COUNTY BOARD OF APPEALS
For
MONTGOMERY COUNTY

Case No. S-235

PETITION OF THE POTOMAC ELECTRIC POWER COMPANY

NOTICE OF APPEAL

Notice is hereby given to parties to the above-entitled proceeding that the decision of the Board has been appealed to the Circuit Court for Montgomery County, Maryland, the appeal having been designated in that Court as Law No. 40527.

Notices mailed this 24th day of July, 1974, to:

Joseph B. Simpson, Jr., Esq.
Thomas E. O'Dea, Esq.
Richard W. Emory, Esq.
County Attorney
John Broda, Chief,
Development Review Division,
Montgomery County Planning Board
J. M. Beavers, Chief,
Construction Permits, Dept. of
Environmental Protection
W. B. Griffith, Chief,
Zoning & Licenses, Dept. of
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J. H. Light, Office Engineer,
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Dr. Roy P. Lindgren,
County Health Officer
Board of Education
State Highway Administration
Fire Marshal
Washington Suburban Sanitary Commission
Contiguous & confronting property owners
Town of Poolesville
Poolesville & Vicinity Citizens Assn.
Sugarloaf Citizens Assn.
Members, County Board of Appeals

County Board of Appeals

By (Mrs.) Dollie N. Lyte
Clerk to the Board

COUNTY BOARD OF APPEALS
For
MONTGOMERY COUNTY

Case No. S-235

PETITION OF THE POTOMAC ELECTRIC POWER COMPANY
(Hearings held October 4, 10, 17, 25,
November 28, December 12, 1973;
January 11 and February 7, 1974)

OPINION OF THE BOARD

Location and nature of request

The applicant, Potomac Electric Power Company, (hereinafter called PEPCO) requests a special exception to permit the construction and operation of an electric power generating plant and appurtenant structures having a height in excess of five stories or seventy feet in an I-2 Zone. The subject property consists of a tract of land containing approximately 1,002 acres, located on the Potomac River at the junction of Route 28 and Route 419 near Dickerson, in Poolesville, No. 3 Election District of Montgomery County, Maryland. The entire property is zoned I-2. All adjacent property is now zoned R-200 or R-E.

Dickerson #4 as proposed by the applicant would occupy approximately 120 acres of the 1,002 acre tract. Additional acreage is required for transmission towers, rail spurs and various storage facilities such as coal piles and augmentation ponds.

The present facility consists of three 183-megawatt coal-fired units and one 18-megawatt combustion turbine. The major units were put into operation in 1959, 1960 and 1962, respectively. The existing building is 147 feet high. There are two chimneys, each 400 feet high, one serving units #1 and #2, the second serving unit #3. PEPCO's amended application proposes to remove the two existing 400-foot chimneys, and replace them with a single 850-foot chimney to serve all three existing units.

PEPCO's plan for Dickerson #4 includes several large structures. As shown on Exhibit 25 (reading from southeast to northwest) the major elements are: a turbine building, approximately 150 feet above grade; a boiler house, approximately 269 feet above grade; a natural draft cooling tower, approximately 494 feet above grade; a chimney, approximately 850 feet above grade; and a fly ash silo approximately 138 feet above grade.

The Board held hearings on the proposed expansion on October 4, 10, 17 and 25, November 28 and December 12, 1973; and January 11

and February 7, 1974. The issues raised during these hearings involve the conflicts between the needs of a highly technological society and the citizens' increased awareness of environmental considerations. In this regard, the participants in the hearings, attorneys and witnesses alike, were skilled in eliciting or producing the necessary technical and scientific information.

Decision of the Board: to grant, as conditioned herein.

Requirements of the Zoning Ordinance

Public utility uses are permitted as a matter of right in an I-2 Zone in certain circumstances. When the public utility building or structure has a height in excess of five stories or 70 feet, however, a special exception is required.[1] This is a legislative determination that a generating station which exceeds five stories or 70 feet is a structure so different in kind from smaller plants that it becomes a special exception use and must, therefore, as a whole meet both the general and specific requirements for that type of special exception as set forth in Section 59-123 and 59-164 of the Zoning Ordinance. Moreover, not only that portion of the proposed new structures over 70 feet in height are to be considered, but the entire project, including management of the site, is subject to the Board's consideration. To read the Ordinance otherwise would defeat the obvious legislative intent of the Zoning Ordinance and the clear wording of Section 59-61.

THE GENERATING PLANT

On September 17, 1973, the Maryland Public Service Commission issued a Certificate of Public Convenience and Necessity authorizing PEPCO to construct, subject to specified conditions, one 847-megawatt fossil-fueled electric generating unit and appurtenant facilities on its site at Dickerson.[2] That decision was based upon a finding of need to meet present and future demands for electric service, and upon consideration of such diverse factors as the effect on the PEPCO system's stability and reliability, economics, aesthetics, preservation of historic sites, protection of air and water quality, and aviation safety. The Public Service Commission also considered recommendations of various State agencies as enumerated in Section 54B of Article 78 of the Maryland Code, the Public Service Commission statute. In brief, the Public Service Commission

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1. Montgomery County Zoning Ordinance, Section 59-61.(b).
2. Exhibit 10a and 10b.

found that construction of one 847-megawatt unit and appurtenant facilities, as an addition to PEPCO's existing generating plant located near Dickerson, was in the public interest, and that a Certificate of Public Convenience and Necessity was to be issued for the construction thereof, subject to conditions contained in the Order.

To avoid undue repetition, specific aspects of the proposed generating station will be considered under the appropriate specific and general requirements of the Zoning Ordinance which the applicant must satisfy.

NECESSITY

Section 59-164.(a) of the Zoning Ordinance requires the Board of Appeals to find that the "proposed building or structure at the location selected is necessary for public convenience and service." PEPCO applied to the Public Service Commission for authorization for two 800-megawatt generating units to be built at the Dickerson site. The question of "need" was a central issue throughout that extensive 15-day hearing process.[3] In fact, based upon the opposition's testimony regarding projected demand and need for electric power, approval of the second proposed unit (Dickerson #5) was deferred by the Public Service Commission. Although this Board must find that Dickerson #4 is necessary at the location selected, the extensive examination conducted by the Public Service Commission, together with stipulations of both parties before this Board that there is a need for 800 megawatts of additional generating capacity on the PEPCO system [4] give rise to a rebuttable presumption of need.

PEPCO has six generating plants on its system.[5] By June, 1975, without the new Dickerson plant, 57% of PEPCO's total generating capacity would be located in southern Maryland (Prince George's County and Charles County); 30% of such capacity in the District of Columbia and Virginia; 2.9% (the applicant's share of a plant) in Pennsylvania; and 9.7% in Montgomery County. Montgomery County, on the other hand, would consume approximately 27% of the total energy output.[6] If the proposed Unit #4 were installed at Dickerson, then 21% of PEPCO's total

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3. Exhibit 10A, Public Service Commission Hearing Examiner's report.
4. Transcript, pp. 58-59.
5. Exhibit 27, a map of PEPCO system.
6. Transcript, pp. 231-232.

capacity would be generated in Montgomery County, when such unit went into operation.[7] According to PEPCO's Vice-President for Electrical Engineering, Mr. Edward F. Mitchell, it is of critical importance to locate the unit at Dickerson to maintain balance between the northern and southern portions of the applicant's system.[8] Without such balance, which would be provided by locating additional generating capacity at Dickerson, it would be necessary to construct additional high voltage transmission lines through densely populated areas to bring the power from generating plants in the southern portion of the system north to Montgomery County.[9]

Accepting that additional generating capacity should be placed in the northern part of PEPCO's system, we must determine why the Dickerson site itself was selected.

Mr. Mitchell stated that Dickerson was chosen for the following reasons:

The PEPCO site is already zoned I-2 for heavy industrial use; generating facilities already exist at the site; railroad lines already serve the site so that no major new rail rights-of-way would be required; sufficient water is available; at this site, the applicant can meet all environmental standards and conditions imposed by various State, Federal and local entities; no new transmission rights-of-way would be required, although some existing lines would have to be heavied up; the area is sparsely populated; and this will be the only generating site required in Montgomery County.[10]

The opposition originally stipulated that PEPCO "needs" one additional 800-megawatt plant on the PEPCO system.[11] During the latter stages of the hearing, the opposition introduced evidence of a decrease in electric power consumption in late 1973 and early 1974, and questioned whether this did not indicate a lack of need for additional generating capacity. In 1972, PEPCO had forecast consumption at 1,065,741 mw hours for November and 1,099,097 mw hours for December, 1972. Actual consumption was 1,049,458 and 1,038,224, respectively.[12] PEPCO had forecast 1,132,110 for November, 1973 and 1,147,544 for December, 1973. Actual

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7. Once ground is broken, it will be approximately 36 months before Dickerson #4 would go on line; transcript, p. 19.
8. Transcript, p. 232.
9. Ibid.
10. The proposed Dickerson #5 has been removed from the 10-year plan on file with the Public Service Commission (Transcript, pp. 235-236; p. 1430).
11. Transcript, p. 58.
12. Exhibit 71.

consumption for November and December,1973, was 1,101,170 and 999,226, respectively.[13] These projections were made approximately 14 months prior to the actual experience. Although sales of electricity were lower than projected consumption, this does not, as was explained in the Public Service Commission order and report,[14] in itself, show a lack of need projected over the coming decade, considering all variable factors, including anticipated growth in the Washington Metropolitan area. Therefore, the Board finds this new evidence insufficient to contravene the Public Service Commission's finding of need for one additional generating unit.

The opposition stresses, as indicated by Exhibit 64, that PEPCO, especially in the last few years, has been a significant net exporter of power. The applicant, in fact, did not consider the possible alternative of purchasing power from other power companies to meet summertime peak demands.[15] The opposition thus concludes that there is less need for additional generating capacity at this time. We do not accept this argument for two reasons. First, both parties have stipulated a need for additional generating capacity on the PEPCO system.[16] Second, for PEPCO to rely on purchasing power from the PJM grid to meet PEPCO's peak demand purposes involves a risk that the PJM grid may not have excess power to sell at such a time, because those companies may be experiencing conditions similar to those causing PEPCO's peak demand. In reaching its decision to build additional generating capacity, therefore, PEPCO chose not to rely on imports of power to meet anticipated peak seasonal demands.[17]

The presumption of need on the PEPCO system has,therefore,not been rebutted, especially in light of the extensive hearings and expertise of the Public Service Commission.

Other alternative sites for additional generating capacity in the southern portion of the PEPCO system were not seriously studied, since this would involve further problems in building new high voltage transmission lines, with unfavorable impacts on other counties. The 500-KV loop, when and if completed, might overcome some problems, but further difficulties in system stability would remain.

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13. Ibid.
14. Exhibits 10A and 10B.
15. Transcript, p. 1154.
16. Transcript, pp. 58; 220-221.
17. Transcript, p. 1160.
18. Transcript, pp. 1120-1136.

The Board, therefore, concludes that the proposed facility is necessary at the location selected.

As an introduction to the more specific requirements of Sections 59-123 and 59-164 of the Zoning Ordinance, a few general comments are in order. The present application is like none other that has come before this Board, and in all likelihood will be the last of its kind.[19] The applicant is required by Section 59-123(b) to come forward with evidence, and carry the burden of persuasion on all questions of fact which can be determined by the Board. In this age of changing technology, and with the very purpose of improving performance and insuring public health and safety, decisions at any given point in time are subject to amendment to take advantage of new technology. For example, the Public Service Commission's Order sets forth certain areas of continuing jurisdiction.[20] Section 59-124 empowers the Board to add specific conditions to those enumerated in the Ordinance, which "it may deem necessary to protect adjoining properties in the general neighborhood and the residents, workers and visitors therein." Various questions have been raised as to whether a specific technique or process can actually perform as it is designed to perform. The Board, in the relevant context, may impose a condition and, based on evidence that that condition can be met, find that the proposed use will then satisfy the requirements of the Zoning Ordinance. In no other way can this Board reach rational decisions, taking into account the rapidly changing nature and state of the art of technology. To hold otherwise would impose impossible burdens upon applicants who may have no control over changing technology.[21]

WILL THE PROPOSED USE BE CONSISTENT WITH THE GENERAL PLAN FOR THE PHYSICAL DEVELOPMENT OF THE DISTRICT, INCLUDING ANY MASTER PLAN OR PORTION THEREOF ADOPTED BY THE COMMISSION ?

Since no area Master Plan has been adopted covering this portion of the County, the controlling document is the General Plan, "On Wedges and Corridors", the General Plan for the Maryland-Washington Regional District, adopted 1964, reviewed and updated 1969.

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19. The Maryland Power Plant Siting Act, as amended, effective July 1, 1974, Sec. 3-305(d) and 3-306.1 vests authority to certify as suitable sites for construction of electric power generating facilities in the Secretary of Natural Resources and provides that approval by local Boards of Zoning Appeals will no longer be required.
20. Exhibit 10A and 10B.
21. The standard of proof which the Board must consider is the civil standard of "by a preponderance of the evidence," rather than the criminal standard of "beyond a reasonable doubt."

The General Plan indicates the location of the PEPCO power generating facility (Figure 2, Water, Gas and Electricity), but does not refer to the expansion of the generating facility. The summary map, A General Plan, Montgomery and Prince George's Counties, December, 1969, indicates the location of the existing PEPCO generating facility, but does not propose industrial or utility use for PEPCO land or the surrounding area.

The applicant claims that the proposed plant expansion is consistent with the General Plan because it will be located on a site already zoned for heavy industrial use (I-2); and, moreover, that the proposed construction will be limited to a small proportion of the total site, in effect, creating its own neighborhood. The applicant further contends that the site was zoned I-2 in 1956, before the adoption of the General Plan; that the site was so zoned by the County Council with the understanding that additional electric generating capacity might well be needed in the future; and that the General Plan adopted by the County in 1964, and the updated version adopted in 1970, include maps indicating the 1000 acre site zoned I-2. The opposition argues[22] that the proposed use not only is inconsistent with the General Plan, "that it conflicts with sound planning principles and that it will generate heavy pressure for further development of this rural area." They contend that the site was "spot-zoned" in 1956 "under the most questionable of circumstances," and that the I-2 zoning of the subject site is the sole departure from the objectives enumerated in the General Plan regarding treatment of "wedge areas": "to avoid the intrusion of a mixture of conflicting land uses into agricultural areas; to preserve natural, historic and scenic features of the area; and to provide an aesthetic and healthful environment for present and future generations.[23] The opposition acknowledges, however, that the existing plant has not caused any major changes in land use in the area.

Findings

Section 59-164(a) of the Zoning Ordinance provides that a public utility building or public utility structure may be allowed by special exception "in any zone" where the Boards finds that:

(1) The proposed building or structure at the location selected is necessary for public convenience and service, and

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22. Brief, Sugarloaf Citizens Association.
23. General Plan, December 1969, pp. 16-24

(2) The proposed building or structure at the location selected will not endanger the health and safety of workers and residents in the community and will not substantially impair or prove detrimental to neighboring properties.

Since the Ordinance permits such structures as special exceptions "in any zone," the Board concludes that such structures are by legislative act not necessarily inconsistent with the General Plan.

The circumstances surrounding the original I-2 zoning of the subject site are immaterial to the Board's considerations in this application. The fact is that the I-2 zoning exists, and is indicated on the General Plan map. Since there has never been a single application for industrial or commercial re-zoning in this area since the PEPCO site was re-zoned in 1956, the Board finds no substance to the argument that the proposed plant expansion will generate pressure for further industrial development.[24]

The most compelling arguments supporting a finding that the proposed use is consistent with the General Plan, however, are to be found in the report of the Montgomery County Planning Board.[25]

The Planning Board is the County Council's principal advisor on matters of land use planning and zoning policy, and is charged by law with responsibility for preparing Master Plans for approval by the Council. The Planning Board and its staff advise the Board of Appeals on land use policy implications of applications for Special Exceptions. In its report on the PEPCO application, the Planning Board concludes that the PEPCO request "should be reviewed as a public utility and not as an industrial use." The Board notes that the PEPCO facility does have some characteristics and impacts similar to those of an industrial use; however, it notes "these impacts must be balanced against the public need and the public benefits of this type utility. Because this utility is regulated by the Public Service Commission, conditions specifying protection from adverse impacts to the public can be specified as a condition of approval." The Planning Board's report continues,

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24. The Board notes that all portions of the PEPCO property not required for the proposed generating facility, and all of the adjacent surrounding area, has been recommended by the Montgomery County Planning Board for re-zoning to the 5-acre Rural Zone. Such rezoning would in effect foreclose further industrial or commercial development.
25. Exhibit 49B-49C, Montgomery County Planning Board Staff Report, October 5, 1973, pp. 17-19.

"In the 1964 Wedges and Corridors, one of the four categories of 'major uses permitted and encouraged' in the rural wedge area is listed as follows:

'Miscellaneous uses on large sites, including kennels, hospitals, sanitariums, nursing homes, child care homes, public utilities, airports, cemeteries, and institutional uses.'

"Accordingly, the PEPCO power generating facility as a public facility is not inconsistent with the intent for development in the rural wedge area of the county.

"Expansion of the existing PEPCO facility must be evaluated on the basis of whether the expanded facility will significantly affect the intent of the rural, agricultural objectives suggested for the Wedge area in the General Plan.

"Change in the Area

"It has been argued that the 1,000 acres of I-2 land should not have been rezoned to I-2 in 1955-56. Nevertheless, this area was rezoned and has already been developed as a power generating facility and the existence of rail spurs, power lines, and proximity to fuel sources, clearly make this area suitable as a public utility area.

"If the current PEPCO expansion plans are approved, most of the area currently zoned I-2 will be utilized for similar type of public utility use. Some of the most significant concerns of the expanded facility deal more with the aesthetic appeal of tall smoke stacks and bulky cooling towers, as well as the question of public health related to possible air quality deterioration due to the expanded facilities. These concerns are addressed elsewhere in this analysis. While these are important concerns, they are tangential to the question of change in the general character of the area. It is believed that this expanded facility would not constitute a 'change' in the area since the character of the area is already established by the existing facility."[26]

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26. Ibid.

WILL THE PROPOSED USE BE IN HARMONY WITH THE GENERAL CHARACTER OF THE NEIGHBORHOOD CONSIDERING POPULATION DENSITY, DESIGN, SCALE AND BULK OF ANY PROPOSED NEW STRUCTURES, INTENSITY AND CHARACTER OF ACTIVITY, TRAFFIC AND PARKING CONDITIONS AND NUMBER OF SIMILAR USES?

The Board feels that the question of "harmony" is largely an aesthetic issue, and a subjective judgment upon which reasonable persons may differ. In considering the bulk and scale of the proposed structure, we must acknowledge that it could never be literally harmonious with any surroundings unless it were set in the midst of similar structures. The Board must attempt to reach a balanced judgment, however, in accord with the legislative intent of the Ordinance.

Considering harmony in terms of population density of the surrounding area, the Board concludes that a facility such as the applicant proposes would, in fact, be more in harmony in the low density area surrounding the PEPCO site than in a densely populated urban or suburban area.

The design, scale and bulk of the proposed structures must be judged in terms of their visual impact on surrounding areas. These structures would be readily visible from many points in Montgomery County and from areas of neighboring Frederick County and Virginia as well. The opposition expressed particular concern that the large PEPCO structures would adversely affect the views from historic and parkland areas along the C & O Canal, particularly near the Monocacy Aqueduct, and from the recreation area at Sugarloaf Mountain in Frederick County.

In this context, it is important to determine whether, in fact, it is necessary for the proposed structures to be of such large scale and bulk. The Zoning Ordinance permits, as a matter of right, a power plant with structures less than 70 feet high, but the applicant has testified, without contradiction, that it is impossible to build a modern generating facility under 70 feet in height. The applicant testified that all components have been designed to minimum dimensions consistent with requirements for a modern electric generating plant, including standards for safety and mechanical convenience, and health and environmental standards imposed by the Public Service Commission. For example, the boiler house is, in fact, the minimum size necessary to enclose the boiler and the nitrogen oxide pollution reduction equipment. The turbine room, housing the turbines and condensors, requires adequate height clearance to allow for operation of cranes which might be required to remove heavy equipment for repairs. The chimney is designed to a height of 850 feet primarily to enable the facility to meet air quality standards imposed by the Public Service Commission for reduced ground-level concentrations of particulates, sulfur dioxides, nitrogen oxides and fluorides. The cooling tower, which functions to reduce thermal pollution of the Potomac River and to reduce consumptive water loss from the river may be reduced in bulk by use of the mechanical wet-dry cells which do not exceed 70 feet in height, as contrasted with the 400-foot height of the proposed natural draft tower.

A study of the visual impact of the proposed plant conducted by the Johns Hopkins University Applied Physics Laboratory declined to make a judgment on the aesthetic qualities of the proposed plant, but noted that the facilities were designed to comply with environmental standards for stack gas dispersion and reduced thermal pollution of the Potomac.

In considering means to limit or ameliorate the visual impact of the large scale of the expanded plant facility, the Board studied a number of proposals put forward by the opposition. They had suggested that visual impact could be reduced by using mechanical draft rather than natural draft cooling towers as proposed by the applicant. After studying these alternatives, the Board concluded that a mechanical draft cooling tower system would, in fact, have a lower profile, since the cooling towers would be only 70 to 80 feet above ground level. The mechanical draft cooling tower system would require construction of a series of some 32 structures each 70-80 feet high and 38 feet in diameter, according to the January, 1974, Addendum to the Power Plant Site Evaluation Report. The citizens of the area and the Planning Board and staff considered this system more aesthetically pleasing than the bulky profile of the natural draft cooling tower proposed by the applicant. The site is large enough for construction of the mechanical draft wet-dry system.

The opposition also suggested that a portion of the power plant be placed under ground. Even if this proposal were technically and technologically feasible at this location (a point which the applicant disputes), the Board feels that the consequent relatively slight lowering of the profile would not be worth the additional effort and cost involved.

The Board also considered the opposition's proposal to funnel all stack gases from the existing as well as the proposed plant through a single 850-foot-high chimney, rather than having two chimneys as the applicant proposes. The applicant testified that this could be done, but it would require a large, bulky, above-ground tunnel connecting the existing plant with the new chimney on a higher elevation. It would be literally impossible to screen this large tunnel structure, which would have to be at a height above ground sufficient to allow for clearance of railroad cars passing beneath. The Board concludes that, although it is technically feasible to build such a tunnel to combine all stack gases into one chimney, the visual impact of the large connecting tunnel would be more undesirable than the two-stack solution proposed by the applicant.

The Board acknowledges that there is no way that the proposed plant can be completely screened from all sides by landscape planting. In considering the visual impact of the proposed structures, however, the Board concludes that the areas most significantly affected would be

the C & O Canal towpath and the Sugarloaf Mountain recreation area. With regard to the Canal, the Board notes that the plant will affect only a small segment of its 180-mile length, and that, with few exceptions, the enlarged plant will not be visible from any portion of the towpath from which the existing plant is not now visible. All Members of the Board visited the plant site and, accompanied by representatives of both the applicant and the opposition, walked along the Canal towpath adjacent to the plant on a winter day when the trees were bare of leaves. We observed that the contour of the hill from the towpath to the plant site helps shield the view, and we believe that additional landscape screening, as recommended by the Planning Board and provided in the conditions attached herewith, will help shield the view of pedestrians along the towpath.

As for the vista from Sugarloaf Mountain, the Board concludes that the enlarged plant would be readily visible, but that it would be an increase in degree and not a difference in kind as the opposition asserts. Other small industrial facilities are, in fact, visible from Sugarloaf Mountain. Moreover, the view toward the Dickerson site is only a portion of the sweeping 360-degree vista from Sugarloaf.

Finally, the Board cites its November, 1973, opinion in Case Nos. S-213 and S-214, concerning the application of the Potomac Electric Power Company for a special exception to build an electric sub-station and a 500 kilovolt double-circuit power transmission line. In considering the visual impact of the transmission lines, the Board concluded, "the inescapable fact is that towers and lines of a 500 KV transmission system are not a pleasant sight. Calling a transmission tower 'aesthetic' is somewhat like calling an army tank 'beautiful'. In other words, this Board believes transmission towers and lines are inescapable eyesores...An unpleasant view, however, is not the same thing as 'detrimental to use or development'."[27]

The opinion continues with specific regard to the question of harmony of the proposed substation with the general character of the neighborhood. The Board states, "a sub-station, naked or adorned, cannot be in harmony with the general character of any neighborhood other than a heavily industrial one. No such neighborhood is near. However, substations do exist in residential and agricultural neighborhoods because they are necessary there and are legislatively allowed. A public utility use can be distinguished from a purely industrial use."[28] (Emphasis added).

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27. County Board of Appeals for Montgomery County, Case Nos. S-213 and S-214, pp. 17-18.
28. Ibid, p. 21.

WILL THE PROPOSED USE BE DETRIMENTAL TO THE USE, PEACEFUL ENJOYMENT, ECONOMIC VALUE, OR DEVELOPMENT OF SURROUNDING PROPERTIES OR THE GENERAL NEIGHBORHOOD; OR CAUSE OBJECTIONABLE NOISE, VIBRATIONS, FUMES, ODORS, DUST, GLARE OR PHYSICAL ACTIVITY?

WILL THE PROPOSED USE HAVE DETRIMENTAL EFFECT ON VEHICULAR OR PEDESTRIAN TRAFFIC; OR ADVERSELY AFFECT THE HEALTH, SAFETY, SECURITY, MORALS OR GENERAL WELFARE OF RESIDENTS, VISITORS OR WORKERS IN THE AREA?

WILL THE PROPOSED USE, IN CONJUNCTION WITH EXISING DEVELOPMENT IN THE AREA AND DEVELOPMENT PERMITTED UNDER EXISTING ZONING, OVERBURDEN EXISTING PUBLIC SERVICES AND FACILITIES, INCLUDING SCHOOLS, POLICE AND FIRE PROTECTION, WATER, SANITARY SEWER, PUBLIC ROADS, STORM DRAINAGE AND OTHER PUBLIC IMPROVEMENTS?

The Board finds the most significant issues in this application bearing on the foregoing questions to be traffic, noise, air and water quality, water management and sedimentation control. Most of these issues were thoroughly debated in the hearings before the Public Service Commission; however, the Zoning Ordinance also requires the Board of Appeals to consider many of these same matters. We shall consider each in turn.

TRAFFIC

The proposed plant expansion admittedly will generate additional vehicular traffic. The extent and nature of the increase depends to a significant degree on the methods used by PEPCO to transport coal, oil, and other needed materials to the site, and to dispose of wastes off-site.

The present plant employs a total workforce of 100 to 110 employees, with a maximum of 50 on any one shift. Dickerson unit #4 would require 100 to 120 additional employees, making a total workforce of some 200 to 230 employees, with a maximum of approximately 100 on any one shift. Thus, the permanent workforce will be relatively small in relation to the size of the site, and as compared to other industrial or commercial uses. After construction is completed, the proposed temporary 1000-space parking lot will be reduced to 100 spaces.

A study by the Johns Hopkins University Applied Physics Laboratory concludes that it is very difficult to estimate quantitatively the traffic impact of the construction and operation of the proposed plant expansion. This study shows that the existing access road to the Dickerson site carries an average of 585 vehicles daily on weekdays with peak-hour averages of 126 vehicles per hour. The weekend daily average is 250

vehicles, with a peak-hour load of 39.[29] The Board compared existing plant traffic with estimates of added traffic flows that would be generated by the expanded plant facility. For example, 30 to 40 daily truckloads are required to haul away fly ash residue from the existing plant. Fly ash removal from the proposed expanded plant would require an average of approximately 85 truckloads per day. Fuel oil used to stabilize the flame in the boilers is currently carried to the site by truck. Approximately 50,000 gallons of oil is required daily; using tank trucks with a capacity of 5,000 gallons, this requires an average of 10 large tank trucks per day. Assuming fuel oil needs will increase in proportion to increased generating capacity, and assuming use of similar tank trucks, about 25 tank trucks per day will be required for the expanded plant.[30] While the prototype scrubber on Dickerson #3 requires approximately 32 to 33 tons, or 7 truckloads per day of magnesium oxide, Dickerson #4 would require approximately 300 tons per day of magnesium oxide.[31]

All public roads within approximately 8 miles of the PEPCO site are paved macadam, two-lane width. Curves and gradients are above average, and shoulder widths are below average.[32] Speed limits on Maryland State Route 28 range from 30 to 50 miles per hour, and on Mt. Ephraim Road from 30 to 40 miles per hour. Passing opportunities on the routes near the PEPCO plant are extremely limited; for example, within the 13.8 mile segment of Route 28 from Quince Orchard Road to the intersection with Martinsburg Road, approximately 25% is marked by double yellow lines indicating no passing permitted; 73% allows passing in one direction only, and only 2% of the distance is a "free passing zone" in both directions.[33]

Although traffic on roads surrounding the PEPCO plant is expected to increase significantly in coming years regardless of the proposed PEPCO expansion, (10.5% estimated increase 1973 to 1975 on Route 28 south of Dickerson), no highway improvements are planned or programmed through fiscal year 1984.[34]

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29. Exhibit 77, Johns Hopkins University Applied Physics Laboratory, Power Plant Site Evaluation Report, Dickerson Site, January 1974, p. 9-3,
30. Ibid., p. 9-6.
31. Transcript, pp. 702-704. (The Board notes that these figures are substantially higher than those represented by the applicant. PEPCO's representative testified that 7 trucks are used for the existing plant, and only 5 additional trucks would be required for unit #4).
32. Exhibit 42.
33. Exhibit 42.
34. Exhibit 52.

Accident statistics for 1970-71 for the two intersections in the Dickerson area indicate that these intersections are hazardous. There is no stop sign at the intersection of Route 28 and the Martinsburg Road. Most accidents have been single vehicle accidents where loss of control and skidding have been the primary cause.[35] Even if PEPCO's trucks travel during off-peak hours, conflicts will occur with the increasing traffic of suburban business and recreational vehicles.

Overall, safety hazards and dangers to property and human life could, without adequate controls and safeguards, be significantly increased by the proposed plant expansion, thereby adversely affecting residents, workers, and tourists alike.

The Board finds that the character of increased traffic generated by PEPCO will probably differ from that generated by rural residents and farms. Without conditions imposing adequate safeguards, the proposed development might overburden existing roads, particularly those providing access to the subject site from Interstate 70-S along Route 28.

The Board concludes that it can grant this special exception only on condition that rail haul will be used for all deliveries of major supplies, including coal, fuel oil and magnesium oxide, and for the removal of fly ash and scrubber residues. A rail line now serves the site. The Public Service Commission has instructed PEPCO to study possibilities of increased use of rail transport, particularly for hauling fly ash, and PEPCO has represented that it is inquiring into this possibility. If additional rail equipment is needed, PEPCO must take responsibility for placing timely orders to assure that all needed equipment will be available for use when Dickerson #4 is ready to operate.

Given full compliance with all conditions hereby imposed by the Board governing the transportation of various materials related to the power plant, the Board finds that traffic generated by the proposed facility will not adversely affect the area within the meaning of any of the above-quoted provisions of the Zoning Ordinance.

NOISE

In determining whether the application complies with requirements barring emission of objectionable noise or vibrations, the Board considered both the noise emitted by the existing facilities, and that

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35. Transcript, pp. 598-599.

anticipated to be emitted by an expanded plant. There is no question but that the expanded facility at Dickerson will add to the acoustical environment surrounding the plant.[36] The Board received extensive testimony in the following areas:

1. The existing ambient noise levels surrounding the plant;

2. The amount of noise that would be likely to be emitted by major plant components;

3. Noise levels beyond the properties of the PEPCO property;

4. The possibility of annoyance;

5. The application of noise abatement techniques and technology (see, for example, Applied Physics Laboratory study, January, 1974, page 6-1.).

Thanks to the size of the PEPCO property and the location of the plant, itself, more than 3,000 feet from the nearest neighboring property (except along the Potomac River), noise emitted by the existing plant cannot be heard beyond the boundaries of the PEPCO site, except in the area of the C & O Canal bordering the plant site. The Canal is a scenic and historical landmark of significant importance to the nation as well as to Montgomery County. Unfortunately, because of the proximity of the plant to the Canal, noise will be audible on the small segment of the Canal adjacent to the plant.

The applicant testified that it, too, is concerned about the potential adverse effects of noise upon people using the Canal towpath within hearing distance of the plant. PEPCO spokesmen stated that the company has the technology to reduce significantly the level of noise generated by the existing plant, and to limit noise emissions from the proposed plant to acceptable levels. Addition of sound attenuating enclosures to both the existing and the proposed plants will reduce noise levels on the towpath from 60 DBA to 45 DBA as required by the Public Service Commission.[37] Applicant stated that it is able and willing

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36. Ambient noise measurements at points surrounding the proposed Dickerson facilities were made in the spring and summer of 1973 by the Johns Hopkins University Applied Physics Laboratory. The results of that survey are contained in Exhibit 77, op. cit., Chap. 6.
37. Applicant's witness, Mr. Robert Hoover, testified that the major sources of noise in the existing plant are the transformers and ventilation louvers in the turbine hall.

to meet this condition. Additionally, there was testimony that the slope of the terrain, as well as the proposed landscape screening between the plant and the Canal, will help to reduce the noise level in this area.[38]

The opposition testified that they feared that noise emitted by the applicant's facility will have a detrimental effect upon the use and enjoyment of the Canal. The Board recalls in passing that when the Members inspected the site and walked along the towpath immediately adjacent to the plant, we noted that one could maintain a normal conversation and could hear the sounds of birds. The Board did hear objectionable noises emitted by a so-called "squawker", used to communicate between the water intake structure and the plant.

The Board, after careful consideration of the testimony presented, finds the following:

(1) That there already exists a plant which causes noise which intrudes upon the Canal towpath adjacent to the plant site;

(2) That noise from both the existing and proposed plants will be attenuated by acoustical treatment and appropriate landscape screening;

(3) That addition of such acoustical equipment to the existing and proposed plants will cause less noise to be emitted from the total expanded facility than is currently emitted by the existing plant.

Moreover, the Board notes that the C & O Canal is approximately 180 miles long, and that only a small portion of the Canal will be affected by noise from this facility. The Board finds that the limited intrusion of noise along this short distance (approximately three-quarters of a mile of the entire 180-mile Canal) will not substantially affect use and enjoyment of the Canal. The Board thus concludes that if the applicant meets conditions imposed by both the Board and the Public Service Commission, that the noise created will not be objectionable.

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38. Mr. J. Patrick Reilly, member of the senior staff of the Applied Physics Laboratory and an expert in the field of acoustics, testified that, in his opinion, the proposed plant addition can meet the Public Service Commission's condition limiting noise levels to 45 DBA along the C & O Canal adjacent to the proposed plant.

AIR QUALITY

Sulphur dioxide is the principal air contaminant emitted from the plant chimneys. The existing plant is presently not in compliance with the Maryland Area IV air quality standards.

With the approval of the State Bureau of Air Quality Control, PEPCO has developed a plan to implement those standards. In addition, PEPCO must meet condition #13 of the Public Service Commission, requiring that maximum ground level concentrations of particulate matter be no more than 50% of the ambient air quality standard. To meet this condition, the applicant proposes to construct, an 850-foot high chimney for unit #4; to replace the two 400-foot-high chimneys serving the existing plant with a single new 850-foot stack; to install an electrostatic precipitator which will operate at 99% efficiency; and to install a scrubber system which will operate at 90% efficiency. The applicant testified that installation of this equipment will enable it to meet conditions imposed by the Public Service Commission as well as all State and Federal standards.[39]

The applicant's expert testimony stated that the scrubbers installed in the new plant and retrofitted on the existing plant should work at their designed capacity to remove 90% of the sulphur dioxide.[40] The net effect will be to reduce total emissions from the entire complex to a level below that of the existing plant.

COOLING TOWER AND POTOMAC RIVER WATER TEMPERATURE

The cooling tower system, which reduces the temperature of water used in the plant before it is returned to the Potomac River, emits a plume of water vapor into the atmosphere. This "drift" or moisture from the cooling tower will fall to earth entirely on PEPCO's property.[41]

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39. a) By way of illustration, present particulate emissions from the plant total some 1,320 pounds per hour after precipitating (Transcript, p. 972; p. 1196). When additional control devices are in full operation on Dickerson units #1, #2, #3 and #4, the total plant emissions of fly ash will be less than 200 pounds per hour.
    b) As of the writing of this opinion, both the State of Maryland and the Federal Government have filed suit against PEPCO for failing to comply with Area IV ambient air quality standards.
40. The scrubber is designed to operate at 90% efficiency. PEPCO will use what is described as a recoverable system. In this process, magnesium oxide "catches" sulphur dioxide, converting it into elements which can be recycled through a calcinating plant to produce sulphuric acid which can be reused.
41. Transcript, pp. 149-152.

Although the cooling tower emissions do not appear to create an air quality problem, concern was expressed regarding the visibility of the plume.

The technical aspects of drift, meteorological conditions and other effects of the plume were extensively discussed and analyzed in the Applied Physics Laboratory Power Plant Siting studies. The Board does not consider the impact of the plume detrimental in either a visual or physical sense to the surrounding community, or to the use or enjoyment of surrounding property. Due to varying meteorological conditions and the relatively infrequent occurance of a visible plume, the impact will be minimal.[42]

The natural draft cooling tower proposed by the applicant would be 400 feet high, with a base diameter of 375 feet and a top diameter of 180 feet. The bulk and scale of this tower were the primary reasons for consideration of an alternative cooling system known as mechanical draft wet-dry towers using a parallel-path design.[43] Structures for this system can be much lower than natural draft towers, and the plume generally remains much closer to the ground.[44] As a result, plumes tend to occur

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42. Exhibit 77, Johns Hopkins University, Applied Physics Laboratory, January, 1974, p. 4-3.
43. Mechanical draft towers are short structures which use fans to propel the moist plume upward, carrying the waste heat into the air. Each fan compartment is referred to as a cell; each connected group of cells is called a bank. In wet-dry towers, dry heat exchange surface is added to the cell to reduce evaporation in order to reduce or abate the length of the visible plume and reduce other effects associated with the moist plume. A parallel-path design means that different parcels of ambient air are drawn concurrently through a wet heat exchange section and through a dry heat exchange section, and then mixed, rather than first through one section and then the other as would be the case with a serial path design.
44. The Applied Physics Laboratory considered four alternate designs of mechanical draft wet-dry towers, ranging from 26-cell designs to 50-cell designs. Each cell is approximately 70 feet high, 38 feet long, and 67 feet wide; the bank resembles a series of gasoline storage tanks. The Applied Physics Laboratory concluded that a bank of 32 cells was the preferred arrangement to serve the proposed plant expansion.

and be visible at low elevations; they may induce spotty ground-level fog and icing in the vicinity of the towers.

The applicant urges that the natural draft system is preferable because it requires less electric power from the plant for its operation, causes less noise, and costs less to construct and to operate. Moreover, the public utility industry has had much more operating experience with the natural draft than with the mechanical draft wet-dry system. The Power Plant Siting Evaluation Report, January 1974, p. 4-3, found that the wet-dry system might cause occasional icing on site near the cells and, occasionally,a small amount of off-site ground level fog. The Board, however, considers the disadvantages of the wet-dry cooling system to be slight in comparison with the advantage of elimination of off-site visual impact.

WATER CONSUMPTION AND WATER TEMPERATURE

A discussion of cooling towers necessarily raises issues regarding water quality and consumption. The existing generating units at the Dickerson site use a once-through cooling system. This requires withdrawing approximately 635 cubic feet of river water per second ("cfs"), utilizing this water in the boilers to create steam, and returning the remaining water to the river via a discharge canal.[45] The proposed generating plant would withdraw water from the existing discharge canal (not from the Potomac River) for use in the cooling tower (as "make-up") and the scrubbers.[46] Evaporation from proposed plant operations will cause a consumptive loss of water of less than 22 cfs.[47] The "blowdown" is held in a retention pond for at least 24 hours and the cooled water is returned to the existing discharge canal. Due to disparity in volumes between the water discharged from the existing plant and that returned to the discharge canal from the proposed plant, the cumulative temperature impact on the Potomac from the total expanded plant operation will be reduced only very slightly, by an estimated 0.2 degrees Fahrenheit.[48]

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45. Exhibit 59.
46. In cooling tower operation, the evaporation of water leaves behind minerals which were dissolved in the water. This causes the concentration of these minerals in the circulating water to be increased. To prevent excessive mineral concentrations in the circulating water, some of the circulating water must be discharged (called blowdown) and new water (called makeup) added to the tower in an amount equal to the total of the water evaporated and the water discharged.
47. Exhibit 59.
48. The existing discharge canal carries 635 cubic feet per second of water which is approximately 17°F. hotter than the river. Since the proposed expansion will withdraw only 29 cfs and return only 8 cfs, the cumulative reduction in the temperature of the water in the discharge canal is minimal. (See Exhibit 59 and Transcript, p. 1186).

The once-through cooling water cycle of the existing plant raises the temperature of water discharged into the Potomac 17 degrees above the temperature of the water withdrawn from the river. Operation of the proposed new cooling towers therefore, will have little or no effect on the thermal character of the discharge.[49] Under current State law, the temperature rise above ambient water temperature at the edge of the "mixing zone" is subject to regulation. Presently, under certain low-flow river conditions, the discharge from the PEPCO plant exceeds the 10-degree Fahrenheit rise limitation for 3 miles downstream.[50] Even if an average river flow of 6,000 cfs is assumed, the thermal plume extends more than a mile downstream.[51] Laws governing thermal impact have recently been altered and, as of this date, no "mixing zone" has yet been established for measuring thermal impact at the Dickerson site. Thus, the State has not monitored the Dickerson site since May, 1973. No prior enforcement action against PEPCO has been taken. However, PEPCO has applied for the mandatory discharge permit, but this application has not yet been reviewed.[52]

The impact of the rise in water temperature on biotic life in the river raises serious questions. Several witnesses for the applicant, in addition to experts from the State Water Board and the Applied Physics Laboratory, state that the proposed plant expansion will not degrade the water quality of the Potomac River.[53] Although certain species of river life have declined in recent years, this phenomenon is not directly traceable to the PEPCO operations.[54] The River at this point is considered a relatively healthy stream.[55] Based on the above testimony and other evidence of record, the Board finds that thermal impact is subject to both State and federal regulation designed to protect both water quality and water consumption; and that neither the thermal increase nor the consumptive loss attributable to PEPCO's present operations, as controlled by State, Federal and local authorities, appears to have adversely

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49. Exhibit 12c, Applied Physics Laboratory, April 1973, p. 4-4.
50. Ibid, p. 4-26.
51. Ibid, p. 4-26 ff.
52. Transcript, pp. 831-832.
53. Transcript, pp. 992, 999, 1076.
54. Transcript, p. 1077.
55. Transcript, p. 1076.

affected the Potomac River to a significant degree. The proposed plant expansion will not draw any additional water from the Potomac, and is designed to operate in a manner that will slightly reduce the temperature of water returned to the river.

In addition to problems of thermal loading and consumptive water loss, questions were raised regarding the effect of chemicals added in the cooling water cycle. Since the chemicals are controlled by State standards and Public Service Commission conditions, however, and under proposed procedures will be utilized in quantities well within the applicable standards, the Board finds no problem with chemical emissions into the Potomac River.[56]

SEDIMENT CONTROL AND WATER MANAGEMENT

Consideration of thermal and chemical impact on the Potomac River leads to a more serious problem regarding the applicant's control of water run-off from its site and from materials stored on the property.

Several provisions of the Zoning Ordinance and other local laws require proper control of sediment, both during and after construction and in the course of plant operations. The more serious issues raised before this Board involve control of coal pile run-off, on-site disposal of fly ash, and impairment of the Potomac and the C & O Canal by run-off of sediment and fly ash.

In 1971, the Sediment Control Section of the Montgomery County Department of Environmental Protection began to work towards elimination of fly ash run-off from the PEPCO site into the Potomac. The applicant is currently in Phase Four of an approved five-phase sediment control plan under supervision of the Department of Environmental Protection. When this plan is fully implemented, sediment and water run-off problems from the existing plant site should be adequately controlled.

Phase 5, added in late 1972, includes plans to remove accumulated fly ash which has filled the C & O Canal bed adjacent to the PEPCO property. PEPCO holds a permit from the National Capital Parks Service to remove more than 10,000 cubic yards of fly ash and other materials deposited in the Canal. This work must be completed by June 1, 1974.[57]

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56. Transcript, pp. 93, 95, 831.
57. Transcript, p. 1174.

The sediment control plan for the expanded facility will cover sediment and general run-off and coal pile run-off. Before construction begins, the Montgomery Soil Conservation District (designated as reviewing agency under the Maryland State Sediment Control law) must approve the plans.[58] The Sediment Control Section of the County Department of Environmental Protection will monitor construction activity on a regular basis, and will enforce provisions of the sediment control plan and permit.[59]

Dr. Russell Eberhart of the Johns Hopkins University Applied Physics Laboratory testified that he considers PEPCO's present on-site land fill for fly ash unsuccessful.[60] Dr. Paul Massicot of the Power Plant Siting Program indicated that no fly ash disposal sites have yet been chosen. Dr. Massicot strongly recommends that disposal sites be established before operations begin.[61]

The subject Special Exception is granted; subject, however to the following conditions, which are intended to supplement those imposed by the Public Service Commission:

TRANSPORTATION/TRAFFIC

1. All major materials required for plant operations shall be transported by rail except in times of emergency. Such materials include coal, fuel oil and chemicals to be transported to the plant site, and fly ash and chemical residues to be removed from the plant site. In case of an emergency making rail haul impossible or not feasible, the applicant shall notify the Montgomery County Council, the Montgomery County Planning Board, and the Board of Appeals of the nature and anticipated duration of the emergency, and the steps taken to assure resumption of regular rail haul.

2. The applicant shall immediately initiate studies and arrangements, including procurement of railway cars and other necessary equipment, to assure that all major materials required for plant operations can be transported by rail to and from the site as of the date the plant is to be put into operation. By June 1, 1975, and annually thereafter, the applicant shall submit a written report to the County Council, Planning Board, Montgomery County Department of Transportation and Board of Appeals

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58. Transcript, pp. 746-747.
59. Transcript, p. 764.
60. Transcript, p. 710.
61. Transcript, p. 665.

detailing the actions taken to assure use of rail haul, with particular emphasis on measures to assure delivery of coal and removal of fly ash by rail. This report shall describe the status of technology to be applied, negotiations with suppliers of material and equipment, shippers, contractors and prospective recipients of fly ash chemical residues; contracts to be signed, new legislation required, and future options to be pursued.

The report shall identify proposed delivery dates for acquisition of necessary equipment, possible problems and proposed solutions to assure timely delivery of necessary supplies and equipment.

3. When the expanded plant facility has been put into operation, PEPCO shall submit to the County Council, Planning Board, and Board of Appeals an annual written report reviewing the program of rail haul of major materials. This report, to be submitted by June 1 each year, shall include analyses of the types and quantities of materials transported by rail, the numbers of railcar loads per month of major materials transported to or from the site; the types, quantities, frequency and numbers of truckloads of major materials hauled by truck. The report shall analyze any problems encountered in the rail haul program, and shall identify proposed solutions to assure regular and full use of rail haul.

4. PEPCO shall accept responsibility for its own acts and the acts of its subcontractors for disposing of fly ash in compliance with all land use, health and environmental standards imposed by Federal, State and local authorities, and shall require such compliance in its agreements with contractors or third parties undertaking the disposal of the fly ash.

5. To the maximum extent possible, PEPCO shall arrange for rail transport of construction materials and wastes to and from the plant site during the period that construction is underway. PEPCO shall initiate all necessary studies and contract negotiations immediately.

6. To reduce the burden of vehicle traffic on Route 28 and local roads in the vicinity of the plant site, PEPCO shall consult with representatives of the Montgomery County Planning Board, the Montgomery County Government, the State Department of Transportation, area transit and railway companies, and other interested parties and jurisdictions, to determine possible arrangements for transporting a significant proportion of the construction work force to and from the site by bus, rail or other mass transit from off-site car parking or assembly areas located near the B&O Railroad line or adjacent to Interstate Highway 70-S. PEPCO should provide necessary documentation if such rail and commuter bus services are felt not to be feasible. The Department of Transportation and the Planning Board shall review these plans and submit reports to the Board of Appeals for their approval.

Detailed traffic specifications should be developed by PEPCO for any vehicular traffic going to and from the site specifying roads to be used, hours of use, types of trucks, speeds and other operating characteristics which will enable coordination with other public traffic control plans such as for school bus scheduling and routing. These specifications should be submitted to the Montgomery County Department of Transportation for review, coordination, and monitoring during all construction phases at the PEPCO facility.

7. Within 60 days of the completion of construction of the major components of the expanded facility, the surface parking lot to accommodate vehicles of the construction work force shall be reduced in size to accommodate approximately 100 vehicles. The surface parking area shall be constructed of material which can be readily demolished or restored as a porous surface area.

STORM WATER MANAGEMENT AND SOIL EROSION CONTROL

1. Within 60 days of the Board of Appeals action, PEPCO shall submit to the Montgomery County Department of Environmental Protection and the Montgomery County Planning Board a storm water management plan for the existing site and facility which will meet the following requirements within nine months of the plan approval:

- Removal of fly ash from the C & O Canal.
- Elimination of any drainage of stockpiled or landfilled materials or wastes into any portion of the C & O Canal or the Potomac River.
- A plan for the maximum detention of storm water runoff consistent with the need to maintain the water quality of the Canal.

2. All existing violations of standards governing storm water management and soil erosion control shall be corrected to the full satisfaction of the Montgomery County Department of Environmental Protection before any new plant construction may be started.

3. At least six months prior to the planned commencement of operations, PEPCO shall submit to the Montgomery County Planning Board and the Montgomery County Department of Environmental Protection specific locations for both on-site and off-site disposal of fly ash. On-site fly ash storage and disposal sites shall be identified in the site plan to be submitted for review and approval by the Montgomery County Planning Board.

NOISE

1. PEPCO shall add sound attenuating enclosures to both the existing and proposed plants to reduce noise levels on the C & O Canal and towpath to 45 DBA.

2. Within 90 days after the date of this decision, PEPCO shall eliminate its "squawker" located on its property fronting the C & O Canal and towpath.

AMBIENT AIR QUALITY STANDARDS

PEPCO shall not, as a result of its operation of the new and existing plant, allow the maximum ground level concentration of particulate matter to be more than 50% of the ambient air quality air standards. To implement this condition PEPCO shall construct an 850-foot high chimney for unit #4; replace two 400-foot high chimneys serving the existing plant with a single new 850-foot stack; install an electrostatic precipitator to operate at 99% efficiency; and install a scrubber system which will remove 90% of the sulphur dioxide from the air being emitted from the plant's chimneys.

AUGMENTATION POND

Ground water shall not be used as a source for water to be used in the cooling tower or scrubber make-up.

The applicant shall submit to the Planning Board and the Montgomery County Department of Environmental Protection, within 180 days, detailed plans regarding efforts to prevent water loss from the Potomac River during periods of low flow. In particular, such plans shall define what constitutes "low-flow", at what point the institution of water-saving plans shall commence, what other sources of water will be used when the on-site augmentation pond is exhausted, and at what stage of river flow the applicant contemplates a reduction in plant operation or a total shut down.

The applicant shall maintain a 16-day augmentation pond to be used for the operation of the generating units during periods of low flow of the Potomac River.

VISUAL IMPACT

1. PEPCO shall submit a detailed site plan, with particular emphasis on landscaping and screening, for review and approval by the Montgomery County Planning Board. The plan shall cover every segment of the PEPCO site. It shall be reviewed to determine whether the total plant site is properly screened from view of adjacent areas and, in particular, to assure that the natural setting of the C & O Canal is protected to the maximum extent by landscape screening. Before submitting its detailed landscape and site plan, the applicant shall consult with representatives of the National Park Service, the C & O Canal Commission, the Sugarloaf Citizens Association and Dickerson area residents, in order to attempt to resolve issues in question. The Planning Board may consider the views of these groups, but shall have final authority in approving the site plan to be implemented.

2. Within one year of the date that the expanded plant has been put into operation, PEPCO shall submit to the Planning Board a written report and detailed exhibits identifying progress in compliance with the approved site plan.

3. PEPCO shall consult with representatives of the Planning Board, the Soil Conservation Service, the Montgomery County Government, and other interested agencies to consider the feasibility and desirability of construction of landscaped berms as a means of partially shielding from view the large, bulky structures of the plant facility. Such berms may also be considered as devices to reduce noise emanating from the plant site. The Board recommends exploration of the possible use of fly ash as one of the materials of which such berms might be constructed.

4. No structures, other than transmission towers or railroad lines, shall be built within 500 feet of the boundaries of the PEPCO site, excepting the boundaries along the Potomac River.

5. No industrial use, other than the generation of electric power, shall be permitted on the PEPCO site without application to and approval by the Board of Appeals.

6. Stacks and cooling towers shall be the natural light concrete color of the materials used in construction; or, if painted, shall be of an unobstrusive shade of gray, green or blue.

7. Blinking red lights may be used as needed at night; strobe lights may be used in daytime. All lights shall be shielded from visibility at ground level, except as required for safety of aircraft.

COOLING TOWERS

Mechanical draft wet-dry cooling towers shall be used, of no less than 32 cells per generating unit. PEPCO shall fully meet the proposed State Standards for use of the mechanical draft wet-dry cooling system. A larger number of cells may be used if PEPCO or the Public Service Commission deems a greater number feasible on the site and necessary for reduction of fog, icing or visible plume problems.

SUBSEQUENT REVIEW AND CONTINUING JURISDICTION

1. PEPCO shall arrange with appropriate reviewing authorities for installation and maintenance of continuous mechanical monitoring equipment to measure Potomac River flows, water temperature, chemical and particulate emissions.

2. Ten-Year Electricity Generation and Transmission Plan for Montgomery County.

An annual report shall be prepared by PEPCO and submitted to the Montgomery County Planning Board to include, at a minimum, the following information regarding a Ten-Year Electricity Generation and Transmission Plan:

A. All pertinent information transmitted to the Public Service Commission which either relates directly or indirectly to Montgomery County facilities or demands, including facilities in Montgomery County as they relate to total system demand.

B. Relationship to PEPCO facilities as they relate to those proposed and existing by Potomac Edison Company.

C. Methods for possible utility coordination with other companies in establishing utility corridors or shared utility grounds.

D. Location and extent of outdoor transmission substations and power lines, either existing or proposed, during the ten-year period.

E. A discussion of new technology in power generation and transmission as it relates to the system proposed for Montgomery County.

F. Relationship of proposed electricity generation facilities to the existing transportation facilities necessary to service actual construction or supply of said proposed facilities.

The Board adopted the following Resolution:

"Be it Resolved by the County Board of Appeals for Montgomery County, Maryland, that the opinion stated above be adopted as the Resolution required by law as its decision on the above-entitled petition."

The two members appointed to the Board in November, 1973, read the full transcripts of the preceding hearings, and Mr. O'Brien read the

transcript for November 28, the day of his absence, at which all other members of the Board were present. All Board members participated in the above-entitled Resolution proposed by Mrs. Marjorie H. Sonnenfeldt and concurred in by Mrs. Beverly S. Pearson, Chairman, Mrs. Shirley S. Lynne and Mr. Sheldon P. Schuman. Mr. Joseph E. O'Brien, Jr., dissented and will file a separate opinion.

I do hereby certify that the foregoing Minutes were officially entered in the Minute Book of the County Board of Appeals this 20th day of June, 1974.

Dollie H. Kyte
Clerk to the Board

NOTE: See Section 59-6.(c) of the Montgomery County Zoning Ordinance regarding the 12-months' period within which the right granted by the Board must be exercised.

Dissenting Opinion by Mr. Joseph E. O'Brien, Jr.

The Board of Appeals is a statutory creature which has only the powers conferred upon it by the Zoning Ordinance (which, in turn, is limited in scope by the Regional District Act whereby the County Council acting as a District Council derives its zoning powers). Section 85-83, Montgomery County Code, 1972, as amended (the Regional District Act), empowers the County Council to delegate to the Board of Appeals authority to grant or deny special exceptions and variances in accordance with the zoning regulations. Therefore, in zoning matters, the Board has no more authority than that delegated by the District Council or derived from the Regional District Act. Section 2-112(a), Montgomery County Code, 1972, as amended. Section 2-115, Montgomery County Code, 1972, as amended, specifically provides as follows:

> Except as provided in Section 2-113, nothing herein shall be construed to grant the County Board of Appeals authority to adopt or amend any law, ordinance or regulation under which it exercises authority.

See also Woodlawn v. Prince George's County, 241 Md. 187 (1966); Perry v. County Board of Appeals, 211 Md. 294 (1956).

In any particular case the applicant must, by a preponderance of the evidence, demonstrate to the satisfaction of the Board of Appeals that each requirement for the Special Exception has been met. Redden v. Montgomery County, 270 Md. 668 (1974). Where the evidence is "fairly debatable" (i.e., capable of supporting a different conclusion), the decision of the Board will not be disturbed. Tauber v. County Board of Appeals, 257 Md. 202 (1970); Montgomery County v. Shientel, 249 Md. 194 (1968).

This member of the Board adopts by reference so much of the majority opinion as sets forth the location and nature of the application for Special Exception, the generating plant and matters dealing with necessity, as well as the findings which the Board must make to support grant of the application. This member, however, cannot likewise adopt by reference the findings of the majority and, as a consequence, must dissent.

After careful review of the general and specific conditions which the applicant must meet, and of the testimony and evidence, it appears that the applicant's proposal fails for the following reasons:

1. The applicant's proposal contravenes the requirement of Sec. 59-123(a)(2) of the Zoning Ordinance. Two 850-foot high smoke stacks will not be in "harmony with the general character of the neighborhood" considering population density, design, scale and bulk of the stacks, intensity and character of activity, traffic and parking conditions and number of similar uses. The area in question is rural and there exists nothing even suggesting agreement between the applicant's proposal and the rural atmosphere of Dickerson, in the aesthetic sense or otherwise.

2. The applicant's proposal contravenes the requirement of Sec. 59-123(a)(3) of the Zoning Ordinance. Notwithstanding the fact that the applicant is a public utility proposing to erect a facility with which to produce additional electrical power, questions of peaceful enjoyment of property by residents of the area and development of surrounding properties or the general neighborhood should depend upon the nature of the facility proposed rather than the nature of the applicant. The size of the proposed facility is not disputed; matters of objectionable noise and stack emissions will, supposedly, be eliminated or ameliorated by (as yet) largely unproven technology.

3. The applicant's proposal contravenes the requirement of Sec. 59-123(a)(4) of the Zoning Ordinance. Except as conditioned by the majority it is undisputed that the proposed facility would be serviced by (literally) hundreds of large trucks daily, over rural, narrow, winding roads. The testimony reveals more than a little reluctance by the applicant to commit itself to use of rail haul rather than trucks, and it is unrealistic to consider an adverse ruling by any authority should rail haul not be used after completion of the project.

In summary, the applicant has failed (as required by law) to prove its case. Certain requirements, as above set forth, simply cannot be met and the Board is not empowered to grant an application under such circumstances. Notwithstanding the need for additional generation of electrical power in the Washington Metropolitan area, such need does not (in this member's view) supersede the requirements of law.

COUNTY BOARD OF APPEALS
For
MONTGOMERY COUNTY

100 South Perry Street
Rockville, Maryland

Tel. No. 279-1226

Case No. S-235

PETITION OF POTOMAC ELECTRIC POWER COMPANY

NOTICE OF CONTINUANCE OF HEARING

Upon consideration of the request by The Maryland National Park and Planning Commission and the Sugarloaf Citizens Association, Inc., for a continuance of the public hearing scheduled for the 12th day of April, 1973, and the petitioner being in agreement for the postponement, the Board adopted the following Resolution:

"Be it Resolved by the County Board of Appeals for Montgomery County, Maryland, that the hearing of the above-entitled case be continued to the 5th day of July, 1973, at 9:00 a.m., County Council Hearing Room."

The foregoing Resolution was proposed by Mrs. Beverly S. Pearson, Chairman, and concurred in by Mrs. Shirley S. Lynne, Messrs. Joseph E. O'Brien, Jr., and James G. Early. Mr. Bernard D. Gladhill was necessarily absent and did not participate in this decision.

Entered in the Minute Book of the
County Board of Appeals this 9th
day of April, 1973.

Dollie H. Kyte
Clerk to the Board

COUNTY BOARD OF APPEALS
For
MONTGOMERY COUNTY

Case No. S-235

PETITION OF POTOMAC ELECTRIC POWER COMPANY

The Board, upon its own motion, adopted the following Resolution:

"Be it Resolved by the County Board of Appeals for Montgomery County, Maryland, that this case, Case No. S-235, Petition of Potomac Electric Power Company, which was scheduled for July 5, 1973, be and it hereby is rescheduled for hearing on the 4th day of October, 1973, at 9:00 a.m. The hearing will be held in the County Council Hearing Room, on the third floor of the County Office Building, 100 South Perry Street, Rockville, Maryland."

Notices mailed to all interested parties this 26th day of June, 1973.

Entered in the Minute Book of the
County Board of Appeals this 26th
day of June, 1973.

Dollie N. Kyte
Clerk to the Board

COUNTY BOARD OF APPEALS
For
MONTGOMERY COUNTY

Case No. S-235

PETITION OF THE POTOMAC ELECTRIC POWER COMPANY
(Hearings held Oct. 4,10,17,25, Nov. 28, Dec. 12, 1973, & Feb. 7, 1974
ORDER TO CLOSE RECORD
(Order adopted March 14, 1974)

In accordance with the statement of the Board at the close of the arguments heard on February 7, 1974, the Board adopted the following Resolution:

"Be it Resolved by the County Board of Appeals for Montgomery County, Maryland, that the record in the above-entitled case, Case No. S-235, Petition of the Potomac Electric Power Company, be, and it hereby is closed, and, further, be it Resolved that no additional information will be received for consideration in this case."

After considering all the evidence and testimony, the Board will render its opinion in this case.

The foregoing Resolution was proposed by Mrs. Beverly S. Pearson, Chairman, and concurred in by Mrs. Shirley S. Lynne, Mrs. Marjorie H. Sonnenfeldt, Messrs. Joseph E. O'Brien, Jr., and Sheldon P. Schuman, constituting all the members of the Board.

Entered in the Minute Book of the
County Board of Appeals this 19th
day of March, 1974.

Dollie H. Kyte
Clerk to the Board