

**MITIGATION ACTION PLAN  
FOR THE  
UTAH COAL AND BIOMASS FUELED PILOT PLANT PROJECT  
Kanab, Utah  
DOE/EA-1870**

**Summary**

The Department of Energy (DOE) issues this Mitigation Action Plan (MAP) in conjunction with its Finding of No Significant Impact as to the department's proposed action of providing cost-shared funding for the Utah Coal and Biomass Fueled Pilot Plant Project. Based on the analyses in the Environmental Assessment (DOE/EA-1870), DOE determined that its proposed action – allowing Viresco Energy, LLC (Viresco) to use federal funding to design, construct and operate a coal and biomass gasification pilot plant (pilot plant) – would not result in any significant environmental impacts. The pilot plant would evaluate the technical feasibility of using steam hydrogasification to convert coal and biomass (such as agricultural or wood processing waste) into synthesis gas, that could be suitable for production of clean fuels such as substitute natural gas, sulfur-free Fischer-Tropsch diesel, jet fuel, dimethyl ether, and methane.

This MAP identifies mitigation measures, other than those required by permit conditions, which DOE requires Viresco to implement as a condition of DOE's decision to allow federal funds to be used for this project. This MAP explains how mitigation measures will be implemented, who is responsible for their implementation, and at what time during the project they must be implemented.

Viresco, as the recipient of the financial assistance from DOE, is responsible for ensuring the implementation of the mitigation measures specified herein. Viresco shall develop and maintain documentation of the implementation of these measures. DOE will ensure the implementation of the mitigation measures through management of the cooperative agreement.

General questions about the project should be directed to Darryl Shockley, Project Manager, DOE National Energy Technology Laboratory at (304)285-4697, or [Darryl.Shockley@netl.doe.gov](mailto:Darryl.Shockley@netl.doe.gov). Questions regarding the National Environmental Policy Act (NEPA) process should be directed to Joseph Zambelli, NEPA Document Manager, DOE National Energy Technology Laboratory at (304)285-4913, or [Joseph.Zambelli@netl.doe.gov](mailto:Joseph.Zambelli@netl.doe.gov).

**MITIGATION ACTION PLAN**

The environmental assessment (EA) evaluated the potential environmental consequences of providing financial assistance to Viresco for its design, construction and operation of the proposed pilot plant and the no action alternative. DOE considered fifteen environmental resource areas in the preparation of the EA.

Consistent with 10 CFR Part 1021.322(e), DOE developed this MAP to reduce the potential for adverse impacts from the proposed pilot plant beyond those mitigation measures required by permit conditions.

<b>MITIGATION MEASURES</b> Environmental Resource	Mitigation Measure	Timing	Plan/Report Requirement
Air Quality	Viresco shall require contractors to use Best Management Practices (BMP) (e.g., wetting, covers) to control dust during construction, as necessary.	During construction	Plan summarizing BMPs must be submitted by Viresco to DOE prior to construction. Viresco must report to DOE on BMPs used after construction is complete.
Cultural	Viresco shall allow a Tribal representative from the Kaibab Band, as well as any other Indian Nation that requested to be involved in the project, to monitor land clearing and excavation.	During land clearing or earth disturbance and excavation	Viresco must notify tribes and DOE of schedule for land clearing and excavation at least seven days before initiation.
Cultural	Viresco shall retain the services of a qualified archaeologist/anthropologist to be on call and respond in a timely manner in the event that a culturally related discovery, including burials, is made during land clearing and excavation.	Prior to land clearing or earth disturbance	Viresco must submit to DOE evidence of contractual arrangements made for such services at least seven days before initiation of land clearing.
Geology and Soils/Storm Water	Where vegetative ground cover is disturbed or soil remains exposed after project-related construction activities, Viresco shall use best efforts to achieve beneficial results in terms of erosion control, land stabilization, long-term vegetative cover and habitat improvement through revegetation, landscaping and other techniques as appropriate.	During and after construction	Plantings of vegetation shall use species that are native, adaptable to the planting location, beneficial to wildlife, drought tolerant, and helpful with water conservation. Where practicable, grass re-seedings or plantings shall use only native species, usually in a mixture of grasses and forbs appropriate to address potential erosion problems and provide long-term cover.

Health and Safety	Viresco shall hire technically qualified hazardous material responders for any clean-up, should a spill occur. These services would be secured under contract to respond in the event of a spill in a timely and professional manner.	Prior to construction and during operation	Viresco must submit evidence of contracted services and a plan for clean-up of spills at least seven days prior to initiation of construction.
Wildlife	To avoid the potential “take” of migratory birds and raptors and/or their nests and eggs, Viresco shall prepare a plan in consultation with DOE, U.S. Fish and Wildlife Service (USFWS) and Utah Department of Natural Resources (DNR) to ensure that initial land clearing is performed outside of the raptor/migratory bird nesting season of March 1 through August 31 for applicable species. The Final EA includes a more in-depth analysis of Biological Resources, including seasonal land clearing restrictions as a migratory bird and raptor protection measure (see Section 3.11).	Prior to and during construction	Viresco must consult with USFWS and Utah DNR prior to initial land clearing. Should any nests be found, Viresco is required to consult with USFWS and Utah DNR and follow their requirements for developing the site. Viresco will perform surveys for migratory birds and raptors and their nests on site and in the vicinity in consultation if requested as a result of this consultation.
Wildlife	Viresco shall prepare a plan to monitor the water in the stormwater detention basin and the process wastewater quality to determine whether animal exclusion devices should be incorporated in the design of the detention basin and the evaporation pond, should Viresco pursue this option for future operations. This monitoring plan would take effect 30 days prior to project start-up. If monitoring results indicate that potential impacts to wildlife may occur, Viresco shall install animal exclusion devices.	Prior to and during operation	Viresco must consult with DOE, the Utah Department of Environmental Quality and DNR, the USFWS and Native American tribes regarding the parameters to be monitored and the levels that would trigger the installation of exclusionary devices. Viresco must submit the monitoring plan 60 days prior to project start-up. DOE will review within 14 days. Final plan, approved by DOE, would take effect 30 days prior to project start-up.