FINDING OF NO SIGNIFICANT IMPACT
FOR
ELECTRIC DRIVE VEHICLE BATTERY AND COMPONENT MANUFACTURING INITIATIVE PROJECT
CELGARD LLC
CONCORD, NORTH CAROLINA

RESPONSIBLE AGENCY: U S. Department of Energy (DOE)

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: DOE completed the *Final Environmental Assessment for Celgard Electric Drive Vehicle Battery and Component Manufacturing Initiative Project, Concord, North Carolina* (DOE/EA-1713). Based on the analyses in the Environmental Assessment (EA), DOE determined that its proposed action - awarding a federal grant to Celgard LLC (Celgard) for the construction of a small industrial facility - would result in no significant adverse impacts. DOE further determined that there could be beneficial impacts to the local economy and to the nation's air quality and transportation industry from implementation of Celgard's proposed project

BACKGROUND: As part of the *American Recovery and Reinvestment Act of 2009* (Recovery Act; Public Law 111-5, 123 Stat. 115), DOE's National Energy Technology Laboratory, on behalf of the Office of Energy Efficiency and Renewable Energy's Vehicle Technologies Program, is providing up to $2 billion in federal funding for competitively awarded agreements to facilitate the construction of U.S. manufacturing plants (including increases in production capacity at existing plants) to produce advanced batteries and electric drive components.

The federal action of providing funding for these projects, known as the Electric Drive Vehicle Battery and Component Manufacturing Initiative, requires compliance with the *National Environmental Policy Act of 1969* (NEPA; 42 U.S.C. 4321 et seq.), the Council on Environmental Quality regulations (40 CFR Parts 1500 to 1508) and DOE's NEPA implementing procedures (10 CFR Part 1021). DOE prepared an EA to evaluate the potential environmental consequences of providing a grant for this proposed project under the initiative

PURPOSE AND NEED: The overall purpose and need for DOE action pursuant to the Vehicle Technologies Program and the funding opportunity under the Recovery Act are to accelerate the development and production of various electric drive vehicle systems by building or increasing domestic manufacturing capacity for advanced automotive batteries, their components, recycling facilities, and electric drive vehicle components in addition to stimulating the U.S. economy. This and the other selected projects are needed to reduce the U S. petroleum consumption by investing in alternative vehicle technologies. The proposed project will also assist with the nation's economic recovery by creating manufacturing jobs in the U S. in accordance with the objectives of the Recovery Act.

DESCRIPTION OF THE PROPOSED ACTION: DOE's proposed action is to provide a grant to partially fund Celgard's proposed project - the construction of a small industrial facility (approximately 135,000 square feet) on approximately 20.6 acres of land for the manufacture of separator materials for commercial hybrid-electric vehicle batteries. The proposed plant would have sufficient capacity to make at least 1,000,000 square meters of separator material for 20,000 or more plug-in hybrid-electric vehicles batteries per year. The project would include warehouse space, five truck docks, and an ancillary building of approximately 5,000 square feet. The facility would include process equipment, warehousing facilities, product test laboratories, quality assurance laboratories, administrative offices and common areas, maintenance shops, access roads and parking facilities, four dry resin pellet storage silos (each with a capacity of at least 1,000 cubic feet), and compressed air generator. Chill water systems would be installed to provide heat and cooling using a 13 percent propylene glycol solution in a closed loop system. Minor earth work and site preparation would be required for the buildings, parking lots, and access roads. Site preparation would include installation of electrical feeds, utility services (water and sewer), fire suppression lines, meters, and controls valves and pumps, as needed.

One or more production lines would be installed in the new facility. Each line would consist of an extrusion line, oven line, deplier, and slitter. Celgard's quality assurance laboratory, which is currently located at the Charlotte facility, may be relocated to the new manufacturing facility.

This facility would support anticipated growth in the manufacturing of separator material for plug-in hybrid-electric vehicle batteries. DOE would provide $49.3 million in financial assistance in a cost-sharing arrangement with the project proponent, Celgard. The total cost of the project is estimated at $101.8 million. Analyses of potential impacts, as described in the EA, were based on an assumption that 273 permanent jobs would be created. However, more recent projections are that 200 permanent jobs would be created.

ALTERNATIVES CONSIDERED: In addition to the proposed project, DOE considered the No-Action Alternative as required under NEPA. Under the No-Action Alternative, DOE would not provide funds for the proposed project. For the purposes of the EA, DOE assumed that the project would not proceed without DOE funding. This assumption establishes a baseline against which the potential environmental impacts of the proposed project are compared.

ENVIRONMENTAL CONSEQUENCES: DOE evaluated the potential environmental consequences of the proposed project and the No Action Alternative. It considered 17 environmental resource areas in the EA. However, not all areas were evaluated at the same level of detail. DOE focused more detailed analysis on areas that would require new or revised permits, have the potential for significant adverse environmental impacts, or have the potential for controversy. The areas DOE evaluated in more detail included: air quality, greenhouse gases, noise, geology and soils, groundwater, vegetation and wildlife, socioeconomics, utilities and energy use, transportation and traffic, and human health and safety. For these areas, DOE determined there would be minimal potential environmental impacts.

During construction, the equipment used to construct the proposed facilities would intermittently emit quantities of five criteria air pollutants: carbon monoxide, nitrogen oxides, sulfur dioxide, particulate matter of 10 microns or less, and volatile organic compounds. In addition to tailpipe

emissions from heavy equipment, ground surface disturbances during excavation and grading activities could potentially generate fugitive dust. Exhaust emissions from equipment used in construction, coupled with likely fugitive dust emissions, could cause minor, short-term degradation of local air quality. In relation to greenhouse gas emissions, an increase in the manufacture and use of advanced batteries potentially offers net long-term positive benefits of reduced reliance on fossil fuels and long-term improvement in air quality through reduced emissions of greenhouse gases (and other pollutants).

Typical construction noise would be generated. Operational noise outside the facility would come primarily from heating, ventilation, and air conditioning units' fans and vehicle traffic

Construction activities would result in a direct permanent adverse impact to the 2.1 acres of undisturbed soils. In addition, final contouring and stabilization would be required for the approximate 18 acres of the remaining project site which has been rough graded. Once final grading has occurred, the proposed facility would require paving and establishment of impervious surface to support the facility and associated infrastructure (i.e., entrance roads, parking, and stormwater management). Overall, these impacts would be localized and minor to soil resources and the geology. Best management practices such as sediment control devices and seeding or sodding of temporarily disturbed areas following construction would reduce the potential for adverse indirect impacts such as soil erosion.

Early successional forest and vegetation would be lost as a result of site grading of 2.1 acres This vegetation community is not considered rare or of high value within the region. Other areas previously subjected to rough grading would require re-grading. Overall, impacts would be minor. Following construction, best management practices described above would be implemented. Trees and shrubs would also be planted as part of a landscape plan abiding by the business park covenant Any wildlife in this area would likely be displaced to similar habitat available near the site.

During construction and operations, there is a potential for groundwater contamination from a potential spill. However, spill control devices and best management practices would be used for avoidance, minimization, and responses to a pollutant spill

DOE evaluated socioeconomics to determine the potential for positive benefits of the proposed project on the affected communities. The proposed project is anticipated to result in minor increases in local employment opportunities (200 permanent jobs) and local spending, potentially providing a beneficial impact to the local community.

Operations of the Celgard proposed project would increase demand for electricity and natural gas for heating (if required), resulting in a minor impact. However, Duke Energy Company and Piedmont Natural Gas have adequate capacity to meet the demands of the proposed project.

Construction would have adverse minor impacts to traffic lasting for approximately 12 months. Operations would have adverse minor long-term impacts due to the increase in trucks and personal-vehicle traffic in the surrounding community resulting from the expected four truck visits per day for deliveries and shipments, and roughly 100 personal vehicle trips (previously

estimated as 150 personal vehicle trips) due to the hiring of approximately 200 employees. The existing roadway and intersection network can accommodate this increase in traffic.

Celgard's proposed project would include a battery testing laboratory that would use alcohols, solvents, and electrolytes. The Celgard facility would have an environmental, health and safety plan to address the safe handling, storage and disposal of these materials to ensure worker health and safety. Celgard has experienced personnel who would support the project, thereby reducing the chance of accidents, spills, and leaks. Celgard employees at the existing Charlotte facility receive initial environmental safety and health training as well as regular refresher training based on job responsibilities and regulatory requirements. Production and laboratory employees require certification of job training by Celgard in accordance with ISO 9001 and ISO 14001 standards. Celgard would adopt these standards at the new facility. The existing Celgard facility located in Charlotte, North Carolina, has an Environmental Health & Safety Plan in place that was most recently updated in February 2009. This plan would be modified to address health and safety issues at the new facility.

The main raw material used for operations would be polypropylene and polyethylene resins in dry pellet form which would be stored outdoors in silos or indoors in large sacks. Small quantities of liquid solvents would be stored indoors, primarily in the laboratory. Because materials and resulting wastes would be stored on site, the potential risk of exposure would be greatest for Celgard employees, who would be trained in proper safety procedures. General population exposure to hazardous materials would not be expected to occur.

The other environmental areas DOE evaluated for potential impacts were: land use, meteorology, environmental justice, visual resources, surface water, wetlands and floodplains, cultural resources, and solid and hazardous wastes. DOE determined that there would be no potential for adverse impacts for these resource areas, or that the impacts would be negligible, temporary, or both. The EA gives the reasons DOE did not conduct more detailed evaluations of these areas.

Under the No-Action Alternative, the project would either be delayed, as Celgard sought other funding sources, or abandoned altogether. If abandoned, the potential environmental consequences and benefits would not occur.

PUBLIC AVAILABILITY: DOE distributed the Draft EA on March 14, 2010, and advertised its release in the Concord Independent Tribune on March 14 and 17, 2010. In addition, DOE sent copies for public review to the Cabarrus County Public Library, 27 Union Street N, Concord, North Carolina 28025. DOE established a 15-day public comment period that began March 14, 2010, and ended on March 29, 2010. DOE announced it would accept comments by mail, e-mail, and facsimile.

The Draft EA was distributed to various federal, state, and local agencies with jurisdiction or special expertise. DOE conducted formal consultations by mail with the responsible U.S. Fish and Wildlife Service field office in Ashville, North Carolina, the Natural Heritage Program office in Raleigh, North Carolina, and the State Historic Preservation Office in Raleigh, North Carolina. In each case, DOE received correspondence supporting a determination of no potential

impacts to threatened or endangered species and critical habitat, and no potential impacts to properties listed on or eligible for inclusion in the *National Register of Historic Places*.

Copies of the Final EA and this FONSI will be sent to stakeholders that provided comments or consultation, and will be available at DOE's National Energy Technology Laboratory website at http://www.netl.doe.gov/publications/others/nepa/ea.html.

COMMENTS: Comments were received from two entities, U.S. Environmental Protection Agency (EPA) and the North Carolina Department of Administration's State Environmental Review Clearinghouse. The EPA recommended reasonable efforts should be made to reduce exposure to diesel exhaust fumes from construction activities. These efforts include the use of filtered exhaust systems to capture diesel particulate matter (DPM) and equipment devices to reduce carbon monoxide, aldehydes, and hydrocarbons. The North Carolina State Environmental Review Clearinghouse received comments from state agencies as follows: The North Carolina Wildlife Resources Commission provided comments regarding the Carolina darter *Esheostoma collis* (a State special concern species), secondary and cumulative impacts, and typical issues and common mitigation measures for projects of this type. In particular it noted that an erosion and sediment control plan was needed. The North Carolina Department of Environmental and Natural Resources also stated that an erosion and sediment control plan would be needed.

Responses to comments are included in Appendix B of the Final EA. Celgard has indicated that it intends to implement many of EPA's recommendations. Celgard has committed to reduce rainwater runoff impacts via sediment and erosion control measures as required by the permitting process.

MITIGATION REQUIREMENTS: By mutual agreement between Celgard and DOE, Celgard will implement the following mitigation measures:

> Site development: Consistent with the Industrial Business Park's covenants, Celgard shall consider, and shall use to the extent practicable and without increasing overall project cost, Low Impact Development (LID) techniques to reduce stormwater runoff, soil erosion, common pollutant conveyance in stormwater runoff, adverse aesthetic impacts of land development and adverse property value impacts. Celgard shall consider reasonable landscape options to increase groundwater recharge and shall revegetate the site utilizing native plants where appropriate.

DETERMINATION: On the basis of the evaluations in the Final EA and subject to the mitigation measures set forth above, DOE determined that its proposed action – providing a $49.3 million federal grant – and Celgard's proposed project – constructing a small industrial facility – would have no significant impact on the human environment. Although the proposed project would cause increased air emissions; disturb soils, vegetation, and wildlife; increase the potential for groundwater contamination; increased energy use; and increased noise and traffic; these impacts would be minor. The project proponent would be required to adhere to applicable permit requirements during construction and operations. All other potential environmental

impacts identified and analyzed in the EA would be negligible. Therefore, preparation of an environmental impact statement is not required, and DOE is issuing this FONSI.

Issued in Pittsburgh, PA, this 30 day of April 2010.

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