

County of Loudoun
Department of Planning

MEMORANDUM

DATE: January 5, 2009
TO: Sophia Fisher, Project Manager, Land Use Review
FROM: Pat Giglio, Planner, Community Planning

**SUBJECT: SPEX 2009-0032, SPMI 2009-0010 and CMPT 2009-0011
Arcola Substation**

EXECUTIVE SUMMARY

The applicant, Northern Virginia Electrical Cooperative (NOVEC), is requesting a Special Exception (SPEX) to expand an existing utility substation, and a Minor Special Exception (SPMI) to modify the landscape buffer requirements. A Commission Permit (CMPT) is also required for the proposed use on the subject site. The approximately 3.88 acre subject site is located within the Transition Policy area approximately one-half mile north of the Prince William County boundary east of Lightridge Farm Road. The subject site is zoned Transition Residential-3 (TR3LF and TR3UBF) and is governed under the provisions of the Revised 1993 Zoning Ordinance. The subject site will be occupied by a variety of ground-mounted equipment and overhead wiring related to the adjoining existing utility substation located to the west operated by NOVEC. The use of the subject site and expansion of the existing utility substation is in conformance with the land use and energy policies of the Revised General Plan. However, additional information pertaining to the buffering and screening of the existing compound and proposed lighting for the subject site have been requested to further evaluate the application.

BACKGROUND

The applicant, Northern Virginia Electrical Cooperative (NOVEC), is requesting a Special Exception (SPEX) to expand an existing utility substation, and a Minor Special Exception (SPMI) to modify the landscape buffer requirements. A Commission Permit (CMPT) is also required for the proposed use on the subject site. The subject site is located east of Lightridge Farm Road, two miles south of Braddock Road and one-half mile north of the Prince William County boundary in Aldie. The approximately 3.88 acre subject site is occupied by an existing electrical substation (90' x 261') which abuts Lightridge Farm Road and features a variety of ground-mounted equipment and overhead wiring. The existing

electrical substation compound is surrounded by a chain link fence, no landscape buffering or screening are present. The proposed substation expansion will include the enlargement of the existing compound towards the east to incorporate additional ground-mounted equipment. The expanded compound will be surrounded by a chain link fence with a landscape buffer around the perimeter of the property. An existing utility substation and high-voltage overhead transmission corridor owned and operated by the Virginia Electric and Power Company (VEPCO) abuts the southeastern boundary of the subject site and is connected to the existing NOVEC substation by wiring.

The subject site is zoned Transition Residential-3 (TR3LF and TR3UBF) and is governed under the provisions of the Revised 1993 Zoning Ordinance. A Special Exception is required for the proposed “utility substation” within the zoning district. A Commission Permit is also required when a public utility or public service facility is constructed. A Commission Permit is used to determine if the general location, character, and extent of a proposal is in substantial accord with the Comprehensive Plan. An approved Commission Permit was never issued for the existing substation; therefore a Commission Permit is required for the existing and proposed “utility substation” on the subject site.

A review of County GIS records did not identify any environmental features on the subject site that would be impacted by the proposed expansion of the existing equipment compound.

COMPREHENSIVE PLAN CONFORMANCE

The site is located in the Lower Foley and Upper Foley sub-areas of the Transition Policy Area and is governed under the policies of the Revised General Plan (the Plan)(Revised General Plan, Chapter 8, Transition Policy Areas Subareas, Map). The County’s vision for the Transition Policy Area is for land uses that provide a visual and spatial transition between the suburban development to the east and the rural development to the west.

The land use policies in Chapter 8 for the Transition Policy Area and the energy policies in Chapter 2 of the Revised General Plan were used to evaluate the application.

ANALYSIS

A. LAND USE

The Transition Policy Area is envisioned to be a distinct planning area that will provide a transition in land development intensity between suburban development in the east and rural development in the west (Revised General Plan, Chapter 8, Land Use Pattern, text). The subject site is located in Lower Folley and Upper Folley sub-areas of the Transition Policy Area, which the Plan envisions to develop at a density of 1 dwelling per 3 acres with a minimum of 50

percent of the site maintained as open space (Revised General Plan, Chapter 8, Community Design Policies 3 & 4). Plan policies also envision the development of a variety of non-residential uses in the Transition Policy Area which include, but are not limited to, equestrian centers, golf courses, active recreation uses, retail nurseries, kennels, boarding schools and compatible institutional uses, provided they meet specific criteria that address the nature, scale, and intensity of the use, market area, and design characteristics. These non-residential uses will serve to promote a rural character while serving both rural and suburban populations (Revised General Plan, Chapter 8, Community Design Policies 15 & 16).

The Plan does not specifically identify “utility substation” as a non-residential use within the Transition Policy Area, however, Plan policies generally support the timely delivery of electrical service to households and to businesses as development occurs (Revised General Plan, Energy and Communication Facilities text, Chapter 2). The proposed expansion of the existing substation on the subject site is in keeping with the surrounding land uses which include the existing NOVEC utility substation (.45 acres) to west and the existing VEPCO utility substation (28.53 acres) and high-voltage overhead transmission corridor to the south and southeast. The subject site is surrounded on three sides by existing utility substations and is set back approximately 90 feet from Lightridge Farm Road and approximately 600 feet from the nearest residence, a farm complex located to the north. Plan policies support the grouping of electrical facilities to the extent permitted by the law to mitigate adverse impacts on the surrounding area (Revised General Plan, Chapter 2, Energy and Communication Policy 1). The location of the proposed utility substation expansion in proximity to other electrical facilities is supported by the Plan.

The proposed utility substation is compatible with the surrounding land uses and will provide needed infrastructure for the delivery of electrical services to households and businesses in the area. Staff finds the proposed expansion of the utility substation on the subject site is supported by the land use and energy policies of the Revised General Plan.

Issues pertaining to site design are discussed below.

B. SITE DESIGN

1. Screening and Buffering

The Revised General Plan calls for non-residential uses to be compatible with desired development patterns and the rural landscape within the Transition Policy Area (Revised General Plan, Chapter 8, Community Design Policies, Policy 16). The proposed expansion of the existing NOVEC substation on the subject site will not significantly alter the visual impact or existing industrial character of the subject site which is adjoined by two existing utility substations and high-voltage overhead transmission corridors. The applicant has proposed a

25-foot wide vegetated Side and Rear Buffer Yards (Type 4) to the east, west, and south to screen the compound. The applicant has requested a modification to the required buffer to allow additional evergreens to replace the canopy trees and to allow an 8' instead of 6' fence. The utilization of evergreens and increase in the height of the proposed fence will provide additional screening and buffering for the facility. The modification of the required buffer yard is being processed through a Minor Special Exception (SPMI 2009-0010); staff supports the applicant's request.



View northeast of existing NOVEC utility substation from Lightridge Farm Road.

The applicant has not proposed a vegetated buffer for the existing compound adjoining Lightridge Farm Road which is also a subject of this application. Based on a review of the submitted drawings and a visit to the subject site while there does not appear to be sufficient area to provide plantings along the road frontage adjoining Lightridge Farm Road, the existing vegetation located on the sides of the compound could be supplemented to provide additional screening to be more in keeping with the requirements of the Zoning Ordinance.

Staff finds the design and visual impact of the proposed expanded equipment compound is in general conformance with Plan policies. Staff recommends that the applicant commit to the long-term maintenance and

care of the proposed fence and vegetated buffer to ensure that the proposed facility is adequately screened. Staff supports the request to modify the required buffer to allow additional evergreens to replace the canopy trees and to allow an 8' instead of 6' fence.

Staff requests that the applicant provide additional information regarding the provision of buffering along the side yards of the existing compound to better screen the facility from the roadway.

2. Lighting

The Revised General Plan promotes lighting standards that will “reduce light pollution such as glare, energy waste, light trespass, and the deterioration of the natural nighttime environment” (Revised General Plan, Lighting and Night Sky Policy 1, Chapter 5).

The applicant has not provided any information regarding lighting.

If any lighting is to be installed on site, staff recommends that it be downward-directed and fully-shielded, provide a glare-free environment, be confined to the site, and have illumination levels that are no greater than necessary for a light's intended purpose. All lighting should be mounted as low as practicable and designed to preclude light trespass onto adjoining properties, glare to passersby, skyglow, and deterioration of the nighttime environment.

C. COMMISSION PERMIT

The County will determine the need for new public facilities and will identify suitable sites based on the Revised General Plan, appropriate area plans, land use, and growth policies (Revised General Plan, Chapter 3, *General Public Facilities Policies, Policy 2*).

In accordance with the Revised 1993 Zoning Ordinance, a Commission Permit is required when a public utility or public service facility is constructed to determine if the general location, character, and extent of the proposed use is in substantial accord with the Comprehensive Plan. The area surrounding the proposed utility substation expansion already contains two existing utility substations and high-voltage overhead transmission corridor owned and operated by NOVEC and VEPCO. The proposed expansion of the existing substation will not significantly alter the character of the existing site, which is industrial in character and will provide additional infrastructure necessary to serve the existing and future electrical needs for the area.

Staff finds that the general location, character, and extent of the proposed utility substation expansion are in substantial accord with the

Comprehensive Plan. Staff supports the approval of a Commission Permit for the proposed use.

RECOMMENDATION

The use of the subject site and expansion of the existing utility substation is in conformance with the land use and energy policies of the Revised General Plan. However, additional information pertaining to the buffering and screening of the existing compound and proposed lighting for the subject site have been requested to further evaluate the application.

Staff is available to meet with the applicant to discuss these issues.

cc: Julie Pastor, AICP, Planning Director
Cindy Keegan, AICP, Program Manager, Community Planning – via e-mail