Department of Energy
Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

DOE/EA-1814

FINDING OF NO SIGNIFICANT IMPACT AND FLOODPLAIN STATEMENT OF FINDINGS

CITY OF MONTPELIER COMBINED HEAT AND POWER AND DISTRICT ENERGY SYSTEM, MONTPELIER, VERMONT

AGENCY: U.S. Department of Energy, Golden Field Office

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: The U. S. Department of Energy (DOE) is proposing to authorize the expenditure of Federal funding[1] by the City of Montpelier for the design, permitting, and construction of a combined heat and power (CHP) and district energy system (Montpelier CHP District Energy Project). This funding was appropriated under the *American Recovery and Reinvestment Act of 2009* (Recovery Act) through the Federal Community Renewable Energy Deployment Program. The City would use the funding to design and construct a new biomass-fueled heat plant to be located on the site of the existing State Boiler Plant in Montpelier, Vermont. The biomass-fueled and back-up oil-fired boilers would provide a combination of steam and hot water that would be distributed via existing steam pipes and new hot water supply and return pipes to a complex of State, City, and school buildings. A 400-kilowatt steam-driven turbine would generate electricity during the heating season to increase the overall efficiency of the system; this electricity would be used to offset the electrical energy consumed by the State buildings.

DOE has completed all discussion, analysis, and findings related to the potential impacts of the proposed project and completed the *Final Environmental Assessment for the City of Montpelier Combined Heat and Power and District Energy System* (DOE/EA-1814; Final EA). The Final EA is hereby incorporated by reference.

DOE prepared this FONSI in accordance with the *National Environmental Policy Act* (42 U.S.C. 4321 *et seq.*; NEPA), the Council on Environmental Quality NEPA regulations (40 CFR Parts 1500 to 1508), and DOE NEPA implementing procedures (10 CFR Part 1021).

ENVIRONMENTAL IMPACTS: The Final EA examined the potential environmental impacts of DOE's Proposed Action and No-Action Alternative. Under the No-Action Alternative, DOE would not authorize the City of Montpelier to spend Federal funds on the proposed project and DOE assumed, for

[1] Prior to the issuance of this FONSI, DOE has authorized the City of Montpelier to use a percentage of its Federal funding for preliminary activities, which include, preliminary design, environmental studies, EA preparation and permitting. The activities are associated with the Proposed Project and do not significantly impact the environment nor represent an irreversible or irretrievable commitment by DOE in advance of the conclusion of the EA for the Proposed Project.

Federal Recycling Program Printed on Recycled Paper

purposes of the EA, that the Montpelier CHP District Energy Project would not be constructed or operated without this financial assistance. This approach provides a basis of comparison for the potential impacts of the proposed project.

The Montpelier CHP District Energy Project would be developed on the site of the existing State Boiler Plant within the Capitol Complex in downtown Montpelier. New hot water distribution lines would be constructed under existing roads and utility right of ways. The CHP plant would provide at least 41 million British thermal units of heat and would meet the heating requirements of the 17 state-owned buildings currently serviced by the State Boiler Plant and five city-owned buildings. The new plant would also be capable of providing at least 8.4 million British thermal units of additional capacity for use in other buildings which will be connected to the district energy system in the future. In addition, an estimated 1.1 million kilowatt-hours of energy would be generated. All construction would be located in previously developed areas within downtown and the proposed project would not result in changes to land use or drainage patterns.

Based on this and other information, DOE concluded that the design, construction, and operation of the Montpelier CHP District Energy Project would have no measurable impact on land use, water resources, wetlands, biological resources, soils and geology, visual impacts, noise, utilities, socioeconomics and environmental justice, human health and safety, or intentional destructive acts. Therefore, those resources were not carried forward for further analysis.

DOE considered the following resources in more detail as part of the analysis: air quality, woody biomass production, cultural and historic resources, waste management and hazardous waste management, floodplain impacts, and traffic, transportation, and parking impacts.

With regard to air quality, the proposed project would replace old boilers with new, more efficient and cleaner-burning equipment, resulting in fewer emissions produced per quantity of fuel burned. The proposed project would shift the ratio of oil and biomass fuels that are currently used for heat, resulting in an increase in the amount of wood chips that are burned. The impact to air emissions is expected to be negligible. The EA includes an analysis of air emissions that assumes an increase in both oil and wood chips burned. Under this conservative estimate, the proposed project would qualify as a minor emission source and not require a Federal Title V (major source) permit. The EA also addresses the reduction in direct boiler emissions, elimination of emissions from heating equipment in buildings joining the district heating system, and reduction of emissions produced by power plants in the ISO New England electrical grid by production of electricity from the new steam-driven turbine. Temporary air emissions would be produced by construction equipment during the construction of the project and fuel delivery trucks once the project was operational. For each of these sources, the impacts to air emissions would be minor or temporary. Therefore, DOE concludes that the project would have minimal impacts on air quality.

With regard to woody biomass production, the woody biomass for the new boiler systems would be sourced from the byproduct of sawmill activities or harvested from timberlands in the region surrounding Montpelier as chipped low-grade cull wood. The proposed project would require as much as 12,200 tons of green woodchips annually. The forested lands surrounding Montpelier have an abundance of low-grade wood suitable for chip fuel. Demand and harvesting of low-grade wood in Vermont is less than half of the amount currently grown annually. Much of the infrastructure in the form of foresters, loggers, chippers, sawmills, and trucking operations exists in the region surrounding Montpelier and has the capacity to serve the proposed project. The increased demand for woodchips may have beneficial or negative impacts

depending on site-specific forest conditions and methods used to harvest. The State of Vermont has established logging guidelines to protect soil and water resources, and biomass harvest guidelines will be integrated into supplier contracts to ensure that harvesting is done in an environmentally sustainable way. Therefore, DOE concludes that woody biomass harvesting for the project will have minimal impacts on surrounding forests land.

With regard to cultural and historic resources, the area of potential effect for the proposed project includes the entire Montpelier Historic District with several buried and historic resources identified within the proposed project area. The proposed project would result in the demolition of the State Boiler Plant, which is eligible for listing in the National Registry of Historic Places. To mitigate the adverse effects on historic properties, DOE, the City of Montpelier, and the State of Vermont Department of Buildings and General Services have signed a Memorandum of Agreement (MOA) with the Vermont State Historic Preservation Officer. The stipulations in the MOA are intended to minimize impacts and include photographic documentation of the existing State Boiler Plant, retention of the existing chimney, use of compatible architectural design for the new CHP plant, and monitoring of excavations in specific locations by a qualified archaeologist. Therefore, DOE concludes that the project will have minimal impacts on cultural resources or historical properties.

With regard to waste management and hazardous waste management, construction-related debris generated during the construction of the proposed project would be removed and disposed of offsite in accordance with applicable city or county waste management regulations. The proposed project would include installation of two new 20,000-gallon, double-wall fuel oil underground storage tanks, and all local, State, and Federal guidelines would be followed during the removal of the existing tank and installation of the new underground storage tanks. There are several areas within close proximity of the project area where subsurface contamination has been identified (active hazardous sites) or subsurface contamination was identified and remediated or determined to be limited to the property (closed hazardous sites). The City would follow procedures outlined in the State of Vermont's "Guidance for Construction of Public Works Projects in Areas where Contamination is Suspected or Known" during planning and construction so that if contaminated soil was encountered, workers would follow the guidelines, minimizing health and safety risks and limiting delays. The construction contractor would prepare a health and safety plan to address work in areas of known or suspected contamination. In addition, site personnel would follow hazardous waste and emergency response requirements of the Occupational Safety and Health Administration regulations.

The proposed project would generate wood ash as a byproduct from burning wood biomass. Wood ash is in demand by area farmers as a fertilizer. However, should agricultural demand wane, there is available capacity at local landfills for disposal of the wood ash. Therefore, DOE concludes that the project would have negligible impacts local waste management operations or facilities.

With regard to traffic, transportation, and parking impacts, the proposed project would result in the permanent loss of approximately 30 parking spaces with additional temporary parking disruptions during construction. To alleviate temporary parking losses, the City has identified alternative parking locations and would coordinate with the local transit company to facilitate bus service. The City would manage additional transportation disruptions from construction of the proposed project by implementing a detailed phasing and traffic control plan. Permanent traffic impacts from the proposed project would include an increase of up to 4 truck deliveries per day of wood chips during the peak heating season. This

increase would not adversely affect the transportation system in downtown Montpelier, which currently handles between 6,800 and 16,300 vehicles per day. DOE concludes that the proposed project would have temporary impacts on traffic, transportation, and parking, but minimal long-term impacts.

With regard to cumulative impacts, DOE evaluated the cumulative impacts of past, ongoing, and planned activities within downtown Montpelier and in the surrounding region. The cumulative air quality impacts associated with the proposed project combined with other nearby biomass heating projects would be negligible, as there is little overlap of emissions due to the geographic separation of sources and due to the use of enhanced air pollution controls. There has also been a demonstrated excess supply of biomass fuel within the surrounding region. Other cumulative impacts to transportation and traffic within downtown Montpelier would be temporary and only realized if the identified projects were constructed concurrently. DOE concluded that the proposed project, in conjunction with other activities considered, would have negligible cumulative impacts on all resources considered within the Final EA.

FLOODPLAIN STATEMENT OF FINDINGS: The Montpelier CHP District Energy Project is located in a 100-year floodplain of the Winooski River, and DOE conducted a floodplain assessment as required by regulations at 10 CFR Part 1022, *Compliance with Floodplain and Wetland Environmental Review Requirements*. The project area is located within downtown Montpelier, much of which is within the floodplain. The development of the city, directly adjacent to the Winooski River, irretrievably altered the land use, resulting in a reduction of the beneficial aspects of the natural floodplain. The project would not alter the depth of floodwaters in the area or otherwise cause any increase of flooding of nearby properties. The proposed project would also comply with the City's regulations for development within a flood hazard area and the buildings would be designed in accordance with FEMA's National Flood Insurance Program building standards. DOE concludes that this project would have no adverse impacts on the natural and beneficial floodplain values associated with the base floodplain, would not affect lives or property in the area, and would comply with floodplain protection regulations.

PUBLIC PARTICIPATION IN THE EA PROCESS: DOE sent scoping letters on July 12, 2010, to Federal, State, and local agencies, Tribal governments, businesses, organizations, special interest groups, and interested individuals, providing 30 days to comment on the scope of the EA. A public scoping meeting was held on August 3, 2010, at the City of Montpelier City Hall. DOE published the Scoping Notice on the DOE Golden Field Office Public Reading Room Website and in the Montpelier *Times Argus* newspaper.

In response to the scoping letters and notice, DOE received comments from three agencies. Those comments were from the Vermont Agency of Natural Resources (VANR) Department of Environmental Conservation, U.S. Army Corps of Engineers, and VANR Department of Forests, Parks and Recreation. The Final EA includes a summary of the comments and DOE's responses. In addition, DOE initiated consultation with the U.S. Fish and Wildlife Service, the Stockbridge-Munsee Band of the Mohican Nation, the Abenaki Self Help Association, Vermont State Historic Preservation Officer, and the Advisory Council on Historic Preservation. Appendix B of the EA contains a copy of the consultation letters and responses.

DOE issued the Draft EA for comment on May 4, 2011, and posted it on the DOE Golden Field Office Public Reading Room and NEPA websites. DOE sent postcards announcing the availability of the Draft EA to identified stakeholders and published a Notice of Availability on the websites and in the Montpelier *Times Argus* newspaper. The comment period ended on May 19, 2011. DOE received two comment letters from agencies, organizations, and interested individuals.

The Vermont Agency of Natural Resources noted the proximity of the project to the state threatened Eastern Pearlshell mussel, a cold water species, and expressed concern about possible release of warm effluent water. The EA was modified to address this comment.

The Vermont Department of Buildings and General Services (BGS) commented on the heat loads and load shape. In addition, they commented on the boiler size and building size – which may be subject to minor changes. Finally, BGS also stated that the efficacy of using No. 2 fuel oil rather than No. 6 was being examined. No. 2 fuel oil would result in lower air emissions. The EA was modified to address this comment.

DETERMINATION: Based on the information presented in the Final EA (DOE/EA-1814), DOE has determined that its Proposed Action, funding the design, permitting, and construction of the Montpelier CHP District Energy Project, would not constitute a major Federal action significantly affecting the quality of the human environment within the context of NEPA. Therefore, the preparation of an environmental impact statement is not required, and DOE is issuing this FONSI.

The City of Montpelier's commitment to obtain and comply with all appropriate Federal, State, and local permits required for construction and operation of the Combined Heat and Power plant and distribution system, and to avoid or minimize potential impacts through the implementation of best management practices detailed in the Final EA, shall be incorporated and enforceable through DOE's financial assistance agreement. The Final EA is available at the DOE Golden Field Office Reading Room Website, http://www.eere.energy.gov/golden/Reading_Room.aspx , and the DOE NEPA Website, http://nepa.energy.gov.

For questions about this FONSI, contact:

Melissa Rossiter
NEPA Document Manager
U.S. Department of Energy
DOE Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401
Melissa.Rossiter@go.doe.gov

For further information about the DOE NEPA process, contact:

Office of NEPA Policy and Compliance
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
202-685-4600 or 1-800-472-2756

Issued in Golden, Colorado this 7th day of July, 2011

Carol J. Battershell
Golden Field Office Manager