line easement alongside the proposed alignment of the new 12-in. (30-cm) gas transmission line in Los Alamos Canyon. There is also a water supply well that is located along the south wall of the canyon near the proposed tie-in with the existing gas transmission mainline. Neither the electrical distribution line nor the water supply well located in Los Alamos Canyon would be impacted by this project.

Noise: Noise impacts would be the same as those analyzed in DOE/EA-1409 for either of the two subject gas pipeline locations. There would be limited short-term, low intensity, highly localized increases in noise levels associated with pipeline construction activities occurring at remote and unoccupied areas. Following the completion of these activities, noise levels would return to pre-construction levels. Noise generated is not expected to have an adverse effect on either UC or non-UC construction workers, on PNM maintenance workers, or on members of the public. Wildlife would not likely be adversely affected by noise from construction activities either. Traffic noise from pipeline construction workers (about 13 workers) would not increase the present traffic noise level on roads at LANL.

Human Health: Human Health impacts would be the same for either of the two subject gas pipeline locations as those analyzed in DOE/EA-1409. Pipeline construction and maintenance work would not be expected to have any adverse health effects on UC workers because they would not be directly involved in construction. About 20 to 30 non-UC support and maintenance contractors would be actively involved in the construction activities, routine site inspections, and testing of the pipeline. While there are very low levels of residual radioactive and non-radioactive contaminants (such as heavy metals) present in the soil within Los Alamos Canyon, particularly in the general vicinity of the existing stream channel (and at increased levels on the western end of the project area in the vicinity of the valve setting at the gas transmission mainline), human health risks are extremely low and no excess fatal cancers would be expected to occur among the small population of project workers.

Waste Management/Environmental Restoration: The waste management and environmental restoration impacts of the proposed placement of the natural gas pipeline under the existing roadway would be about the same as the anticipated impacts analyzed in DOE/EA-1409 for the placement of the gas pipeline in parallel with the electric power line. Since the FONSI for DOE/EA-1409 was issued in 2002, the New Mexico Environment Department has issued a Compliance Order on Consent for environmental restoration activities at LANL identifying Los Alamos Canyon as a potential release site, PRS C-00-006. Installing a new 12-inch gas pipeline in Los Alamos Canyon would impact locations with contaminated sediment in and adjacent to the stream channel. To facilitate the installation of the pipeline along either of the subject routes, trenching across the stream channel would be necessary in order to avoid the production of waste materials requiring special disposal measures. Soils removed during trenching would be replaced on site at the point of removal. Any ground water encountered during the trenching process would either be contained in the excavation trench or collected and contained in a temporary holding tank; after sampling and analysis, groundwater would either be released to the environment or managed at the TA-50 Radioactive Liquid Waste Treatment Facility or other waste management facility, as appropriate.

Transportation and Traffic: Impacts to transportation from realignment of the gas pipeline along the existing road route would be the same as those originally analyzed in DOE/EA-1409 for installation of the gas pipeline along the proposed route parallel to the electric power lines. Construction within the canyon using either of the two subject routes would not directly affect traffic on either of the nearby public highways; traffic disruption along State Road 502 during the removal of the existing gas transmission line from service would occur regardless of the which of the two subject gas pipeline routes were used for the new gas pipeline. The construction workforce and the transportation of equipment and supplies needed for the project would be the same for either of the two subject routes used, so transportation and traffic affects a long area roads would be the same. Used for official use only, the existing unpaved road within the canyon could be traversed during the construction of the gas pipeline regardless of the gas pipeline route used.

Environmental Justice: The relocation of the proposed gas pipeline within Los Alamos Canyon would have the same potential impacts on low income and minority populations subject to environmental justice considerations as previously analyzed in DOE/EA-1409.

Installation of the new gas pipeline along either route is not expected to result in any disproportionately high and adverse human health or environmental effects on minority and low-income populations. The project would improve natural gas service reliability to northern New Mexico.

Socioeconomics: The realignment of the proposed gas pipeline within Los Alamos Canyon would have the same effects upon socioeconomics as those analyzed in DOE/EA-1409 for the other subject route. Revenues generated by the project would be limited in scope and duration The temporary construction jobs would be filled by existing regional work force personnel and there would be no effect on area population or increase in housing demand or public services in the region.

Conclusion

This analysis has compared the potential environmental consequences to environmental resources and conditions that could result from implementing the the new natural gas pipeline project within Los Alamos Canyon along two proposed routes: one proposed route parallel to existing electric power lines was analyzed in DOE/EA-1409; the other route, which is now favored, would place the gas pipeline along an existing unpaved road within the canyon. Other potentially applicable subject EAs were identified and considered as well. In all cases, the consequences would likely be slightly less than, the same or similar to what was previously analyzed in DOE/EA-1409 and, therefore, are bounded by the impact analyzes in that EA. The proposed realignment would not result in changes to affected resources that exceed what has previously been analyzed and determined to have no significant impacts. Therefore, a new EA is not required.

FINDING: The United States Department of Energy, National Nuclear Security Administration finds that the environmental effects of the proposed natural gas pipeline project proposed within Los Alamos Canyon are adequately bounded by the analyses of impacts projected by DOE/DOE/EA-1409, and no new EA is required. This Finding is made pursuant to the National Environmental Policy Act of 1969 [42 U.S.C. 4321 et seq.], the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act [40 CFR 1500] and the Department of Energy National Environmental Policy Act Implementing Procedures [10 CFR 1021].

Signed in Los Alamos, New Mexico this 11th day of August, 2005.

Edwin L. Wilmot, Manager
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References

10 CFR 1021 U.S. Department of Energy, *"National Environmental Policy Act Implementing Procedures,"* Code of Federal Regulations, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, D.C. (revised as of January 1, 1999).

40 CFR 1502.9 (c) Council on Environmental Quality, Executive Office of the President, *"Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act,"* (reprint 1992).

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DOE 2003 U.S. Department of Energy, Los Alamos Site Office. *Environmental Assessment for the Proposed Trails Management Program at Los Alamos National Laboratory DOE*/EA-1431, September 2, 2003.