

ATTACHMENT

**STATEMENT OF JUSTIFICATION
GEP/S HYBRID ENERGY PARK
ZMAP 2009-0005, SPEX 2009-0009 & CMPT 2009-0001
Zoning Map Amendment Petition and Special Exception Application
Issues for Consideration**

Section 6-1211(E) of the Revised 1993 Loudoun County Zoning Ordinance states: “If the application is for reclassification of property to a different zoning district classification on the Zoning Map, . . . The Planning Commission shall give reasonable consideration to the following matters...”.

(1) Whether the proposed zoning district classification is consistent with the Comprehensive Plan.

The proposed PD-GI zoning district classification and the development of the Hybrid Energy Park are consistent with the Comprehensive Plan. The Subject Property is located within the Transition Policy Area and the Lower Sycolin Creek Subarea as specified in the Loudoun County’s Revised General Plan (RGP). The Transition Policy Area serves as a visual and spatial transition between the Suburban and Rural Policy Areas and envisioned that it will provide some unique development opportunities (emphasis added). The non-residential component of the Transition Policy Area will be comprised of compatible uses that represent an appropriate transition from suburban to rural land uses. The Luck Stone quarry expansion proposed to be rezoned to MR-HI that borders the Subject Property to the east will be protected from residential development by the Hybrid Energy Park.

The proposed PD-GI zoning district classification is consistent with the Energy and Communications Facilities policies of the RGP. These policies state that electric generation facilities that use clean burning environmentally sound and proven fuel sources for power generation can be located only where their impact on the surrounding land uses and the environment is compatible. The policies support the timely delivery of electrical service to businesses and households as development occurs, but seek to minimize the negative visual impacts. The proposed Hybrid Energy Park will use clean and environmentally sound facilities to produce power, which facilities are efficiently located near natural gas and electrical transmission lines and which are compatible to the Luck Stone Quarry, the Leesburg Executive Airport, the City of Fairfax Water Plant, and the proposed Loudoun Water Treatment Plant.

(2) Whether there are any changed or changing conditions in the area affected that make the proposed rezoning appropriate.

The proposed rezoning to PD-GI for the Hybrid Energy Park is appropriate and compatible with the changing conditions of the adjacent properties to the east. The expansion and proposed rezoning of the Luck Stone Quarry properties and

the Loudoun Waters proposed water treatment plant to the east and southeast of the Subject Property have changed the land use conditions of the area.

The existing conditions on the Subject Property, consisting of the gas lines and high voltage transmission lines make the proposed rezoning appropriate for the Hybrid Energy Park.

- (3) Whether the range of uses in the proposed zoning district classification are compatible with the uses permitted on other property in the immediate vicinity.**

The proposed Hybrid Energy Park industrial use is compatible with the other industrial uses such as the Luck Stone quarry and the proposed Loudoun Water water treatment plant on the property in the immediate vicinity to the east.

- (4) Whether adequate utility, sewer and water, transportation, school and other facilities exist or can be provided to serve the uses that would be permitted on the property if it were rezoned.**

Public water and sewer are available from Loudoun Water, water may also be available from the Town of Leesburg. There are existing overhead power lines, and gas lines on the Subject Property. Transportation improvements will be made to the site's access to serve the approximately 25 employees of the Hybrid Energy Park. Since the proposed development does not contain residential uses, there will be no impact on public schools.

- (5) The effect of the proposed rezoning on the County's ground water supply.**

Stormwater management and best management practices will be incorporated into the site design which will assist in maintaining the quality of the ground water supply. The Applicant will comply with requirements of the Facilities Standards Manual Section 5.320.E that requires the implementation of a stormwater pollutant prevention plan. Additionally, surface and stormwater will be regulated under a DEQ issued VPDES. The net effect of the facilities will improve water quality in the Potomac River and Chesapeake Bay.

The Hybrid Energy Park facilities will include a water-cooled system utilizing treated effluent from the Leesburg wastewater treatment plant which is currently piped into the Potomac River. Based upon the hours per day of operation, the Hybrid Energy Park facilities may utilize up to approximately five million gallons per day (net) of waste water effluent for cooling water and process water. This process could eliminate up to two billion gallons of effluent per year that is currently being discharged directly into the Upper Potomac River Basin that feeds into the Chesapeake Bay from the Leesburg wastewater treatment plant. This process will be the first one of its type in the Upper Potomac River Basin and will be a prime example of being able to show local governments ability to help clean up the Chesapeake Bay. The Applicant is having discussions with the Town

of Leesburg to use the waste water effluent from the Leesburg wastewater treatment plant. The Hybrid Energy Park plans to treat, re-circulate, and reuse all the cooling water, thus nearing zero discharge. Only in a maintenance situation will any water used in the process be returned to the Leesburg wastewater treatment plant. Even though the water would be clean enough to be discharged into the Potomac River, it will not be released on site. GEP/S is discussing with Loudoun Water the use of reservoir water as a back up or secondary source of cooling water. An air cooled system is another alternative that could be utilized.

(6) The effect of uses allowed by the proposed rezoning on the structural capacity of the soils.

The proposed uses will not affect the structural capacity of the soils. Hydric soils are included in the U.S Army Corps of Engineers Jurisdictional Determination #05-R2064.

(7) The impact that the uses that would be permitted if the property were rezoned will have upon the volume of vehicular and pedestrian traffic and traffic safety in the vicinity and whether the proposed rezoning uses sufficient measures to mitigate the impact of through construction traffic on existing neighborhoods and school areas.

The proposed use will have minimal impacts on the volume of vehicular traffic. There will be approximately 25-full time employees at the Hybrid Energy Park. These employees will generate 24 AM peak hour trips, 26 PM peak hour trips and 89 Average Daily Trips. Appropriate and sufficient measures to mitigate the impact of the construction traffic on the existing residential uses will be determined during the processing of the site plan application.

(8) Whether a reasonably viable economic use of the subject property exists under the current zoning.

The majority of the Subject Property is zoned TR-10 which permits predominantly residential uses which are not economically viable, compatible or desired uses due to the proximity of the Luck Stone properties and quarry uses, the noise contours of the Leesburg Airport, the high voltage transmission lines and the natural gas transmission lines. Residential uses will have greater impacts on the roads, County services and public schools.

(9) The effect of the proposed rezoning on the environment or natural features, wildlife habitat, vegetation, water quality and air quality.

The enclosed report "Revised Air Quality Study of Green Energy Partners/Stonewall Solar and Natural Gas-Fired Power Plant at Leesburg, VA" prepared by MACTEC and dated November 20, 2009, states that "Once the plant is built and is operating under maximum emissions scenario, there will be negligible effect on the air quality at the plant property line, in any of the

communities surrounding the plant, the Town of Leesburg, or any other receptors downwind from the source.”

The proposed Hybrid Energy Park facilities may utilize up to approximately five million gallons per day (net) of waste water effluent for cooling water and process water in the generation of electricity. Depending on the hours per year of operation, this unique process could eliminate up to two billion gallons of effluent per year that is currently being discharged directly into the Potomac River that feeds into the Chesapeake Bay from the Leesburg wastewater treatment plant. Steam produced in the Hybrid Energy Park could be used to heat and cool the data centers and buildings within a service area. The Hybrid Energy Park facilities will have zero discharge and process water will not be discharged into the stormwater management pond or Sycolin Creek. The entire site drains away from the Goose Creek Reservoir.

The existing pond on site will be improved for stormwater management and water quality. Additionally, surface and stormwater will be regulated under a NPDES permit. The net effect of the facilities will improve water quality in the Potomac River and Chesapeake Bay.

Proposed with the Hybrid Energy Park are a River Stream Corridor Overlay District (RSCOD) and the stream valley buffer along Sycolin Creek and floodplain area within the Subject Property. The wetlands areas will not be disturbed, with the exception of improvements to Gant Lane, and underground utility lines required for the development of the Hybrid Energy Park. The Hybrid Energy Park is a unique development opportunity that is appropriate at this location due to the existence of the natural gas lines, high voltage power lines, water resources, quarry uses, the airport noise impacts, in addition to the proposed rezoning applications by Luck Stone and Loudoun Water. The topography of the area including forested ridges and valleys makes the Hybrid Energy Park less visible from the surrounding area.

Trees and vegetation will be preserved in the RSCOD, stream valley buffer and floodplain areas. In addition to these areas tree save areas have been designated on the plat.

- (10) Whether the proposed rezoning encourages economic development activities in areas designated by the Comprehensive Plan and provides desirable employment and enlarges the tax base.**

The Hybrid Energy Park will provide a clean, reliable and renewable source of electrical power that is critical and necessary for high tech and data center reliability and will help attract data center uses further diversifying Loudoun County's economic base.

Preliminary estimates of the total cost of the facility are \$829,000,000 and will provide an economic engine for Loudoun County, in construction, jobs, tax revenues and a reliable source of Green energy. After the Hybrid Energy facility is in operation, it is estimated that tax revenues for Loudoun County will be up to \$10,800,000 by 2015, and stabilizing by 2019, at over \$6,900,000 per year (based upon \$1.24 tax rate assumed to remain constant). In addition to these tax revenues, Loudoun County charges an electricity utility tax for residential and commercial uses. That annual tax is estimated to be \$1,200,000.

(11) Whether the proposed rezoning considers the needs of agriculture, industry, and businesses in future growth.

The proposed PD-GI zoning district is appropriate for the Subject Property which is immediately adjacent to the Luck Stone property proposed to be rezoned to MR-HI and used for quarrying. Additionally, the Subject Property is within the Quarry Overlay District and within the Airport Impact Overlay District. The diabase formation transitions to metamorphosed siltstone and sandstone at the eastern end of the transmission line easement.

The Hybrid Energy Park will provide a clean, reliable and renewable source of electrical power that is critical and necessary for high tech and data center reliability and will help attract data center uses further diversifying Loudoun County's economic base.

(12) Whether the proposed rezoning considers the current and future requirements of the community as to land for various purposes as determined by population and economic studies.

The proposed rezoning is consistent with the current and future requirements for generation of electricity. The Subject Property is uniquely situated with two 230 kV and one 500 kV Dominion Virginia Power high voltage transmission circuits on two separate 130 foot tall (approximately) aerial structures located within a 250 foot wide easement. Two interstate natural gas transmission lines owned by Columbia Gas and Dominion and located within a 30 foot wide easement transverse the Subject Property in a north/south direction parallel to the electrical transmission lines. These interstate natural gas lines are unique in that these lines originate in two separate areas of the United States, which is particularly advantageous in natural disasters such as hurricanes when one of the lines may be disabled. One of the lines originates in the Ohio Valley and the other from the Gulf Coast. This is the primary reason that other fuels will not be utilized as a back up source.

Electricity will be generated by the cleanest and most efficient state of the art technology, and will supply northern Virginia with power and address the shortage and congestion in the Northern Virginia region. The Hybrid Energy Park may reduce the need for additional overhead power transmission lines in

Loudoun County that are importing power from outside of Virginia.

- (13) Whether the proposed rezoning encourages the conservation of properties and their values and the encouragement of the most appropriate use of land throughout the County.**

With the location of the high voltage transmission lines and the natural gas lines, the most appropriate use of land for the Subject Property is the Hybrid Energy Park.

- (14) Whether the proposed rezoning considers trends of growth or changes, employment, and economic factors, the need for housing, probable future economic and population growth of the county and the capacity of existing and/or planned public facilities and infrastructure.**

The land uses have changed in the area with the Luck Stone purchase of additional property adjacent to the existing quarry and Loudoun Water's proposed water treatment facility. The proposed Hybrid Energy Park is complimentary to the quarry and water treatment facility uses.

Electricity is an important part of the public infrastructure and is an integral part of life and electric system reliability is indispensable to support residential, commercial, industrial and governmental functions. Lack of reliable electricity is not just an inconvenience, but it creates an economic loss. Loudoun County has become one of the prime locations for internet related companies. These internet related companies include numerous data centers that create high value tax revenues with few employees. With Loudoun County's foresight the issue of electrical self sufficiency and security in the future would allow for the continuation of the expansion of these high value tax paying companies to locate within Loudoun County.

The Hybrid Energy Park will diversify the economic base in Loudoun County and it will provide Loudoun County with tax revenues and generate electricity for the region. Redundant and reliable source of electrical power is critical and necessary for high tech and data center reliability. Northern Virginia and Loudoun County are leaders in the high technology industry and are facing escalating reliability problems with electrical power generation and transmission which has resulted in threats of rolling blackouts, appeals for voluntary curtailment by consumers, and proposals to construct numerous transmission lines throughout Loudoun County. Resolving electricity reliability problems in a crisis atmosphere undermines customer confidence and is almost always unnecessarily expensive with cost frequently driven by areas other than the appropriate fuel and technology

- (15) The effect of the proposed rezoning to provide moderate housing by enhancing opportunities for all qualified residents of Loudoun County.**

Housing is not appropriate on the Subject Property due to the proximity of the Luck Stone quarries, Loudoun Water's proposed water treatment plant, Leesburg Airport noise, overhead transmission lines and towers and the natural gas transmission lines.

(16) The effect of the rezoning on natural, scenic, archaeological, or historic features of significant importance.

The rezoning will not have an effect on natural, scenic, archeological, or historic features of significant importance.

The previously submitted "Phase I Archeological Investigations of the Circa 652 Creekside Areas 4 and 5 Property, Loudoun County, Virginia" report by Thunderbird Archeology dated October 2005, identified the following on the Subject Property: sites #44ID1326 and #44LD1328 and structure 053-5278 (barn). Site #44LD1326 is predominantly located within the overhead powerline easement area on the south eastern portion of the Subject Property and is not considered to be potentially eligible for inclusion on the National Register of Historic Places, and no additional archeological work is recommended for this site. Site #44LD1328 and Structure 053-5278 are generally located adjacent to the existing smaller pond near Gant Lane in the northern portion of the Subject Property, and are not considered potentially eligible for inclusion on the National Register of Historic Places, and no additional archeological work is recommended.

Section 6-1310 Issues of Consideration of the Revised 1993 Loudoun County Zoning Ordinance states: “In considering a special exception application, the following factors shall be given reasonable consideration.”

(A) Whether the proposed special exception is consistent with the Comprehensive Plan.

The proposed Hybrid Energy Park is consistent with the Comprehensive Plan. The Subject Property is located within the Transition Policy Area and the Lower Sycolin Creek Subarea as specified in the Loudoun County’s Revised General Plan (RGP). The Transition Policy Area serves as a visual and spatial transition between the Suburban and Rural Policy Areas and envisioned that it will provide unique development opportunities (emphasis added). The non-residential component of the Transition Policy Area will be comprised of compatible uses that represent an appropriate transition from suburban to rural land uses. The Luck Stone quarry which borders the Subject Property to the east will be protected from residential development by the Hybrid Energy Park.

The proposed PD-GI zoning district classification is consistent with the Energy and Communications Facilities policies of the RGP. These policies state that electric generation facilities that use clean burning environmentally sound and proven fuel sources for power generation can be located only where their impact on the surrounding land uses and the environment is compatible. The policies support the timely delivery of electrical service to businesses and households as development occurs, but seek to minimize the negative visual impacts. The proposed Hybrid Energy Park will use clean and environmentally sound facilities to produce power, which facilities are efficiently located near natural gas and electrical transmission lines and which are compatible to the Luck Stone Quarry, the Leesburg Executive Airport, the City of Fairfax Water Plant, and the proposed Loudoun Water Treatment Plant.

(B) Whether the proposed special exception will adequately provide for safety from fire hazards and have effective measures of fire control.

The proposed Hybrid Energy Park will adequately provide for safety from fire hazards. Contact information and procedures for fire, rescue and other emergency response teams will be included in the Hybrid Energy Park operating procedures which will be developed prior to commencement of operations. The procedures will be reviewed with appropriate Loudoun County Fire, Rescue and Emergency Management personnel.

(C) Whether the level and impact of any noise emanating from the site, including that generated by the proposed use, negatively impacts the uses in the immediate area.

Noise emanating from the Hybrid Energy Park will meet the requirements of the Zoning Ordinance and will not negatively impact the uses in the immediate area.

Noise attenuation measures will be incorporated to insure compliance with the Zoning Ordinance requirements.

- (D) Whether the glare or light that may be generated by the proposed use negatively impacts uses in the immediate area.**
The Hybrid Energy Park facilities will require external lighting to allow for safe operations, including elevated catwalks, Heat Recovery Steam Generators and turbine facilities. Exterior lighting will be directed downward and inward to the extent feasible in order to prevent any glare on adjacent properties. In addition, the facilities will be designed to enable outdoor lighting for distinct areas of the facilities to be switched off while not in use or not required for safety considerations.
- (E) Whether the proposed use is compatible with other existing or proposed uses in the neighborhood, and adjacent parcels.**
The proposed Hybrid Energy Park industrial use is compatible with the other industrial uses such as the Luck Stone quarry and the proposed Loudoun Water water treatment plant on the property in the immediate vicinity to the east.
- (F) Whether sufficient existing or proposed landscaping, screening and buffering on the site and in the neighborhood to adequately screen surrounding uses.**
The topography of the area including forested ridges and valleys makes the Hybrid Energy Park less visible from the surrounding area. The RSCOD and Stream Valley Buffer areas combined with tree preservation areas, the vegetated buffer and fence will provide screening and buffering from the adjacent areas.
- (G) Whether the proposed special exception will result in the preservation of any topographic or physical, natural, scenic, archaeological or historic feature of significant importance.**
The proposed Hybrid Energy Park will not impact topographic, physical, archeological or historic features of significant importance.
- (H) Whether the proposed special exception will damage existing animal habitat, vegetation, water quality (including groundwater) or air quality.**
The enclosed report "Revised Air Quality Study of Green Energy Partners/Stonewall Solar and Natural Gas-Fired Power Plant at Leesburg, VA" prepared by MACTEC and dated November 20, 2009, states that "Once the plant is built and is operating under maximum emissions scenario, there will be negligible effect on the air quality at the plant property line, in any of the communities surrounding the plant, the Town of Leesburg, or any other receptors downwind from the source." Water quality will be improved by the use of wastewater effluent from the Leesburg Wastewater Treatment facility or the future Loudoun Water reservoirs in the Hybrid Energy plant for cooling and process water.

The proposed Hybrid Energy Park facilities may utilize up to approximately five million gallons per day (net) of waste water effluent for cooling water and process water in the generation of electricity. Depending on the hours per year of operation, this unique process could eliminate up to two billion gallons of effluent per year that is currently being discharged directly into the Potomac River that feeds into the Chesapeake Bay from the Leesburg wastewater treatment plant. Steam produced in the Hybrid Energy Park could be used to heat and cool the data centers and buildings within a service area. The Hybrid Energy Park facilities will have zero discharge and process water will not be discharged into the stormwater management pond or Sycolin Creek. The entire site drains away from the Goose Creek Reservoir.

The existing pond on site will be improved for stormwater management and water quality. Additionally, surface and stormwater will be regulated under a VPDES permit that is issued by DEQ. The net effect of the facilities will improve water quality in the Potomac River and Chesapeake Bay.

(I) Whether the proposed special exception at the specified location will contribute to or promote the welfare or convenience of the public.

The proposed Hybrid Energy Park will provide reliable and redundant electricity to support the power grid to prevent future brown outs which promotes the welfare and convenience of the public.

The specified location for the Hybrid Energy Park is well suited for the Hybrid Energy Park. In locating an electrical power producing facility three components must be available, i) electrical transmission facilities, ii) fuel and iii) water. The Hybrid Energy facility is proposed to be located on property that contains two 230kV and one 500kV electrical transmission lines owned by Virginia Dominion Power and operated through PJM. Two main high pressure natural gas lines also traverse the property; one extends from the Gulf of Mexico and the other from the Ohio Valley. These natural gas lines connect to the main north-south Transco natural gas line and also connect to the Coles Point, Virginia LNG port. Since the source of these natural gas lines are from different geographical areas, there is a backup source of natural gas. In the event that one of the gas lines is disabled. Therefore, the proposed Hybrid Energy Park is sited in a unique location that provides the needed components.

(J) Whether the traffic expected to be generated by the proposed use will be adequately and safely served by roads, pedestrian connections and other transportation services.

The proposed Hybrid Energy Park will employ approximately 25 people divided among a three shift work day. The vehicular trips generated by these employees will be adequately and safely accommodated by the surrounding road networks.

- (K) Whether, in the case of existing structures proposed to be converted to uses requiring a special exception, the structures meet all code requirements of Loudoun County.**

Existing structures are not proposed to be converted to uses requiring a special exception or primary uses.

- (L) Whether the proposed special exception will be served adequately by essential public facilities and services.**

The proposed Hybrid Energy Park special exception use will be served adequately by public facilities and services.

- (M) The effect of the proposed special exception on groundwater supply.**

Stormwater management and best management practices will be incorporated into the site design which will assist in maintaining the quality of the ground water supply. The Applicant will comply with requirements of the Facilities Standards Manual Section 5.320.E that requires the implementation of a stormwater pollutant prevention plan. Additionally, surface and stormwater will be regulated under a VPDES permit issued by DEQ. The net effect of the facilities will improve water quality in the Potomac River and Chesapeake Bay.

The Hybrid Energy Park facilities will include a water-cooled system utilizing treated effluent from the Leesburg wastewater treatment plant which is currently piped into the Potomac River. Based upon the hours per day of operation, the Hybrid Energy Park facilities may utilize up to approximately five million gallons per day (net) of waste water effluent for cooling water and process water. This process could eliminate up to two billion gallons of effluent per year that is currently being discharged directly into the Upper Potomac River Basin that feeds into the Chesapeake Bay from the Leesburg wastewater treatment plant. This process will be the first one of its type in the Upper Potomac River Basin and will be a prime example of being able to show local governments ability to help clean up the Chesapeake Bay. The Applicant is having discussions with the Town of Leesburg to use the waste water effluent from the Leesburg wastewater treatment plant. The Hybrid Energy Park plans to treat, re-circulate, and reuse all the cooling water, thus nearing zero discharge. Only in a maintenance situation will any water used in the process be returned to the Leesburg wastewater treatment plant. Even though the water would be clean enough to be discharged into the Potomac River, it will not be released on site. GEP/S is discussing with Loudoun Water the use of reservoir water as a back up or secondary source of cooling water. An air cooled system is another alternative that may be utilized.

- (N) Whether the proposed use will affect the structural capacity of the soils.**

The proposed use will not affect the structural capacity of the soils. Hydric soils

are included in the U.S Army Corps of Engineers Jurisdictional Determination #05-R2064.

(O) Whether the proposed use will negatively impact orderly and safe road development and transportation.

Road improvements will be made to safely accommodate the traffic that will be generated by the Hybrid Energy Park, which will employ approximately 25 people.

(P) Whether the proposed special exception use will provide desirable employment and enlarge the tax base by encouraging economic development activities consistent with the Comprehensive Plan.

The Hybrid Energy Park will diversify the economic base and will provide Loudoun County with tax revenues and generate electricity for the region. Redundant and reliable source of electrical power is critical and necessary for high tech and data center reliability.

Preliminary estimates of the total cost of the facility are \$829,000,000 and will provide an economic engine for Loudoun County, in construction, jobs, tax revenues and a reliable source of Green energy. After the Hybrid Energy facility is in operation, it is estimated that tax revenues for Loudoun County will be up to \$10,800,000 by 2015, and stabilizing by 2019, at over \$6,900,000 per year (based upon \$1.24 tax rate assumed to remain constant). In addition to these tax revenues, Loudoun County charges an electricity utility tax for residential and commercial uses. That annual tax is estimated to be \$1,200,000.

(Q) Whether the proposed special exception considers the needs of agriculture, industry, and businesses in future growth.

The proposed PD-GI zoning district is appropriate for the Subject Property which is immediately adjacent to the Luck Stone property proposed to be rezoned to MR-HI and used for quarrying. Additionally, the Subject Property is within the Quarry Overlay District and within the Airport Impact Overlay District. The diabase formation transitions to metamorphosed siltstone and sandstone at the eastern end of the transmission line easement.

The Hybrid Energy Park will provide a clean, reliable and renewable source of electrical power that is critical and necessary for Loudoun County's economic base.

(R) Whether adequate on and off-site infrastructure is available.

Adequate on and off-site infrastructure is available or will be improved to serve the Hybrid Energy Park. The on-site infrastructure of the two natural gas lines, overhead high voltage electrical transmission lines and proximity to wastewater effluent and potable water provide an ideal location for the Hybrid Energy Park.

- (S) Any anticipated odors which may be generated by the uses on site, and which may negatively impact adjacent uses.**

No odors are anticipated with the Hybrid Energy Park uses on the Subject Property that will negatively impact the adjacent uses.

- (T) Whether the proposed special exception uses sufficient measures to mitigate the impact of construction traffic on existing neighborhoods and school areas.**

Appropriate and sufficient measures to mitigate the impact of the construction traffic on the existing residential uses will be determined during the processing of the site plan application.