To the Graduate Council:

I am submitting herewith a thesis written by Rebecca J. Akers entitled "Studying the Effects of Media Advocacy: A Case Study of Three Transmission Line Sitings." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Communications.

Susan Lucarelli Dimmick, Major Professor

We have read this thesis
and recommend its acceptance:

Accepted for the Council:

Associate Vice Chancellor and
Dean of The Graduate School

"Studying the Effects of Media Advocacy: A Case Study of Three Transmission Line Sitings"

A Thesis

Presented for the Master of Science Degree

The University of Tennessee, Knoxville

Rebecca J. Akers

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DEDICATION

To the memory of Janet Breazeale

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ABSTRACT

This thesis explores how a citizen activist group used media advocacy to affect public policy changes within an organization. It is suggested that citizen activist groups become frustrated with normal lines of communications within an organization because they are experiencing one-way, or asymmetrical communications. As a result, these groups may seek other avenues to communicate their messages and to influence the agenda of an organization. The goal of this thesis is to document the effectiveness of media advocacy as a tool for citizen activism as used by a citizen group in a middle Tennessee community. While the group did not achieve its ultimate goal of stopping the construction of a transmission line project, it did force an organization to re-examine the way it communicated and worked with its publics during the siting of future such projects.

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INTRODUCTION

This thesis explores how a citizen activist group used media advocacy to affect public policy changes within an organization. It is suggested that citizen activist groups become frustrated with normal lines of communications within an organization because they are experiencing one-way, or asymmetrical communications. As a result, these groups may seek other avenues to communicate their messages and to influence the agenda of an organization. The goal of this thesis is to document the effectiveness of media advocacy as a tool for citizen activism by showing how it was used by a citizen group in a middle Tennessee community. While the group did not achieve its ultimate goal of stopping the construction of a transmission line project, it did force an organization to re-examine the way it communicated and worked with its publics during the siting of future such projects.

The capability of citizen activist groups to influence the media's agenda has become more apparent as activists have become more adept at community-level advocacy and have learned to work more closely with local media to ensure that their side of the story is included in the coverage (L. Grunig, 1992). This process, known as media advocacy, has been especially noted in the environmental arena, where researchers have identified a continuing use of media advocacy to influence the media's agenda (Wallack, 1993).

This thesis explores the application of media advocacy by a citizen activist group. In this thesis, the researcher will examine how the Tennessee Valley Authority (TVA) approached three different transmission line sitings over a ten-year period and investigate what influences occurred during these periods that could have impacted policy changes in the organization.

Through this study, the researcher will explore whether TVA moved its communication style of one-way asymmetrical communication to two-way symmetrical communication as a result of its experience with media advocacy. According to J. Grunig, a two-way symmetrical style of communications focuses on persuasion, negotiation, and open dialogues with key publics. This is in contrast to asymmetrical communications, which appears to discount the needs of publics in favor of a mandate or dictate from the organization (J. Grunig, 1992).

This thesis employs the use of a case study methodology to analyze how changes occurred in TVA's transmission line siting policy after experiencing the impacts of media advocacy. Although this methodology presents issues of inherent biases, the researcher made every attempt to limit such issues by seeking multiple sources of information to help validate information received. It also is important to note that much of the material presented in this study was gained through the researcher's relationship as an employee of the Tennessee Valley Authority. However, the researcher used materials that would be available to outside parties.

Importance to Public Relations Professionals

The relationship between an organization and its publics centers on dialogue that can assume many faces, usually with the corporation taking the lead and setting the direction for community activists. Public relations practitioners often focus their work on the management of communications between an organization and its publics (J. Grunig, 1992).

Many definitions exist of how this relationship should work. According to Miller, public relations often is used by an organization to control attitudes and behaviors of its publics (C.H. Botan & V. Hazelton, 1989). However, J. Grunig sees public relations less as a control mechanism and more as a negotiation tool. In an ideal social role for public relations, "(it) is a mechanism by which organizations and publics interact in a pluralistic system to manage their interdependence and conflict" (J. Grunig, 1992).

As public relations professionals focus on ways to better manage these communications efforts, the media knowledge and skills of key publics, such as citizen activist groups, continue to grow. This presents several challenges for public relations practitioners (Wallack, 1993).

First, the growth of media advocacy could indicate that existing lines of communications between an organization and its publics are not working to the satisfaction of these activist groups (L. Grunig, 1992). Many of these publics could feel that their voice is not being heard at sufficient levels within the corporation. According to Moore, because public relations focuses on communication management, it assumes

that an organization has a right to operate as long as the public allows it to do so (F. E. Moore, 1981).

However, as a public becomes disenchanted with its communications with an organization, citizen activists, demonstrating increased knowledge and ability to use the media, often circumvent a more private dialogue with the corporation and instead, play out the issue in the more public arena offered by the media. This results in a corporation reacting to the activist group's issues and following its lead (Wallack, 1990).

A second key issue emerges as more players engage in activism. Many new, smaller players now can enter the game and have their voices heard at higher levels in the organization. According to Grunig, if a public is involved with the consequences of what an organization does, then it will communicate more actively with that organization (L. Grunig, 1992). However, the picture can become crowded. Often not all the groups are readily identified, and their issues may not be weighted appropriately. The challenge for public relations professionals becomes one of identifying the key groups and ensuring their voices are heard.

Finally, the emergence of activist groups appears to encourage more social responsibility among organizations and corporations. In TVA's instance, it can be argued that an activist group encouraged TVA's move from asymmetrical to symmetrical communications when siting transmission lines. Through symmetrical communications, the future of public relations can be seen with a greater emphasis on building relationships with its key publics and working together to achieve common goals (L. Grunig, 1992).

Problem Statement

This thesis explores media advocacy and how citizens using media advocacy can affect changes in an organization's policy. This thesis will demonstrate the importance of understanding media advocacy efforts for public relations practitioners. This analysis will help provide increased understanding of how corporations can respond to media advocacy strategies. The goal of this thesis is to show how citizens were able to use media advocacy to affect changes in an organization's public policy by focusing media attention on a key environmental issue. The case study methodology and thematic analysis information will be used to expand and generalize public relations theory by explaining media advocacy and the role it can play in changing an organization's policies.

Specifically, this thesis proposes that citizen advocacy groups seeking to affect changes, especially those changes surrounding environmental issues, use media advocacy to affect policy decisions in an organization. Three TVA transmission line projects, spanning a ten-year period, were analyzed. The pivotal case is a transmission line project, known as Maury-Radnor. The line was constructed in the early 1990s and impacted a Nashville bedroom community known as Brentwood, Tenn.. This project is pivotal because it involved a citizen activist group using media advocacy as a means to halt construction of the project. The other two transmission line projects are pre- and post-examples of TVA's transmission line siting process, which includes the agency's communication procedures used at the time of each project. One transmission line represents TVA's siting policy in the mid-1980s and the other in the mid-1990s.

The goal is to evaluate the public relations strategy of TVA before and after the Maury-Radnor line and determine whether TVA public relations strategies changed based on the influence of media activist groups.. This study is based on current public relations theory and will explore how or if TVA improved upon such practices. Within this study, asymmetrical and symmetrical communications will be examined, as well as the impact/influence of citizen activist groups on an organization's public policy.

This thesis will explore the following questions:

1. How did a citizen activist group use media advocacy to influence TVA's siting decisions?

2. What successes/failures were apparent in the use of media advocacy?

3. What policy changes by TVA did/did not occur as a result of the advocacy effort?

4. What can public relations practitioners learn from this case study about publics pressuring an organization?

Thesis Organization

This thesis is organized in the following manner. Following the introduction, Chapter 1 discusses the history of TVA and gives background information on TVA relative to this specific case study. The background on each of the three transmission line projects being examined will be given, as well as information about electromagnetic fields (EMFs).

Chapter 2 is a literature review and presents the theoretical basis for this thesis. Specifically, this chapter explores the historical growth of public relations and its theories, including citizen activism and the increased use of media advocacy.

Chapter 3 describes the research methods, which include the case study method and thematic analysis of media content. Chapter 4 contains data gathered for this project. Included are the interviews with key TVA people involved in each of the transmission line projects and newspaper clippings, with particular emphasis on media coverage of the Maury-Radnor transmission line.

Chapter 5 summarizes the research findings, draws conclusions on the effectiveness or ineffectiveness of media advocacy, and suggests areas for future study.

CHAPTER 1

BACKGROUND AND RESEARCH PROBLEM

Tennessee Valley Authority

TVA is one of the nation's largest electric power producers. It also is a regional development agency and a national environmental laboratory. Established as a federal agency by the U. S. Congress in 1933, TVA was charged to provide flood control, improve navigation, and produce electric power to the Tennessee Valley region (TVA Act, 1933).

In fiscal year 1995, TVA served the Valley by producing approximately 131 billion kilowatt-hours of electricity, more than enough power for three cities the size of New York. Its annual revenues for the same year were $5.4 billion. TVA serves about 80,000 square miles in the southeastern United States, an area that includes about 8.3 million people and includes most of Tennessee and parts of six other states (TVA Annual Report, 1995).

TVA provides electric power to 160 local municipal and cooperative power distributors through a network, or grid, of about 17,000 miles of transmission lines. Substations along the routes of these transmission lines transfer electricity to smaller lines owned by distributors. These local distributors deliver power to homes, businesses, and industries in the seven-state service area. TVA also sells power directly to some large

industries and federal agencies. In the early years, TVA's power was substantially cheaper than any of its neighboring utilities (History of TVA, 1985).

By law, TVA's power program must pay its own way from its revenues. However, rising costs have reduced most of the agency's competitive advantage in both residential and industrial electric rates (History of TVA, 1985).

As a result, some neighboring utilities are beginning to explore ways to attract TVA customers to their utility company. By law, TVA cannot go outside its defined boundaries and compete with other utilities to provide electricity to other than its own customers, but other companies can come within the TVA territory (TVA Act, 1933).

As a federal agency, TVA is not regulated by the public service commissions established in many of the states it serves. The three-member TVA Board is responsible to the President of the United States and to the United States Senate (TVA Act, 1933).

Electromagnetic Fields

As with other electric utilities, TVA began facing serious problems with the siting of its transmission lines in the 1980s primarily because of the related health and environmental concerns over EMFs. According to *Public Power*, electric utilities were beginning to face increasingly difficult situations when siting transmission lines. These situations were complicated by the issue of EMFs and the discussion over the alleged health impacts of the lines (Anderson, Jul.-Aug. 1990).

EMFs are created when "an electric current passes through a wire" and can be found within transmission lines, electric blankets, computer screens, and many other

common household appliances that use electricity (M.G. Morgan, 1989). Although researchers agree on the definition of EMFs, they do not agree on whether these fields can adversely impact the health of individuals or the environment.

The first significant study that explored the potential health impacts was published in 1979. The study examined the relationship between transmission lines and the health impact on nearby homes. The researcher looked at the Denver homes of 344 children who had died of cancer before the age of 19. The study period covered a 23-year period ranging from 1950 to 1973. The results were compared to the homes of 344 other children. The researcher found that children living in homes near high current power lines were "two to three times more likely than others to die of lymphoma, nervous system tumors or leukemia" (Kirkpatrick, 1990).

However, this study, as with some 60 other studies that have been conducted since, did not prove a cause-and-effect relationship between EMFs and cancer. This relationship has been at the root of much of the scientific debate (Kirkpatrick, 1990). By the late 1980s and early 1990s, scientists increased their research efforts in investigating the causal relationship between EMF and cancer. Much information about these studies was reported in technical journals. However, information from these studies also was making its way into many mainstream publications, such as *Fortune, Time, Scientific American, USA Today,* and the *Washington Post* (See References).

Although many of the studies could not prove a causal relationship, they were among the first to provide a layperson's explanation of these complex issues, and they were the first to begin highlighting the potential health concerns to the public. Through

these publications, "prudent avoidance" was the catch phrase. These articles advised people to avoid exposure to sources of EMFs, such as transmission lines. Frightened by the unknown, many people started to take action, particularly against electric utility companies, to exercise prudent avoidance and avoid having transmission lines and substations located near their homes (Lally, 1990).

If this cause-and-effect relationship was proven, there could be serious impacts to the home, the workplace, and to electric utility companies. *Time* magazine pointed to a large number of lawsuits that would be generated, property values that would decrease substantially, and the cost of doing business for utilities that would increase substantially (Elmer-Dewitt, 1990).

However, in the November 1990 issue of *Prevention* magazine, top cancer experts rated EMFs "extremely low as a risk for cancer." Two months later, in January, the same publication pointed out that conclusive evidence did not exist to claim transmission lines as a health threat. However, the magazine did say that although there did not appear to be a real risk, it was advisable to be "cautious regarding power lines" (*Prevention*, 1991).

Even without proof of a causal relationship between EMFs and some forms of cancer, utilities felt the financial impacts of EMFs in some state courts. For example, in 1994 in New York it was ruled that property owners could seek damages for decreases in property values as a result of transmission lines. The ruling said that the fear of cancer was enough to warrant the impact to property values (*Public Utilities Fortnightly*, Feb. 1995).

Background on Transmission Lines

Coffeeville-Mississippi Chemical Corporation (late 1980s)

The first transmission line explored in this study serves as an early example of TVA's procedures, including communications, used when siting transmission lines. In the mid-1980s, TVA became aware that a local industry was planning to construct a pulp and papermill in the Tennessee Valley service area, approximately three miles north of Grenada, Miss. TVA agreed to provide direct electricity service to the plant. According to TVA, the industry would need a highly reliable power supply to meet its manufacturing need, which would mean the construction of two 161-kV (kilovolt, or 1,000 volts) transmission lines that would connect the industry to a substation located about 1.3 miles northeast of Coffeeville, Miss.. The lines would run about 16.5 miles (TVA Environmental Assessment, 1987).

The route selected for the transmission line was mostly through a rural area in Miss.. The line was routed around the town and potential residential development in Coffeeville. The line required a total of about 200 acres of right-of-way with between 33 and 42 acres in the Holly Springs National Forest (TVA EA, 1987). TVA did not own the right-of-way, so the agency acquired the right-of-way acreage through easements.

Maury-Radnor Transmission Line (1990-1991)

This project is the second transmission line being explored in this study and will be shown to be a pivotal point in TVA's process for transmission line siting. Citing an

increased need for better service of electricity to a growing community, TVA decided to reconstruct an existing transmission line using a right-of-way it had acquired in the 1940s. According to TVA, the new transmission line was needed because of projections by TVA that demand for electricity in Williamson County would be approaching the capacity of the existing line. The transmission line replaced a 69-kV line with 161-kV power lines. It extended approximately 36 miles long and ran from Columbia, Tenn., in Maury County through parts of Brentwood and Franklin in Williamson County, to the Radnor Substation in Nashville, Tenn. (Pitt, 1996).

The line was strung on 85-foot tall power poles and ran through upper-middle class neighborhoods. Residents in these subdivisions, especially in the city of Brentwood, were concerned over loss of property value from the unsightly poles. Also, residents were concerned about the unknown potential health problems. To secure easements and the needed additional right-of-way, TVA condemned pieces of property after some property owners refused to sell (Cason, 1996).

The Phoenix Foundation, a Nashville-based non-profit organization, offered residents some of its research on EMFs to help them in their battle against TVA. The organization provided research that supported allegations that radiation emitted from transmission lines could cause serious health damage (*Review Appeal*, June 1991).

Concord-West Ringgold, Ga. portion of Alpha-Georgia Line (1993 to present)

This transmission line project is the third presented in this study and is offered as

an example of TVA's process in transmission line siting projects following TVA's encounter with media advocacy in Brentwood, Tenn. This section of line was an 11.8-mile transmission line extending from the TVA Concord Substation to a point west of Ringgold, Ga. The line was part of a larger 65-mile transmission line project built from the substation west of Ringgold to a new TVA substation constructed northwest of Dalton, Ga. That substation was connected by another section of line to a new TVA substation near a scenic highway north of LaFayette, Ga. This project included 150-foot-wide corridors for the new lines and new substations (TVA news release, 1994).

According to TVA, the transmission line was needed to provide more reliability for customers on existing transmission lines. TVA cited an estimated 20 percent growth in the use of electricity during the next five years. The improvements also were needed to improve reliability and quality of electric service in parts of the four Georgia counties that include Catoosa, Whitfield, Murray and Walker counties. (TVA news release, 1994).

Residents expressed concerns about the right-of-way selected by TVA and cited both property value and health reasons for their concerns. TVA received comments from property owners and other interested citizens at public meetings in Ringgold in April and August 1994.

Research Problem

This project looks at how a citizen activist group, frustrated by communication attempts with an organization, sought to influence the organization and hopefully change public policy by involving the media in the issue.

From a public relations standpoint, there was the problem of an active public campaigning against the actions of an organization and hoping to revise a policy decision. From the electric utility perspective, there was the need to improve its efficiencies in transmitting electricity by constructing new transmission lines. From a citizen perspective, there were concerns over the unknown health hazards that have been linked with EMFs emitted by transmission lines and the potential of decreased property values.

Several presuppositions led to the need to expand and generalize public relations theory to include information on media advocacy. First, public relations theory has evolved over the years from a one-way persuasion model to a two-way process of managing communications. Today, public relations theory revolves around more symmetrical communications that incorporates the opportunity for negotiations. Second, more research is exploring the increasing presence of citizen activist groups in public policy arguments. This research focused on the ability of these groups to shape the arguments and to have a greater voice in decisions made by an organization. Third, the impact of citizen activists and grassroots advocacy organizations has increased as they have become more sophisticated in their knowledge of media workings. They now seek to influence the media's agenda, primarily in the arena of environmental public health.

CHAPTER 2

LITERATURE REVIEW

This chapter will serve as a basis for determining what changes TVA made in its policy for communicating and working with the public on the siting of transmission lines. These determinations will be based on several communication theories that include general public relations theory to determine the form of public relations practiced by the agency; citizen activism to help explain how citizen activism is mobilized; and media advocacy to explore further how citizen activists, once mobilized, can effectively place their messages in the public arena. The cumulative result in many studies has been changes in public policy.

This chapter is divided into the following three sections. The first section explores communication theories, including public relations theory. The second section explores citizen advocacy groups and activism. The third section discusses the use of public relations by active publics; specifically how those active publics through media advocacy have been able to affect changes in policy.

Public Relations Theory

Although the history of public relations can be traced as far back as 1800 BC, this paper will focus on the growth of modern public relations, since about 1800 AD Modern

public relations was founded in the concept of serving as a conduit for information dissemination. Information was selected specifically for and tailored to the audience. However, during the 1900s, the practice of public relations continued to change as quickly as business needs changed. Businesses quickly learned that it was better to lead the public rather than push the public toward certain issues and opinions. In more recent years, public relations practitioners and the companies they represent are working more to extend beyond influencing opinion and are building avenues for two-way communications with key publics and building relationships (R. Darrow & D. Forrestal, 1979).

In the 1800s, communicators were seen as promoters as well as information disseminators, with Phineas Taylor Barnum leading the way. His successes with determining what the public wanted and guiding them toward what he thought they should want was quickly replicated by businesses throughout the country, including railroads and other growing industries (Cutlip, Center & Broom, 1994).

During the 1900s, communicators began serving more as a way for businesses to provide defensive publicity to the media. Worried about the influence the public could have on business practices and policy, more companies used public relations as a way to counter what most businesses saw as potentially increased regulation (Cutlip, Center, Broom, 1994). Ivy Lee, through his work with coal strikes and later with John D. Rockerfeller, and Pendleton Dudley's work with American Telephone and Telegraph Company helped to advance public relations in the field of press relations (Darrow & Forrestal, 1979).

Public relations also began to evolve into a model for persuasion. George Creel led the effort and demonstrated to others how public relations could be used as a tool for mobilizing public opinion. He used this technique to garner support for the World War I effort under President Woodrow Wilson. Today, for many, public relations still means persuasion (Cutlip, Center & Broom, 1994).

Following World War II, two-way communications evolved from the persuasion model of public relations. DuPont also aided this effort, by focusing more of its company's efforts on the field of public opinion. During this time, public relations was used more as a tool to build relationships with the public, and public relations practitioners began taking the time to develop understanding and good will for companies and their messages. This time also brought new means for communicating with the public and new technology for the citizens to use to take their message to the public. The world has become smaller with the advent of faster means of transportation and increased efficiencies in telecommunications (Darrow & Forrestal, 1979).

The challenge of building relationships continues even today. A concept, developed in the 1940s by Harwood L. Childs, has begun to re-emerge in recent years (Childs in Cutlip, Center & Broom, 1994).

> ...the basic function of public relations is to reconcile and adjust in the public interest those aspects of our personal and corporate behavior which have a social significance.

Today's public relations practice is rooted in a management philosophy, according to many researchers, including Fraser Moore. Moore presents a public relations process

that begins with the management philosophy, moves into a decision-making mode, followed by action and including two-way communications (F. E. Moore, 1981).

Lauzen complicates the process by adding that public relations practitioners must respond to different forces within an organization. Not only must they consider the internal issues and politics, they also must factor in external audiences and their considerations. It is only by working through these factors that these managers are able to contribute unique information to an organization and its decision (M. M. Lauzen, 1995).

James Grunig, in *Excellence in Public Relations and Communication Management,* also agrees that public relations is a management function of the communications between an organization and its publics (J. Grunig, 1992). In their 1994 edition of *Effective Public Relations*, the authors place more emphasis on the management function of public relations. They define it as:

> ...the management function that establishes and maintains mutually beneficial relationships between an organization and the publics on whom its success or failure depends (Cutlip, Center & Broom, 1994).

Jacquie L'Etang focuses on the planned communications portion of public relations and how an organization targets its communications to a desired public. It is through this communication that an organization can achieve understanding with its publics (J. L'Etang, 1994).

Larissa Grunig has broken the planned communications into two models -- one referred to as asymmetrical communications and the other she called symmetrical

communications. Both have one-way and two-way means of communications. According to her, practitioners involved in one-way communication models are more likely to serve the role of press agent and disseminate information on behalf of the organization. These practitioners are less likely to be involved in strategic decision-making for the organization (L. Grunig, 1992).

> Practitioners in organizations practicing two-way asymmetric and two-way symmetric models of public relations are more likely to play the public relations manager role.

L'Etang adds that organizations use public relations as a means to become more socially responsible with their publics. Public relations can help an organization build good will with its publics. However, L'Etang also agrees that today's communication model in most organizations does not often allow for the two-way symmetrical communication model demonstrated by L. Grunig (L'Etang, 1994).

L. Grunig defines the difference between the two two-way communication models by emphasizing that even though the two-way asymmetrical communication model does look to the public for information before developing strategies, the information is used to develop key messages that the organization has determined would help persuade the public. However, in the two-way symmetrical model, the organization looks to the public for information and involves the public in the communications process. This helps an organization better manage conflict and improve understanding (L. Grunig, 1992).

> Symmetrical communications takes place through dialogue, negotiations, listening, and conflict management rather than through persuasion.

Asymmetrical communications focuses on persuasion, with the organization using information to persuade the public. With symmetrical communications, both the public and the organization can be persuaded to change behavior. According to L. Grunig, both models are in use by today's businesses (L. Grunig, 1992).

Citizen Activism

The relationship between an organization and its publics centers on dialogue that can take many different faces, usually with the corporation taking the lead and setting the direction for community activists. According to Miller, public relations is used by an organization to control the attitudes and behaviors of its publics (C. H. Botan & V. Hazelton, 1989).

For publics to have their voices heard in the myriad of communication processes, they can turn to citizen activism as a means to raise their voice to organizations on many key policy issues. In 1984, *Business Week* told of the enormous power that these activist groups could possess and pointed to the many activist groups that have emerged to address key environmental issues. Today, these groups represent a powerful lobbying effort. (L. Grunig, 1992).

Members of special interest groups, grass roots activists and citizen action groups are important publics to any organization. Yet, many organizations tend to overlook them or dismiss any threat they may pose. L. Grunig suggests that these same groups can offer much opportunity for public relations, if their intent is understood by the

organization. L. Grunig also suggests that the size of the activist group can be irrelevant. She says that smaller groups can be more cohesive and more responsive to the needs of its members and quicker to confront any threat posed by a corporation (L. Grunig, 1992).

A grassroots organization is an informal structure within a community. The change being sought is less planned and more spontaneous. Also, the group usually is not represented by formal structures. Instead, the group is mobilized as neighbors become more involved with one another on issues. Even though the structure is informal, grassroots organizations often have better local control over an issue and can have significant impact on public policy (N. Bracht & J. Gleason, 1990).

Grassroots activism has proven an essential ingredient in the national environmental movement. As Suro, in Wallack (1993) pointed out

> The movement is essentially local. With little coordination and with no well-known national leaders, the environmental justice movement has developed out of many individual local protests, usually focused on a single nearby problem.

The power of these grassroots organizations was proven when activists organized a national campaign and sparked a national public debate following the 1983 broadcast of *The Day After*, a fictionalized television drama about a nuclear attack on the United States. More than 1,000 activist groups spending about $300,000 helped propel the national debate on nuclear arms -- much of it through free press coverage. The result was a polarization and a starting point for the freeze on nuclear armament (Montgomery, 1989).

When these activists find corporations or organizations unresponsive or do not trust them, often these groups will turn to the media for a vehicle to tell their story. As Browne is referenced by L. Grunig, " . . . contact with the mass media becomes critically important. Media coverage conveys legitimacy" (L. Grunig, 1992).

Also, this media coverage has been found to create negative feelings toward the organization by the public. L. Grunig reports that the more the media cover an issue and an organization's involvement in that issue, the more the public's opinion about the organization declines. According to L. Grunig, active publics are able to exert pressure on organizations or corporations, and all activist groups (no matter the size) can prove damaging to a company's image. L. Grunig recommends that a company employ a two-way model of public relations (asymmetrical and symmetrical) to effectively work with these groups. While it appears that there is no common demographic thread drawing these activist groups together, the common bond for two out of three of these groups has proven to be the focus of a single issue (L. Grunig, 1992).

Media Advocacy

Media outlets covering issues tend to legitimize a particular issue. For citizen activist groups, this makes news coverage of their issues an important and powerful tool in their communication effort (Atkin & Arkin, 1990). As activist groups become more adept and sophisticated in their knowledge of media, media advocacy becomes a more important strategy in their battle to gain attention for their issues. With the advent of important public health issues, specifically those surrounding environmental issues,

activist groups use media advocacy as a way to ensure "that the story gets told from a public health point of view" (Wallack, 1993).

To achieve their needs and get their voices heard, grass roots organizations look to the media as a key tool for their messaging. Using the media has proven most effective in health-related issues. Often groups are advised to win the support of local media and their leaders because local media can serve as gatekeepers for information dissemination to the public. This can either process or halt information being transmitted to the public (J. Flora & O. Cassidy, 1990).

As noted by Wallack, advocacy is a "catch-all word for the set of skills used to create a shift in public opinion and mobilize the necessary resources and forces to support an issue, policy, or constituency." Wallack emphasizes that the purpose of media advocacy is to:

> ...use the media to stimulate broad-based coverage that will reframe health issues to increase community support and mobilize community action to change policies affecting health (Wallack, 1993).

Walsh & Childers demonstrated how media coverage could impact public policy, thus lending additional credibility to the technique used by media advocates. They researched a newspaper series that focused on infant mortality in Alabama to determine what effect, if any, the newspaper report had on public policy. They found that news media could change public policy through many ways, including educating the policy makers about the stakeholders and their interests, helping to win public support for the issue, and putting the issue on public agenda (Walsh & Childers, 1994).

Business Week, along with other publications and studies, points out that public health issues now are becoming more prominent at the community level as key issues. The decisions are shifting away from the bureaucracies and to the communities as public relations practitioners seek to build relationships and increase their understanding of what their key publics think about vital public health policy issues. This power shift becomes even more apparent as activists become more adept at community-level advocacy and begin working more closely with local media to ensure that their side of the story is included in the coverage (Wallack, 1993).

Through the process of media advocacy, people focus on enforceable rights that they may have been or may be denied but feel they should be entitled to have. According to research, the process works best when the people or community are focused specifically on those rights and are concerned with monitoring institutions to ensure that they do not infringe upon those rights (Wallack, 1993).

One example of media advocacy demonstrates how powerful it can be in action. The National Association of African Americans for Positive Imagery used media advocacy in its fight against G. Heilman Brewing Company's introduction of a high-powered malt liquor, PowerMaster, that was targeted at African-Americans. It began its battle at the grass roots level and encouraged merchants in five major cities not to stock this product. Media attention soon followed and included coverage in *The Wall Street Journal* and on ABC's *Nightline*. As a result of this advocacy group's work, the Bureau of Tobacco, Alcohol and Firearms revoked the label approved for PowerMaster (Wallack, 1993).

Some authors support paid advertising as a means for citizen activist groups to gain access to the public arena. Alcalay and Taplin support advertising as a controlled means for a group to access its targeted audiences with their messages. Advertising enables a group to have maximum control over the message and the way in which it is delivered (R. Alcalay & S. Taplin, 1989).

However, many authors suggest that public relations can provide greater access to the media than advertising, primarily because many citizen activist groups have limited funds. According to L. Wallack, J. Dorfman, D. Jernigan, & M. Themba, "getting your message on the news is the core to media advocacy." For these groups, public relations means using media relations as a tool to gain an audience for their issue (Wallack, et al, 1993).

Media coverage of an issue is at its highest during a time of conflict advise some researchers. A controversy also can help bring the issue to light and enable the media outlet to provide additional resources to cover that issue. Media tend to help accelerate the coverage of an issue rather than initiate interest in the issue. It is through grass roots activism that the interest is initiated; the group then brings the issue to light through the media to help accelerate interest in the issue on a more global basis (C. Olien, P. Tichenor, & G. Donohue, 1989).

Grass roots organizations are advised first to assess the media resources available within the community and to learn about the organization, the players within the organization, and identify specific opportunities for messaging. The authors also recommend that grass roots organizations determine what role the media can or will play

in the issue being presented. They recommend looking at past performance as an indicator of future performance. Based upon this information, activists should develop and implement specific actions for media to take on the issue (Flora & Cassidy, 1990).

Wallack recommends that citizen groups seek something he calls "earned access" to the media. This means ensuring the message is newsworthy for the media and this often means that a controversy needs to be associated with the issue. Wallack advises advocates of this strategy to proactively seek coverage to avoid reacting to a story that already has been framed and in which reporters already have begun forming opinions. This means putting the story in a context that will help the media better understand the points the advocacy group deems most important. It is through framing that the meaning of the story is determined by the media (Wallack, 1990).

> Media advocates emphasize working proactively by seeking opportunities to frame the story and force opponents to respond to . . .defend their position. (Wallack, 1993).

Alcalay and Taplin advise planning a complete campaign that includes identifying potential media outlets and audiences that should be targeted for the group's messages (Alcalay & Taplin, 1989).

To achieve this proactive position, the strategy advises advocates to build relationships with reporters. Another way would be to create the news by making the topic somehow newsworthy for that day. An example would be a public demonstration. The strategy also recommends that advocates connect their story to a breaking story,

such as providing a local angle to a national story. A final recommendation would be for advocates to take their story to talk radio (Wallack, 1990).

Researchers also have found that framing the story in a "social and political context to highlight public policy approaches" is the most effective way to ensure coverage of an issue. They found that news media tend to focus on the individual story as a part of the public policy issue and this can provide a more interesting angle for coverage of an issue or event (C. Atkin & E. B. Arkin, 1990).

Researchers also have found that it is effective for media advocates to shift "primary responsibility for the problem to the industry or other institutional or environmental actor or factor." In framing the story and making it newsworthy, media advocates also need to ensure that their information is factual, accurate and credible. Using strong data to explain the "extent of the problem and how it is distributed across the population" is recommended. Also, media will want controversial issues, assuming that controversy will attract the attention of the public (Wallack, et al., 1993).

CHAPTER 3

RESEARCH METHOD

To help determine whether media advocacy was effective in affecting policy changes with TVA and its process for siting transmission lines, this research project will use a case study methodology, coupled with a thematic review of news clippings relevant to the Maury-Radnor transmission line project. The researcher suggests that the Maury-Radnor transmission line, the second case presented within this paper, represents the point at which TVA encountered the use of media advocacy by a citizen activist group. The project is used to show what changes TVA made in its transmission line siting policy as a result of the experience with media advocacy. The other two studies will be used as examples of TVA's policy before this line and after this line to help determine if TVA's policy and communication practices changed.

Because the Maury-Radnor line is the pivotal case study, most of the focus of this paper will be on that project. Information will include interviews and a thematic review of newspaper and television coverage during a six-month period beginning in early December 1990 through June 1991, at which time a portion of the transmission line was activated.

The researcher recognizes the existence of two confounding variables in this project. First, the socioeconomic aspects of the residents impacted by these three

transmission line projects are varied and could not be controlled. Second, the length of the three transmission lines and the route (urban versus rural) also represent heterogeneous aspects of this research.

By using a single-case method of research and thematic analysis, this research will analyze if a citizen activist group was effective in using media advocacy to influence policy change at TVA. Two types of data will be examined in this paper. First, interviews conducted with TVA personnel involved in each of the transmission line sitings will provide perspective from the organization. Second, newspaper coverage of the line sitings will be used to provide information from the activists' perspective.

This thesis will recount the series of events between an electric utility and an active public between December 1990 and June 1991, which centered on the construction of TVA's 161-kV transmission line, referred to as the Maury-Radnor transmission line. The researcher will argue that through this process citizens were able to raise the issue of EMFs and associated potential health impact and give it greater visibility.

According to Roger Wimmer and Joseph Dominick in *Mass Media Research,* a case study provides a qualitative method to study a sociological occurrence and provides the researcher with more in-depth understanding of a phenomenon. Robert Yin defines a case study as:

> An empirical inquiry that uses multiple sources of evidence to investigate a contemporary phenomenon within its real-life context in which the boundaries between the phenomenon and its context are not clearly evident. (Wimmer & Dominick, 1983).

Robert Yin, in *Case Study Research*, explains that most case studies are analyzed by relying on theoretical propositions. He recommends that researchers develop a set of research questions that reflect the original objectives of the case study and use those research questions to develop new insights into the problem being studied (Yin, 1984).

For the purposes of this study, the research will seek to answer the following questions:

1. How did a citizen activist group use media advocacy to influence TVA's siting decisions?

2. What successes/failures were apparent in the use of media advocacy?

3. What policy changes by TVA did/did not occur as a result of the advocacy effort?

4. What can public relations practitioners learn from this case study about publics pressuring an organization?

By providing a variety of evidence and exploring data from numerous sources, a case study provides the researcher with a greater amount of information about a chosen topic. Other advantages of a case study include helping to provide an explanation of why something occurred and to provide the researcher the opportunity to locate avenues for potential future research. There are some disadvantages to case studies. Case studies are susceptible to the nuances of the researcher, and if the researcher does not fully apply scientific discipline, such as exercising objectivity in analysis and gathering results and ensuring internal validity, the results can be unusable. Other disadvantages include the difficulty of generalizing the results and applying them to other studies, the time involved

in a case study, and the difficulty in summarizing large amounts of data (Wimmer & Dominick, 1983).

According to Yin, there are four criteria to ensure the quality of the research project. First, the researcher needs to ensure construct validity, or objectivity in gathering research data. Yin recommends using multiple sources of evidence, creating a database of case study information, and establishing a chain of evidence to help future researchers follow how conclusions were made based on the material gathered in this paper (Yin, 1984).

According to researchers, using multiple sources of information for measurement in a study help ensure the validity of the study. These sources can include documents, such as letters, memos, and interviews (Wimmer & Dominick, 1983). For this study, the multiple sources of evidence are drawn from information on three transmission line sitings. This includes interviews with TVA officials involved in each of the sitings, from media coverage in Brentwood and Nashville, and from internal TVA documents.

The chain of evidence will be documented in the extensive bibliography which future researchers can reference for their studies. Also, to help gain construct validity, the research project has been reviewed by key informants to ensure all comments have been captured and reflected accurately.

A second criterion to ensure the quality of the research project, according to Yin, is internal validity, which helps to determine if the study in fact explores the research questions being proposed. In this project, the researcher will infer that the change in TVA's policy for siting transmission lines was adjusted as a result of the media advocacy

demonstrated by a community activist group in Brentwood, Tenn.. The researcher will rely on theoretical propositions to help determine if the presuppositions proposed in this paper were supported. The researcher will use a pattern-matching technique to help build internal validity in this study. The research also will present a timeline of events (Yin, 1984).

A third criterion recommended by Yin is ensuring external validity. According to Wimmer, et. al, external validity "refers to how well the result of a study can be generalized across populations, setting and time" (1983). Because this is a case study, it will rely on analytical, not statistical generalization, according to Yin, who recommends that researchers should try to "generalize finding to theory." However, generalizations may not readily emerge, according to Yin, and researchers must test the theories. In the research project presented in this paper, the case study is building upon public relations, media advocacy, and citizen activism theories presented by researchers. The case presented will add to the body of research (Yin, 1984).

Finally, Yin also recommends ensuring reliability of a study to strengthen the quality of the study. This involves the ability of the study to be replicated by another researcher with the same results. To ensure reliability, Yin recommends documenting the data gathered for the research project. Again, the extensive bibliography will help ensure future research can be conducted on this project (Yin, 1984).

This study will use a variation of content analysis, known as thematic analysis, to examine media coverage of the series of events in the Maury-Radnor transmission line project. A content analysis involves systematically selecting and analyzing the

information presented in media coverage. It also provides an objective means for the researcher to review the material, and it provides a quantitative basis for the information to be presented (Wimmer & Dominick, 1983).

By using a thematic analysis, the research combines qualitative and quantitative techniques. The number of articles appearing in local media will be counted to provide quantitative information and the articles will be analyzed for common themes, such as EMFs and TVA, to provide the qualitative information. After reviewing these articles for this information, as well as information gathered from interviews with TVA personnel involved in the transmission lines projects, the researcher will determine if a common theme of skepticism about TVA and its transmission line project emerged (M. Saeki & B. O'Keefe, 1994).

For this thesis, a thematic analysis will be used to examine the coverage of the Maury-Radnor transmission line by *The Tennessean*, the *Nashville Banner*, the *Brentwood Journal*, and the *Franklin Review-Appeal* from December 1990 through June 1991. *The Tennessean* is the morning daily paper for Nashville and in 1995 it had a daily circulation of 144,331 and a Sunday circulation of 279,611. The *Nashville Banner* is the evening paper for Nashville and does not have a Sunday paper. Its circulation for 1995 was 55,095. The *Brentwood Journal* is a weekly paper in Williamson County with a circulation of 11,000 in 1995. The *Franklin Review-Appeal* is published three times a week and had a circulation of 10,500 in 1995 (Bacon's Newspaper Directory, 1996).

The analysis started with the December 1990 issues of these media. The researcher paid particular attention to mentions of EMFs, TVA and related discussion of

any transmission construction project during that time. The researcher expected attention to these subjects to be particularly high beginning in mid-December to coincide with the neighborhood meeting held December 14, 1990. This meeting was TVA's first encounter with the activism in Brentwood, Tenn., as it related to the siting of the Maury-Radnor transmission line. This meeting also demonstrated the use of media advocacy by a local citizen activist group as it began its battle over the siting of this transmission line.

CHAPTER 4

CASE STUDY OF THREE TRANSMISSION LINES

Introduction

This section presents in chronological order the case study of three transmission lines sited by the Tennessee Valley Authority over a ten-year period. Each line siting includes interviews with key TVA players, a review of newspaper coverage and a review of TVA documents about each project. The first line project occurred in the mid-1980s, the second in 1990 and 1991, and the third in 1993 to present. With each line project, the review time began with public contact or involvement and concluded with TVA energizing that portion of the line.

The first line case study is a line that runs through rural Mississippi to an industry that was planning to locate near Grenada, Miss. The project was identified and constructed in the mid-1980s. It involved the construction of two 161-kV transmission lines that would connect the industry to a substation located about 1.3 miles northeast of Coffeeville, Miss. The lines would run about 16.5 miles (TVA Environmental Assessment, 1987).

The process that TVA used to site this transmission line was typical of the projects TVA sited at this time. It also is typical of how TVA communicated with the public

about these transmission line projects, according to Steve Pitt, line engineer for the project.

The second case study involves a project known as the Maury-Radnor transmission line. This project followed the Coffeeville, Miss., project by only a few months. The project was a five-segment project, a portion of which included a segment running through Brentwood, Tenn., an affluent town of subdivisions with homes in the $250,000 to $400,000 range, according to Frank Cason, TVA communications representative. This transmission project represented a pivotal point for TVA because of a rise in awareness among the general public about EMFs and the community activism in Brentwood that took place. For this project, TVA utilized its normal processes for selecting the line route and communicating with the public about the project, according to Pitt.

The final case study is a transmission line project that occurred following TVA's experience in Brentwood with the Maury-Radnor line. This project, known as the Concord-West Ringgold project in north Georgia represented the process TVA continues to use today for siting its transmission line projects. This project occurred in the 1993 to 1995 time period and followed the Brentwood transmission line project by about three years. It demonstrated any changes TVA made in its siting process and how it communicated with the public during subsequent projects. Many of the changes noted in this transmission line project resulted from TVA's experiences with the Brentwood project.

Coffeeville, Miss. to Mississippi Chemical Corporation (Mid-1980s)

Introduction

This section presents in chronological manner the series of events that occurred with the siting of this project in the mid-1980s. TVA determined this transmission line was needed to provide a reliable source of direct power to a pulp and papermill that was being constructed approximately three miles north of Grenada, Miss. In this process, TVA had to identify the location and routing of the line and communicate with the public about this project. It represented the typical process that TVA used at that time. Little if any media attention was paid to the project. For the most part, EMFs as a potential health hazard were not discussed in the general media.

Background on Project

In the mid-1980s, TVA became aware that a local industry was planning to construct a pulp and papermill in the Tennessee Valley service area, approximately three miles north of Grenada, Miss. TVA agreed to provide direct electricity service to the plant. According to TVA, the industry would need a highly reliable power supply to meet its manufacturing need. This would mean the construction of two 161-kV transmission lines that would connect the industry to a substation located about 1.3 miles northeast of Coffeeville, Miss. The lines would run about 16.5 miles (TVA Environmental Assessment, 1987).

To minimize the amount of right-of-way needed for this project and to minimize any conflicts with other needs for the land, such as future development plans, TVA decided to build the two lines on one structure located on a 100-foot-wide right-of-way (TVA EA, 1987).

The route selected for the transmission line was mostly through a rural area in Miss. and was routed around the town and potential residential development in Coffeeville. The line required a total of about 200 acres of right-of-way with between 33 and 42 acres in the Holly Springs National Forest (TVA EA 1987).

TVA did not own the right of way, so the agency acquired the right of way through easements. As part of this process, TVA conducted an environmental assessment to determine any impacts from the construction of the line. For the most part, TVA determined that impacts associated with this would primarily emerge with the clearing of the right-of-way and the actual construction of the transmission line. The right-of-way clearing would result in the loss of some vegetation, and this loss could cause a "corresponding change of wildlife habitat type." However, TVA determined that this should not result in significant changes in the wildlife population that would be detrimental to the area (TVA EA 1987).

TVA also checked for threatened or endangered species and found that none existed. Other issues TVA checked through the environmental assessment were historical sites on or along the proposed route (none listed on the National Register of Historic Places) and archaeological impacts, such as Native American burial grounds. The report said that if any cultural resources were discovered during construction and they could not

be avoided, TVA would halt work at that site and consult with the State Historic Preservation Officer.

TVA also looked for other potential impacts, such as recreation areas or recreation resources. Again, no impacts were identified.

However, TVA did recognize in its environmental assessment that the public could demonstrate some concern about electric and magnetic fields (another reference for EMFs) that could be present with the transmission lines. As pointed out in its assessment, TVA noted that various authors had published articles on the potential hazards of EMFs. TVA recognized that members of the public from time-to-time could have questions and concerns about this issue (TVA EA, 1987).

During this period for TVA, the typical line location process began with the location engineer consulting topographic maps, aerial photographs, and such other information as is available in the office. For this project, TVA's location engineer was Steve Pitt, who identified the siting corridor and any alternative routes. Usually, TVA developed one or more tentative routes and then went to the field to determine which route would be the most cost-effective and create the least impact. TVA would use information from the Grenada County Tax Assessor to access the names and mailing addresses of the owners of the property tracts that could be affected by a transmission route currently under consideration (Pitt, 1996).

The route selection process also included a study of available topographical maps, aerial photographs and other resources that could provide details of the proposed corridor. Initially, the U.S. Army Corps of Engineers' 15-minute topographic maps were

most useful. Using these, TVA defined a study area of about eight miles wide and 18 miles long (TVA Siting Report, 1987).

According to Pitt, information was gained from the environmental assessment, aerial photographs, and the Corps of Engineers topographical maps to determine additional information about the land. Routes were revised as necessary.

The routes then were coordinated within TVA, with outside organizations, and with the interested public. Those consulted had expertise in various areas, including wildlife, aquatic resources, cultural resources, and land use. According to Pitt, the route was determined based on the best available data. A proposed final route then was developed and a transmission line designed. Among the criteria used in route development were unobtrusive area crossing, the avoidance of occupied structures, and the avoidance of any significant features, either natural or man-made, that the transmission line would seriously impact.

During this time, Pitt also worked with land owners affected to establish the preferred route for the transmission line. According to Pitt, TVA set a right-of-way corridor of less than 1,000 feet wide for many of these transmission line projects.

"For the most part, TVA tried to stay in undeveloped areas," said Pitt. "We determined the original tentative line route, which might go through the middle of a farm. But we tried to make some adjustments in the line to hit closer to the edge of the farm land."

Tom Wojtalik was one of the TVA engineers responsible for assisting with some of the environmental issues on this project. He worked with the USDA Forest Service to

obtain permission to cross Holly Springs National Forest. According to Wojtalik, the public expressed little or no concern about the potential health hazards of EMFs. He remembered that for the most part, the public concern was about the impacts of maintaining the line once it was built.

"We probably were less likely to make changes about this transmission line because we were crossing a mostly rural, lightly populated area," said Wojtalik.

TVA Communication about the Project

Once the tentative transmission line route was determined, TVA communicated with the general public to inform it of the transmission line project. TVA held a public meeting to talk about the proposed transmission line project. Residents were notified of this meeting through a letter dated July 2, 1987 (see Figure 4-1).

Both Wojtalik and Pitt recalled the letter and subsequent meeting on this project. Wojtalik said that the first contact TVA had with the public was through this letter, which TVA mailed about one month in advance of a public meeting. Wojtalik said the letter directly contacted the land owners who could be impacted by the transmission line.

TVA information showed that the letter was sent to about 30 property owners who could be impacted by the potential routing of the line. The letter announced the need for this transmission line project, TVA's intent to construct the project and invited the property owners to a public meeting to hear more information about this project. The meeting was scheduled for July 16, 1987, in the evening, in the Grenada City Hall Auditorium (Doyle, 1987).

2N 112D Lookout Place

July 2, 1987

Dear :

This letter is our means of informing you that TVA's Division of Power System Operations is examining the area between TVA's Coffeeville 161-kV Substation and the proposed Mississippi Chemical Corporation (MCC) papermill site near Grenada. New electric transmission lines are needed to provide electric service to the plant. We have examined a wide corridor between the two points and will propose to locate a double-circuit transmission line on a 100-foot-wide right-of-way easement within the corridor.

We would like to invite you to a public information meeting since you are the owner of record for land which is likely to be crossed by the line. The meeting will be held at 7:00 p.m. CDT within the Grenada City Hall Auditorium on July 16, 1987, in Grenada, Mississippi. TVA will present its proposal to serve MCC and will discuss TVA's evaluation and coordination efforts to date. Property owners and members of the public will then be given the opportunity to make comments and provide information they want considered. It is TVA's objective to identify the route that best serves the interests of property owners, other area residents, MCC, and TVA.

If you have questions and cannot attend the meeting, please send them to James G. Copp at: Tennessee Valley Authority, 1101 Market Street, 1S 137E Lookout Place, Chattanooga, Tennessee 37402-2801, or call 615-751-3133 collect.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

William A. Doyle
Chief, Transmission Planning and
Protection Branch

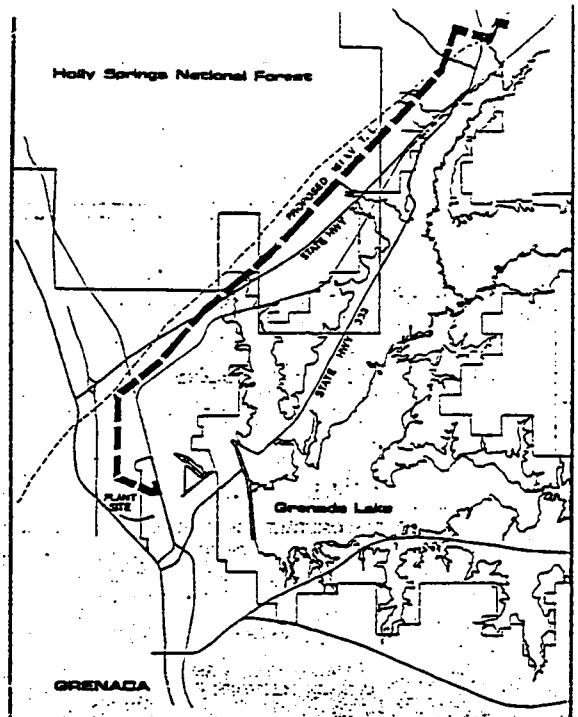
Figure 4-1. Letter to Residents Concerning Coffeeville Transmission Line

In the letter, TVA told property owners that its Division of Power System Operation was examining the area between the TVA's Coffeeville 161-kV Substation and proposed Mississippi Chemical Corporation (MCC) papermill site near Grenada for new electric transmission lines that were needed to provide electric service to the plant. TVA explained in the letter it intended to identify a route that best served the interest of the property owners, other area residents, MCC and TVA. The letter also provided property owners with the name and phone number of a contact person. According to Pitt, once residents had been contacted, usually by the letter announcing the public meeting, they could stay in touch with TVA by calling the person who contacted them.

TVA also used public notices to let others know about the proposed project and the upcoming meeting. Wojtalik said this notice provided a general announcement of TVA's upcoming planning meeting and invited the general public in hopes that anyone impacted by the project would attend the public meeting.

For this project, TVA ran an advertisement in the public notice section of the local newspaper June 30, 1987. The advertisement provided the public with the proposed routing information and details of the public meeting (See figure 4-2).

About two dozen property owners attended the meeting. According to Wojtalik and Pitt, the public meeting was structured to begin with a formal slide presentation followed by a question-and-answer session. Wojtalik said that TVA first talked about the project, why the line was needed and how the proposed route was selected. Information from the meeting showed that TVA gave a formal presentation in which it showed slides of the type of transmission towers TVA would be using for this project, and the proposed



TENNESSEE VALLEY AUTHORITY
NOTICE OF PUBLIC MEETING AND
PUBLIC INFORMATION PRESENTATION

Notice is hereby given that the Tennessee Valley Authority (TVA) will provide information about proposed transmission lines to serve Mississippi Chemical Corporation at their new plant site near Grenada. A public meeting will be held at 7:00 p.m. CDT in the Grenada City Hall Auditorium on July 16, 1987.

During the meeting TVA will:

1. Present information on the proposed 16-plus-mile, 161-kV double-circuit transmission line between TVA's Coffeeville 161-kV Substation and the Mississippi Chemical Corporation substation on the plant site.
2. Advise property owners, the public, and local officials of the background work and coordination completed to date.
3. Listen to landowner, public, and governmental comment and discusson and thus obtain any new information that may not otherwise be known from earlier State and local coordination.

TVA will later decide on an exact route that will be used for installation of a steel tower double-circuit 161-kV transmission line.

June 30, 1987
2964N

Figure 4-2. Public Notice of Meeting on Coffeeville Transmission Line

area the transmission route would take. TVA officials talked about the area being mostly farm and forest land, and they identified for the public some of the features TVA knew would impact the transmission line route, including the town of Coffeeville, Grenada Lake, and the Grenada airport, an underground pipeline and the railroad tracks of the Illinois Central Railroad.

At the meeting, TVA officials also explained the future steps property owners could expect to see or hear and possibly be included in as part of the process. According to TVA notes from the meeting, this included surveying the property. TVA also explained the future steps that it would be taking to begin project construction.

At the meeting, TVA learned of no new significant environmental conflicts or new issues. Pitt said that he was among the TVA officials in the front of the room answering questions from the public, and he did not recall any controversial issues with the line. According to Pitt, Wojtalik and TVA information, most of the public attending the meeting were concerned about where the line was sited in relation to their property and how that would impact the land value and future land-use options of the property. TVA explained that agricultural activities could continue on the property under and near the transmission line. TVA also said that it would consider minor adjustments to the route, where feasible, to minimize land-use conflicts.

Members of the public not present at the meeting, or those who attended but wanted to provide additional comments, had an additional 30 days following the meeting, according to Wojtalik. "That was the usual comment period," he said.

Following the meeting and while the comment period was still open, Pitt remembered TVA typically went to the court house to get information from the tax assessor's office about who the land owners were on the proposed transmission line route. TVA used that information to contact the individual property owner for permission to survey the land. Pitt said some people attending the meeting complained they did not learn about this meeting in a timely manner, while others probably did not know at all about the meeting.

Wojtalik said if a landowner did not attend the public meeting, the first contact with TVA was when someone from TVA called or visited to ask for permission to survey the property. TVA surveyed all the property on the proposed right-of-way, including property where no structure would be built and only the transmission lines crossed the property. The surveying also included land adjacent to any portion of this project.

Wojtalik and Pitt said that TVA worked with the land owners as it could. "If they told us of upcoming projects, such as an irrigation system or a planned subdivision, we would try to work around the item as best we could," said Wojtalik. "But, it had to represent a cost-benefit for TVA."

General Observations

In developing the final route for the transmission line project, TVA ran the line fairly close to the corridor originally selected, according to Pitt. "I do not remember making any drastic changes in the final line route," he said. "We received some requests from citizens about moving some sections of the line, but I do not remember us making

many changes based on the information provided by those residents. The line stayed fairly close to where it was originally sited."

Wojtalik recalled one minor change in the line that was surprising to him. "We were working with a couple of major property owners near the town of Coffeeville to minimize their impact," he said. "They came to us and proposed a route across their land that would take up more of their land, but shorten the transmission line route and lessen the impact on other property owners. We accepted that route."

Pitt said that if the area had been more developed, then TVA probably would have encountered more problems than it did. As it was, Pitt does not recall any controversies with the line. The primary comment he remembered was that some of the residents wanted the line to provide better service for the residents in the area, instead of providing power to an industry.

Pitt also said that TVA Corporate Communications was not involved at this time regarding communications about the transmission line and that his department usually did not seek advice or counsel from them. "We really did not need them at that time," he added.

Wojtalik recalled that the public issues at the time of this project were tied more broadly to the issue of exposure, which could indicate some preliminary information about EMFs. The public expressed some concern about the location of the line because it was beginning to hear that the lines could produce fields, but the concern did not appear to be widely based or voiced.

"However, they did not appear to understand in the greater sense that the distribution lines, the lines that were running through the neighborhoods and connecting their own homes to electric service, also produced the same types of fields as these larger lines," said Wojtalik.

"We were not aware of any active publics in the community," said Wojtalik. "However, we heard about wives of some local mayors in neighboring communities drumming up support against EMFs, but they didn't come out against TVA and this project."

According to both Pitt and Wojtalik, TVA approached the transmission line from a perspective that the area needed the power and it was TVA's obligation to construct the transmission lines. According to them, TVA also felt it had a substantial amount of knowledge and understanding about transmission lines and what impacts these lines would have on the environment.

Most people still did not like the transmission lines, but they wanted to have access to the electricity provided by the lines, according to Wojtalik. They mostly were concerned about how much TVA would pay them for the easements needed for the right-of-way and how close TVA would place the transmission line to the property line. If they had to have the line, they wanted it as close to the property line as possible, said Wojtalik.

Media Coverage

According to both Wojtalik and Pitt, there was not a lot of media coverage about this project. Both recalled that a local newspaper reporter may have covered the public

meeting, but neither remember any story about the transmission line. Also, neither remembered any television coverage.

Maury-Radnor Transmission Line (1990 to 1991)

Introduction

This section represents an account of the siting of the TVA transmission line project known as the Maury-Radnor transmission line. The line followed the Coffeeville line by a few months. This section includes interviews with four TVA employees (Steve Pitt, line engineer; Tom Wojtalik, transmission engineer; and Frank Cason and Peggy Pennington, Corporate Communications) and contains information from news media accounts and TVA materials. The project was selected because it demonstrated the involvement of a citizen activist group. The end of this section contains some reflections offered by the TVA employees involved in this project.

Background on Project

Citing an increased need for better service of electricity to a growing community, TVA decided to reconstruct its transmission line using a right-of-way it had acquired in the 1940s. According to TVA, the transmission line was needed because of projections by TVA and its distributors that demand for electricity in Williamson County would be approaching the capacity of the existing line. The Middle Tennessee Electric Membership Corporation (MTEMC), the distributor for which the line would provide additional

service, had experienced a 40 percent increase in demand over the past ten years. TVA argued that the existing line could not deliver enough power by itself to meet future demand and that the line could barely supply enough power to meet the demand during the extremely cold winter of 1989. TVA also argued that the new transmission line would improve the reliability of service to the Nashville area and meet growing power demands in communities immediately south of Nashville, including Franklin and Brentwood, Tenn. (TVA siting report, 1987).

This new project would serve as alternate power supply in the event of equipment failure or transmission line damage elsewhere on the system. In its material, TVA cited the example of recent storm damage to transmission towers in Wilson County that knocked out a 500-kV line and two 161-kV lines that served the Nashville area.

The line was planned to maximize reliability, to minimize cost to TVA, and to minimize disruption to landowners. The project was a five-segment project that included a 161-kV line to a new substation for the local distributor, MTEMC; a rebuilt 69-kV line from Franklin, Tenn., with two 161-kV lines; and a segment through Brentwood, Tenn., that included one 161-kV line with two other lines built underneath it that carried distribution lines for the local power distributor and served several various intermediate distributor substations (Wojtalik, 1996). The total transmission line project would extend approximately 36 miles long and would run from Columbia, Tenn., in Maury County through parts of Brentwood and Franklin in Williamson County, to the Radnor Substation in Nashville, Tenn.

It was with the segment running through the affluent subdivisions south of Nashville, in a city known as Brentwood, Tenn., that TVA began to experience citizen activism against the siting of the transmission lines. That segment of transmission line would replace a 69-kV line with a 161-kV power line paralleling another 161-kV power line.

Frank Cason, the TVA Corporate Communications representative in the Nashville area during this time, said Brentwood was a bedroom community of young upwardly mobile professionals who were greatly concerned about the aesthetic appeal of the neighborhood and were extremely sensitive about the potential impact of this transmission line project upon the value of their homes during a major downturn in the housing market.

According to Cason, Brentwood was very strict with its ordinances and had tightly controlled codes that applied to the aesthetics and appearance of the community. The community consistently rejected any development. "Brentwood was a very controlled neighborhood, and TVA was taking away some of its control," said Cason.

When TVA originally purchased its right-of-way in the 1940s, the property was rural farm land. At the time of this proposed transmission project, some of the property had been developed into a subdivision closed in along the easement and other portions were sites for potential residential property development, according to Cason.

Peggy Pennington, communications specialist in Nashville, also recalled that the residents were aware of the existing right-of-way TVA had on the property when they purchased their land and built their homes. Pennington said that there was an existing line running parallel through the right-of-way. According to Pennington, the Brentwood

section of the Maury-Radnor transmission line was an upgrade of the 69-kV existing line, which had been de-energized.

Steve Pitt, who again was serving as the transmission line siting engineer on this project as with the one discussed earlier, recalled that the Brentwood section of the transmission line came out of the Maury substation and ran through a vacant right-of-way, which was a corridor of about 175 to 250 feet wide. He said that residents were aware that TVA owned this right-of-way when the residents purchased their property. TVA needed the line to provide additional electricity to an area east of Franklin, Tenn., which was rapidly developing, according to Pitt.

Cason, Pennington and Pitt agreed that TVA used its same process for siting the transmission lines for many years and had not experienced many problems with the siting process. Pitt said that he used the same process to select the route that he used in Coffeeville, Miss., discussed earlier in this paper.

Pitt said TVA used aerial photographs and topographical maps and tried to maximize use of the existing right-of-way because so much new development was built up around the right-of-way. Pitt said TVA did not have many options as to where else to move the line. According to Pitt, it was virtually impossible for TVA to come up with another right-of-way. The existing one had to be used.

Prior to 1990

TVA began working on the overall Maury-Radnor transmission line project in the mid-1980s. As mentioned earlier, this line included five segments. One segment of the

line ran through Franklin, Tenn., a town adjacent to Brentwood, and required TVA to acquire a new right-of-way. TVA opted to hold a public meeting for this segment of the line in Franklin and publicized the upcoming meeting in local media. Also, as with its other transmission line projects, TVA sent an invitation letter to property owners whose land could be impacted. Prior to that meeting, the public was notified about the meeting using methods similar to those used in Coffeeville, Miss., which included letters to impacted property owners and public notices in the local media, according to Wojtalik. Letters were sent to each property owner as shown on tax records. The meeting was held in early April 1988 in Franklin, Tenn.

At this meeting, residents expressed concern about the construction of the transmission line, arguing that their homes were built after the construction of the power system and that the pricing for the right-of-way should reflect more current market values. Residents also began to express some concerns about potential health impacts. Wojtalik was concerned that there was a great deal of misinformation about transmission lines and exposure to EMFs. However, TVA proceeded with the project and notified property owners at the April meeting of its plans to construct the entire project, including the section of the line that would run through Brentwood, Tenn. (Wojtalik, 1996).

When TVA held the public meeting in Franklin, the meeting itself was different, according to Wojtalik. It was widely attended, with about 200 people present. Many were from the Breckenridge subdivision adjacent to the proposed substation. They were concerned about this segment of the line and the substation.

This public meeting was TVA's first opportunity to talk with these residents, according to Wojtalik. As with other meetings, the presentation was structured as a formal one. TVA's purpose was to lay out how contacts would be made with the residents along the proposed line route, talk with the public about property value and discuss construction of the line.

Pitt was integrally involved in the meeting and presented the information to the audience about the transmission line and TVA's proposed route selection. Pitt's presentation included information about how the route was selected, where the line was going to be built, and all the steps included in the construction process. During this presentation, Pitt recalled that many people were sitting in the aisles or on the floor and were "glaring at him." He also remembered some of the residents interrupting him and even arguing among themselves about details of the line and its various segments.

At the meeting, TVA also talked about the need for the line and the fact that there was no other place or route for the transmission line because of the development that had occurred in the area.

Wojtalik recalled that in 1988 most of the residents were concerned about property rights and compensation. They wanted to talk more with TVA about how they would be compensated for any loss of property value. Pitt remembered hearing some initial talk about the health concerns of EMFs. However, he said it did not appear to be a major issue. Most residents were more concerned about lightening strikes and the aesthetic value of property.

Both Pitt and Wojtalik agreed that the formal presentation style of the meeting, followed by a question-and-answer session gave residents more of a soap box to show their knowledge and/or misconceptions to one another and to express their concerns. They felt that the meeting was more of an avenue for residents to vent their emotions. Also, they felt that neither residents nor TVA received much useful information from these meetings.

While the meeting was widely attended, there was little media coverage of the issue. The *Review Appeal* covered the meeting in its Monday, April 11, 1988, edition of the paper. It was a brief article, buried among some advertisements in the first section. The article said that the transmission line project could impact approximately 350 property owners. The total project would cost about $11 million. TVA also told the newspaper that existing lines were between 45 and 50 years old. However, the newspaper reported that some residents did not think the improvements were necessary. The article did not mention any concerns about EMFs or potential health impacts (See figure 4-3).

Brentwood, Tenn.

While Brentwood residents were not specifically invited to the meeting in April 1988, they became aware of the meeting as a result of public notices in the local media. As a result, some residents in Brentwood concerned about another segment of the line attended the meeting. However, during the transition of building other sections of the line, some new homeowners moved into the Brentwood area who probably were not

THE REVIEW APPEAL Monday, April 11, 1988 •7

City Hall packed as TVA lines considered

By Ginny Whitehouse
Staff Writer

More than 150 people packed into Franklin City Hall last week to hear Tennessee Valley Authority representatives explain plans to improve 36 miles of power lines through Williamson County.

An estimated 12 miles of new right of way will be needed to expand the lines and approximately 350 property owners could be impacted, said Tom Wojtalik, a TVA representative based in Chattanooga. Total cost of the improvements could reach $11 million.

"This will provide two or three additional supply lines for the Franklin-area where presently there is only one source of electricity. Reliability will be improved," Wojtalik said.

With development in Franklin and Brentwood, Wojtalik said a new substation will be needed between Breckinridge subdivision and Recorp's development, Franklin Commons.

"Right now, if anything happens anywhere on the line, we could have trouble," Wojtalik said.

With increasing development, the potential for power line problems increases, he said. Existing lines are between 45 and 50 years old.

But John Oden, of Thompson Station, said he did not think the improved lines are necessary.

"They still haven't convinced me that we need it. It will disrupt property but I don't feel like we can stop (the TVA)," Oden said.

Figure 4-3. News Article on Maury-Radnor Transmission Line

aware of TVA's existing right-of-way and its plans for constructing this transmission line (Wojtalik, 1996).

TVA opted not to hold any public meetings for the existing right-of-way between Franklin and Nashville, Tenn. According to Wojtalik, TVA felt that because it was replacing an existing line and already owned most of the needed right-of-way, it probably did not need to talk with residents in the Brentwood area.

Following the April 1988 meeting, TVA began meeting with land owners along the proposed right-of-way to obtain permission to survey their property. According to Pitt, TVA paid more attention to those owning land TVA would need to acquire for some sections of the line. Pitt said TVA did not focus as much attention on those owning lands where TVA had an existing right-of-way.

At about the same time TVA was beginning the construction of this transmission line project, in the late 1980s, Wojtalik recalled that the mainstream media were beginning to present more information about the initially perceived effects of EMFs, especially the Denver and Los Angeles studies. In addition, Nashville Electric Service (the local TVA power distributor) had halted a distribution line project due to public opposition. Other utilities also were beginning to see citizen activism concerning EMFs. Citizens were going to public meetings and presenting pieces of materials from these various studies. Many of these citizens were accusing utilities of creating clusters of cancer amid these transmission lines, according to Wojtalik.

Because the existing line also was being rebuilt, it would carry two 161-kV lines, and additional distribution lines would be built underneath running from the distributor's

substation. This translated into 15 wires strung through the towers. According to Wojtalik, one resident in particular referred to the line as a "spider web of lines," which reflected the public thinking of a mass influx of transmission lines. For this project, the transmission project would include a total of 20 lines -- 15 lines for the two 161-kV lines, three underbuilt distributor lines, plus two ground wires.

According to Wojtalik, TVA determined the need existed for this project and began planning for the project using many of its normal processes. "TVA began to work immediately with the public and opted to hold a public meeting early in the process to let them know about the project," said Wojtalik. "TVA felt the opposition with the line almost immediately."

Brentwood Citizen Activism

Following the public meeting in Franklin in 1988, TVA continued its work on the transmission line project, bringing the project closer to the Brentwood community. There was not much action on the transmission line until about two years later as the construction part of the project neared Brentwood. Then, residents became aware of marking and clearing the existing right-of-way owned by TVA. Residents began to become more concerned about the presence of numerous lines so close to their homes and the visual impact of these lines on their housing values.

TVA began to survey property for the transmission line project and worked its way up to the Brentwood area by about Thanksgiving of 1990 when it began removing the existing 69-kV line. About the middle of December, clearing crews came to the periphery

of the subdivision, which had been developed in the last four or five years in existing pasture land. The subdivision consisted of $300,000 to $400,000 homes.

In the same month, TVA began surveying land near the subdivisions in Brentwood and marking the right of way for the replacement transmission line. Wojtalik remembered a local resident who questioned TVA field personnel and learned that TVA was building the line. She rallied her neighbors and invited TVA representatives to attend an informal meeting with her and her neighbors to help them understand more about the line project.

At about the same time, Jim Moore, executive director of the Phoenix Foundation, sent a letter to U.S. Representative Bob Clement asking for more information about the project and his assistance in halting TVA progress on the project.

According to the *Franklin Review Appeal,* the Phoenix Foundation was a Nashville-based non-profit organization that was offering Brentwood residents its help in their battle against TVA. The foundation offered research supporting allegations that fields emitted from transmission lines would cause serious health damage. According to its promotional material, the foundation was a research institute created to study the biological effects of EMFs.

Pennington, who lived near the community, recalled that until the meeting in the Brentwood home, she had not heard much about the transmission line project. She was not aware of any controversy with the line. She learned about the Brentwood situation through one of TVA's right-of-way specialists. She also learned through him about a "coffee klatch" being planned at a house in the Brentwood neighborhood. According to Pennington, the right-of-way specialist planned to meet with the homeowners.

Prior to the meeting, Pennington learned the meeting could be more involved than originally thought and that it could be less friendly than originally presented.

The meeting was held December 14, 1990, and about 45 neighbors attended the meeting. Wojtalik, Pennington, and Cason attended the meeting to explain TVA's intent and the need for the construction of this transmission line. Also, unknown to TVA, the local residents had invited area newspapers and local television stations to attend. Both Nashville newspapers, a Brentwood weekly newspaper, a newspaper in Franklin, and Channel 2 television from Nashville covered the meeting.

About the same time of the meeting at the resident's home, the Environmental Protection Agency was preparing to release the results of its epidemiology study that would link EMFs to leukemia and brain cancer. The results were due within the next week (Elmer-Dewitt, 1990).

According to Cason, the health concerns over EMFs were becoming more of a national news story, and stories about the health concerns relating to EMFs had appeared in several more popular publications, such as *Prevention*, *Business Week*, and *The New Yorker* magazine. EMFs and health-related concerns were becoming more prominent stories, and local residents had an opportunity through the news media to connect their concerns over the transmission lines with concerns about EMFs. In addition, a major story was about to be released on the study conducted by the Environmental Protection Agency.

However, locally, not much media attention had been given to EMFs. Media coverage of this issue became more intense later in December, following the release of the

EPA study on EMFs. The residents' meeting was held before the release of this study, but the release of the study provided local media with a local angle on a national story. While TVA officials did not feel the meeting was timed deliberately to coincide with the release of this EPA study, the timing of the meeting worked in the residents' favor with media coverage (Cason, 1996).

When Wojtalik and other TVA representatives came to the home of the Brentwood resident, TV stations and several newspapers already were present. Residents immediately started questioning TVA about its activities. TVA gave them an overview of the project. Then a resident began asking questions about EMFs. According to Wojtalik, the residents appeared to have been coached on questions to ask and how to ask the questions. The neighbors also brought their small children and made a point of making the children's presence known to the media.

Wojtalik discussed the impact of EMFs and that TVA thought the fields would not increase but actually could decrease as a result of the new transmission lines. Wojtalik said if the transmission lines were reconfigured, the lines could "cancel out" and reduce the EMFs. According to Wojtalik, many people thought the increase in the number of lines would increase the EMFs generated. Wojtalik was concerned residents did not understand physics, electronics, or the mechanics of the line.

Wojtalik remembered the television crews appeared to focus more on the residents and the children and the emotional issue surrounding EMFs. He noted when TVA answered factual questions, often the cameras were not turned on.

Couples attended the meeting and brought their children, according to Pennington. Residents clearly sent a message to the news media that they did not want their children to be exposed to EMFs, said Pennington. They wanted to make it an emotional issue.

Pennington said the news media present included newspapers from Brentwood and Nashville and television from Nashville. Cason conducted all the interviews. Also, TVA met with the property owners and offered to work with them following the meeting. Cason and some of the other TVA representatives had recently completed training on how to conduct public meetings that would encourage two-way communications, which they felt was useful to them in this process.

Cason said he and the other TVA representatives arrived about 15 to 30 minutes early to the meeting. No one was at the meeting yet, but within the next 15 minutes about 40 to 50 neighbors were present. Cason remembered he and other TVA representatives tried to mingle with the residents, but because of cramped space in the house, they were unable to move about much during the meeting. Cason remembered the meeting turned out to be very much against them. The meeting lasted about two hours.

Cason said that the timing of the meeting was good for residents because in late 1990 EMFs were becoming a hot issue in the general public. Also, it was good timing to hold the meeting in the morning because the media could meet many of their deadlines to make the story more timely.

In addition to the media, Cason said the mayor of Brentwood also was present. From that point on, Cason said the residents held the mayor under pressure and came to city commission meetings to pressure it to act against TVA and the transmission line

project. The group was one of the forces that made the Brentwood City Commission more serious about pressuring TVA to stop construction of the line, according to Cason.

At the December meeting, residents asked TVA to halt the line until TVA could determine beyond a doubt that there was no direct health impact from EMFs. The meeting was covered in the *Nashville Banner* that afternoon with a front-page story that led with "nearly 50 angry homeowners quizzed TVA officials about health risks" of the transmission line project. The article also talked about the anticipated release of the EPA epidemiology report (See figure 4-4).

The *Brentwood Journal,* the *Franklin Journal,* and *The Tennessean* also covered the meeting and the controversy that was brewing between TVA and the City of Brentwood. Publicity over the proposed project continued through December 1990 and into January 1991 with weekly stories appearing in most of the local newspapers about the controversy and about unknown EMF health impacts. Subsequent articles included information about the city of Brentwood's intent to ask TVA to halt the construction of the line *(The Tennessean,* 1990*)* and TVA's reaction to that request by providing information about the safety of the line (*The Tennessean* and the *Nashville Banner,* 1990). In December 1990 alone, approximately 20 articles appeared in local newspapers that included direct references to TVA and the city of Brentwood controversy and the connection to EMFs.

Later that month, in the December 24, 1990, issue of *Time* magazine, the draft results of the EPA study were reported. The results indicated that the agency "tentatively concluded that scientific evidence 'suggested a causal link'" between some types of EMFs

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TVA foes: Study links power lines, cancer

By J. Patrick Willard
Banner Environmental Writer

BRENTWOOD — Nearly 50 angry homeowners quizzed TVA officials today about the health risks of the planned expansion of power lines through their neighborhood.

The residents asked Tennessee Valley Authority environmental engineer Tom Wojtolik about a federal report that is due to be released next week linking electric or magnetic fields to some forms of childhood cancers.

Wojtolik tried to reassure the homeowners that there is no conclusive evidence that ties the power lines' electromagnetic fields to the cancers.

TVA is planning to expand power systems between Radnor Lake and Columbia with the addition of 161,000-volt power lines.

"It's not fair what you're doing," said Jan Rogers of McLemore Lane. "You're asking us to take a chance with our children's lives with these power lines."

Brentwood residents urged TVA to delay the expansion until more evidence becomes available about the possible relationship to the illnesses.

Wojtolik countered that the addition of a 161,000-volt line would reduce magnetic fields by about 20 percent because electric waves would cancel each other out.

The lines are due to be in place by June 5, 1991.

The TVA engineer told the homeowners he has reviewed a draft of the Environmental Protection Agency report and that it is only a review of other studies and not a completely new study.

He said he believes the report will be incomplete when it is released next week.

The 50 members of the of the Indian Point Homeowners Association listened to the TVA official at the home of Melinda Sledd.

They had gathered to protest the lines — to be strung over 90 to 125 towers — through a residential section of Williamson County.

Sledd said the report links electromagnetic radiation to leukemia and brain cancer in children.

"They have no business putting these lines through the residental areas," Sledd said.

The new power lines would run about 150 feet from her bedroom, Sledd said.

White House fears of unduly alarming the public have delayed until next week the release of the EPA report, the EPA says.

The report, which was to have been released last month, suggests, but does not prove, that electromagnetic fields can cause cancer, EPA officials said.

The Brentwood group is the latest to join the fight against the proposed expansion of the TVA power lines. Columbia residents earlier took aim at the TVA plans.

TVA officials said the additional power lines are needed to provide power to meet energy needs in Williamson and Maury counties.

The new power lines would replace unused transmission lines that run along the same property. At public hearings last year, TVA officials said Williamson County's energy needs are expected to be near capacity limits by the summer of 1991.

Sledd, however, said TVA needs to move the power lines because of the health risks. She said new research like the EPA report is beginning to show a causal link between high power lines and cancer.

"These babies (power lines) put out 160,000 volts of electricity that studies are now showing has magnetic radiation that goes through anything," she said. "I think at this point the health field is where they were linking cigarettes to cancer 20 years ago."

"We will continue to keep a watchful eye on it and take steps to protect the public," TVA's John Moulton said earlier today.

Moulton said TVA has funded research into the effects of electric and magnetic fields. "We welcome additional credible study on the subject, whether it is done by EPA or others."

D. Allan Bromley, a White House science adviser, and James O. Mason, assistant secretary of health and human services, told EPA officials they were concerned the public would misinterpret the report's conclusions.

Figure 4-4. Nashville Banner Coverage of Brentwood Residents' Meeting

and some of the health concerns being voiced by the general public. However, the article continued to say if there was a link, it was a small one, according to the EPA report, and the evidence was still very controversial.

Brentwood City Commission

At the December 1990 meeting in the resident's home, the Brentwood community group called for a public meeting for TVA to discuss the transmission line project. At its request and also at the request of the City of Brentwood, TVA planned to host a public meeting as part of the Brentwood City Commission meeting to be held 30 days later, January 14, 1991.

About two days prior to the meeting, on January 12, 1991, the media again began to demonstrate interest in the transmission project. Between that date and the end of the month, 21 news articles appeared in the local newspapers on the controversy.

On January 12, 1991, *The Tennessean* reported that officials with the city of Brentwood were considering hiring an independent consultant to check the accuracy of TVA's measurement of EMFs.

On the same day in the *Nashville Banner*, U.S. Senator Jim Sasser was quoted in a letter to then-TVA Chairman Marvin Runyon as being concerned about EMFs, and Sasser urged TVA to keep Brentwood residents informed of "steps TVA will take to limit EM (electromagnetic) emissions from these lines" (*Nashville Banner*, Jan. 12, 1991).

At its meeting with the Brentwood City Commission on January 14, 1991, TVA once again made its formal presentation that included why TVA needed to construct the line, how the line route was selected, and how the construction would occur.

Pennington recalled that one of the top regional managers made the presentation to the Brentwood City Commission. In addition, TVA also brought in an epidemiologist from the University of Alabama Medical Center in Birmingham as an expert to talk about EMFs and their known health impacts. TVA made about a 20-minute presentation to the city commission, and the presentation went well, according to Pennington.

At its monthly meeting held on January 14, 1991, the Brentwood City Commission was concerned about the perceived increased levels of EMFs that could result from the new transmission line. According to coverage of the meeting, TVA argued that the levels of EMFs probably would be lowered following the construction of the new line (Dempsey, January 16, 1991). TVA offered to take measurements of the levels prior to the construction of the line, with the current line de-energized, and then take readings in the same locations once the new line was constructed and energized. Residents were asked to compare the readings.

Once again, media coverage of the meeting was significant. Channel 4 television out of Nashville quoted the Brentwood mayor as saying the city would be "firm" in its "resolve" to obtain the facts on the electromagnetic field issue before TVA proceeded with the construction of the line. *The Tennessean*, the *Nashville Banner*, and the other local media also covered the meeting and talked about how Brentwood might regulate the emissions from TVA's power lines.

After the city commission presentation, the EMF issue continued to be carried as an agenda item for its meetings, and TVA continued to work with the city to address the city's concerns. Media attention continued with stories appearing in one or more of the local newspapers almost daily.

According to Pennington, within the next few days to a week following the January 14, 1991, meeting, the city commission issued a moratorium on the construction of the transmission line. However, the city later determined it had no jurisdiction over TVA, which is a branch of the federal government, said Pennington.

Two weeks later, on January 28, 1991, the Brentwood City Commissioners voted to limit the amount of electromagnetic emissions from TVA's transmission lines. According to *The Tennessean*, the commissioners voted unanimously on the first of three readings of a proposed ordinance that limited TVA to "zero spillage" of EMFs from its power lines beyond the utilities' right-of-way.

On February 1, 1991, the *Review Appeal* (Williamson County) reported that TVA said it was "virtually impossible" to achieve zero EMF emissions from its transmission lines. TVA also added that the construction of the new line would reduce current EMF emissions from the transmission lines and that people still would receive a much higher exposure to EMFs from other sources, such as computers, appliances, and fluorescent lights.

On February 3, 1991, the *Review Appeal* reported EMF readings at a home near a TVA transmission line were lower than inside its own newspaper offices.

On February 11, 1991, the Brentwood City Commission again met to consider the ordinance limiting EMF emissions from TVA's transmission line. The vote was delayed while the commission decided to wait for new information from TVA (*Nashville Banner*, 1991). The meeting also was covered in the other local newspapers.

On February 22, 1991, the *Review Appeal* reported TVA and Brentwood officials were meeting to attempt a compromise on the transmission line project but the meeting was scheduled after the next city commission meeting.

On February 25, 1991, the Brentwood City Commission approved on the second of three readings the ordinance limiting EMFs at TVA's right-of-way edge *(The Tennessean,* 1991).

On February 28, 1991, TVA met with the Brentwood city officials in a public meeting and told the public TVA would not postpone its transmission line project (*The Tennessean*, 1991). Residents asked TVA for a single-pole structure to run the transmission line, instead of two lines on either side of the right-of-way. TVA would only consider that option if the city would pick up the additional cost, which was estimated to be about $225,000 for each mile within Brentwood. At this meeting, TVA committed to changing the configuration of the conductors, which was a means of lowering the EMF levels (Pennington, 1996).

Following the February 1991 meeting between TVA and the Brentwood city officials, area newspapers continued the debate on the health risks of EMFs and the debate between TVA and the city of Brentwood on the transmission line project. Again, articles

appeared almost daily in one or more of the area newspapers on the issue. All totaled, 16 articles appeared in local newspapers.

On March 8, 1991, the city of Brentwood reported it had determined it had no authority to regulate EMFs from power lines and that, as a city government, it had no authority over TVA, a federal agency, because of sovereign immunity held by TVA (Dempsey, 1991).

In March 1991, the Brentwood City Commission voted to delay on a third reading of the ordinance. By delaying the ordinance, the commission noted that TVA was in the process of reconsidering an option to redesign the support structures for the line and that TVA should be given a chance to make its decision. The city commission also noted that its attorney had determined that any such ordinance would be unenforceable because a city does not have jurisdiction over the federal government (Dempsey, 1991).

However, one month later, on April 9, 1991, the city of Brentwood passed its ordinance to limit the levels of EMFs emitted from TVA's transmission lines, making it the toughest EMF ordinance in the nation. By passing it, the city limited electromagnetic radiation that can be emitted by high-voltage lines to four milligauss (mG) at the edge of the right-of-way for the transmission line. (Milligauss is the unit used to measure EMF levels.) At the time of Brentwood's law, the State of New York had an interim 200 mG edge of right-of-way magnetic field limit, while Florida had 150-250 mG limit for 500-kV and/or 230-kV lines (*Microwave News*, 1991).

At the April 4, 1991, meeting, the media turnout was heavier than it had been at previous meetings. Two Nashville television stations and three newspapers covered the

meeting. During the meeting, TVA said it was not currently in violation of the ordinance and it would have to see what happened when the line was energized (*The Tennessean*, 1991).

At the same time the issue was being debated in Brentwood, the Tenn. state legislature was considering companion bills that also would ban the construction of high-voltage power lines within one-half mile of any occupied dwelling or proposed subdivision. The bills were referred to a study committee, and a report was to be made back to the Assembly by January 1, 1995 (*Microwave News*, 1991).

On June 7, 1991, TVA issued a news release that it had energized about half the 36-mile Maury-Radnor transmission line. The second half of the line was to be in service by the end of the month (TVA, 1991). TVA was to survey the transmission line once it was in service, and the Brentwood City Manager requested the survey data when it became available.

TVA provided the results of its reading to the City of Brentwood. For the most part, the readings were within the limits set by the ordinance. In many cases, the readings for EMFs once the new line was energized were lower than the readings taken preceding the installation of the new line. Also, as a follow-up to this issue, city employees, trained by a professor from Vanderbilt University, were to continue to monitor the EMF emissions by TVA power lines (*The Tennessean*, 1991).

In August 1991, the *Review Appeal* reported that about 75 Brentwood homeowners formed an advocacy group called "People Advocating Prudent Avoidance." This group was coordinated by a local Brentwood resident and would help them air their

concerns about EMFs. This group was formed about three years after the first resident wrote a letter to TVA expressing concerns about the construction of transmission lines in his neighborhood. The group planned to keep abreast of the issues and emerging research surrounding EMFs and to monitor TVA's activities related to EMFs in the Brentwood area.

TVA Changes

According to TVA representatives involved in the transmission line project through Brentwood, Tenn., TVA made several changes in its process that were implemented for future siting projects. A key change was TVA's consideration of the aesthetics of the transmission line.

However, according to Pitt, even if TVA had to go through the siting process again with the Maury-Radnor transmission line, it probably would still have to take the same route because of the development in the area. Pitt said that today TVA would have had more talks and meetings with landowners about the situation.

To help TVA address the aesthetic issues, TVA has since purchased new computer equipment, called the geographical information system (GIS). This computer system utilizes and provides considerably more information about the right-of-way being proposed. The information provided included details about the landscape and terrain of the area. TVA can use this information to provide a more visually aesthetic route for the transmission line.

According to Cason, TVA made changes in the way it now communicates with publics about these transmission line projects. During Brentwood, Cason said TVA did not encourage two-way communications; communication generally was one-way, with TVA providing information to the public through meetings and news media. Also, Cason said that TVA made little effort to notify the public of TVA's activity on the transmission line. Cason said usually TVA ran an advertisement to tell the public that it was having a public meeting. For the Brentwood issue, such an ad was placed in the local media for the original meetings but subsequent communications did not continue.

Cason also said the public meeting format was changed. TVA focused on getting the job done quickly and as inexpensively as possible. TVA needed to become more sensitive to the land owners' needs.

Among the changes that TVA made, according to Cason, included holding the public information meetings in a more timely manner, closer to the time of the beginning of the project. TVA also moved to share more information with the public about the line and any potential issues. TVA involvement in EMF studies was broadened, and it is making what information it gains from these studies available to the general public, according to Cason. TVA has participated in several national epidemiology studies and has provided information from these studies to local news media.

Another change, according to Cason, is that following Brentwood, the TVA right-of-way siting program specialists began calling more on TVA Corporate Communications and its representatives to go with them, especially on particularly difficult situations. This made Corporate Communications more involved on the front end of future projects.

According to Pennington, TVA's experience with Brentwood was probably the first time TVA had been involved in a transmission line siting that included the EMF issue as a significant focus. Her involvement in the beginning was disseminating information about the project. However, the evolving public attention given to this project required expanded support from many TVA staff members and included preparing presentations for the Brentwood City Commission and communicating what was happening within TVA to ensure that sound and logical decisions were made. She also took some calls from residents and provided them with printed materials. After the January 1991 meeting with the city commission, there were no more public meetings. Instead TVA dealt directly with the city commission, according to Pennington.

Following this issue, TVA initiated some risk management training, said Pennington. TVA also learned the importance of keeping the public informed with more timely and accurate information. The transmission line siting process evolved into a situation where TVA brought the public into the project with a siting letter and encouraged its involvement in the open house and other meetings. TVA also would be open to make changes in the route.

All the interviewees cited a key change in the way TVA meets today with residents. The meetings, known as open houses, are more informal situations in which TVA offers about six information areas (tables) that residents can sit and talk with TVA employees about property values, construction issues, environmental issues (including EMFs) and other subjects.

All interviewees also agreed that TVA has become more open to changing aspects of the line whenever possible. TVA informs land owners there are alternatives and changes they can make on the line, within certain parameters. Also, TVA will talk with the neighbors as a group and let the group make decisions about what is best for the neighborhood.

Concord-West Ringgold, Ga. Transmission Line (1993 to 1995)

Introduction

This section presents a chronological summary of the TVA transmission line siting process for the project known as the Concord-West Ringgold project, which occurred in the 1993 to 1995 time frame. It followed the Brentwood transmission line project by about three years and represents TVA's line siting practices being used today. The data for this section was compiled from TVA documents, news clips, and interviews with Steve Pitt, TVA line engineer; Tom Wojtalik, transmission engineer; and Creed Crowder, Corporate Communications.

Background on Project

In 1991, TVA and North Georgia Electric Membership Corporation (EMC) began working on a plan to improve reliability of the electric power supply in north Georgia (Hayes, 1993). Citing new growth in consumers and electricity use, and the impact that has had on the power demand during severe weather, TVA and its distributor announced

plans to build three new sources of power (substations) in the area, along with needed transmission lines to connect these substations.

One of the new substations and transmission line projects was located near Ringgold, Ga., a few miles south of Chattanooga, Tenn. (Hayes, 1993). TVA planned to have this substation in service by mid-1995. The Concord-West Ringgold project would connect TVA's Concord substation in East Brainerd, Tenn., to a new substation being built in Ringgold, Ga. The project involved a new 11.8-mile power transmission line. It was part of an overall project to improve service in the north Georgia area that included approximately 65 miles of new transmission lines. At the time, Ringgold was served from a single 161-kV line that did not allow a back up emergency supply in the event of severe weather or line damage (See figure 4-5).

Sequence of Events

According to those involved with the project, the selection process for this proposed routing corridor was different from transmission line projects preceding the Brentwood siting. They said TVA incorporated the lessons it learned from its experience in Brentwood. From the beginning, TVA anticipated and planned for concerns about the aesthetic impacts of the transmission lines and the impact that could have on property value. As a result, TVA used newly purchased computer equipment to help develop a proposed route that would allow TVA to run the line behind natural visual barriers, such as trees and hillsides, to help hide the line and reduce residents' concerns about aesthetics.

Let's talk it over.

You're invited to attend our Open House to discuss a new transmission line and substation for Ringgold, April 29, 1993, 5–8 p.m.

To improve the supply, reliability and quality of power for the Ringgold area, the Tennessee Valley Authority and North Georgia Electric Membership Corporation are considering a new transmission line and substation west of Ringgold. The line would extend from East Brainerd to Ringgold.

Presently, Ringgold is served from a single 161,000-volt line, without the benefit of an alternative source during emergency conditions. For example, had the substation been in service during the blizzard in March, North Georgia EMC's ability to restore service to customers in the surrounding area would have been greatly improved.

Other benefits will include enhanced power quality and encouragement of economic development for the Ringgold community. The line and substation are scheduled to be in service by June 1995.

The proposed 161,000-volt line will start at the TVA Concord Substation in East Brainerd in Tennessee and extend 3.2 miles southward on existing vacant right-of-way to a point near Interstate 75. New right-of-way will be purchased for the 8.6-mile portion leading from I-75 through Peavine Valley to the site for the new substation west of Ringgold.

TVA will mail invitations to the open house to individuals whose property may be affected by the transmission line and substation. Also the public is invited to the open house to see displays of the proposed project and to discuss any aspect of it with TVA and North Georgia EMC representatives. The open house is informal, so you can attend anytime between 5:00 and 8:00 p.m. on Thursday, April 29, 1993. It will be at the Ringgold Nutrition Center, 203 Evitt Street (next to the Fire Department) in Ringgold.

If you're disabled and need assistance to attend or participate in this event—or if you're unable to attend the open house, but are interested in receiving information about the project—please call James G. Copp toll-free at 1-800-362-4355, or write to him at 1101 Market Street, SP 2D, Chattanooga, Tennessee 37402.

Figure 4-5. TVA Open House Notice

According to Pitt, TVA used the new GIS mapping information to help select the route. The GIS helped TVA in dealing with such critical issues as the visibility of the line, which TVA felt was a primary concern for many residents. With this computer model, TVA could more effectively address aesthetic issues. According to Pitt, this move represented a step TVA would not have taken ten years ago.

Also, for this project, as with others following Brentwood, TVA examined a wider corridor to provide more room for flexibility in adjusting the line, according to Pitt. And, TVA relied more on the residents to provide TVA with information about the proposed route -- information Pitt said TVA now usually factors into its line siting.

In its initial siting of the line, TVA had to vary from a straight line route because of existing development, according to Pitt. In making these changes, TVA made the effort to minimize the visibility of the line. TVA took significant steps to hide the transmission line behind natural elements of the land, such as behind a hillside, whenever possible.

TVA's initial planning for the line also included increased involvement of Corporate Communications into an initial strategy meeting to plan communications to the public about the transmission line. According to Pitt, TVA knew in advance this could be a controversial line, so Corporate Communications became involved. Following TVA's experience with Brentwood, TVA set a general standard for how communications with the public would be handled. This model was demonstrated in this project.

Creed Crowder had just begun working as TVA's area manager in its corporate public relations department when this project was announced. He was responsible for south Tennessee and north Georgia, and his primary role was to build relationships with

government and community leaders in the area. He was to become a point of contact about any TVA matter, including transmission lines, flooding, lake levels, etc. He was to give community leaders a place to start for gathering information about their issues, be their advocate, and coordinate to ensure that their needs were met.

Crowder was told by TVA communications to "keep the ox out of the ditch" with this issue. He was to work with the public and the press and help keep things on track. Crowder was fairly new to this job at TVA and the first steps he took included learning more about the issues and the people involved.

TVA's initial communications about the project involved several quick actions that included a lunch with local officials, a visit to local media and correspondence to area employees, all of which was designed to provide TVA information about the proposed transmission project.

One of Crowder's early assignments on this project was to arrange a luncheon between TVA and some of the local officials to inform them about the transmission project and also to establish some initial lines of communication with this key audience.

The lunch was held in early March 1993 and TVA used this opportunity to better inform local officials about why TVA saw the need for the transmission line and how the line route was selected. According to Crowder, this meeting was to provide the officials with information directly from TVA and to start building relationships between them and TVA. Local media also were invited to the luncheon.

At the same time the lunch was scheduled, TVA also planned a media visit with the *Chattanooga Free Press* to provide it with additional information, according to

Crowder. During the interview with the *Chattanooga Free Press*, TVA talked about the overall transmission project in north Georgia, emphasizing the rapid growth in the area and the strain the growth was putting on the existing transmission line structure, according to Crowder. He said TVA wanted to provide more information more frequently to the media and wanted to be more responsive to their questions.

In March 1993, TVA sent information to about 400 employees living in the proposed project area. According to the letter, TVA wanted the employees to know in advance about the project and the reasons for it.

Following this initial communications blitz, TVA announced plans for an open house to discuss the transmission line project. TVA provided information about the open house through the local media and through letters to property owners in the study area.

According to Crowder, most people learned about the transmission line from a news release that TVA provided to the newspaper. TVA also sent a fact sheet and a letter to property owners within the potential corridors. Also, TVA sent letters to members of the local chambers, government officials, and congressional field staffs inviting them to the meeting.

On April 29, 1993, TVA hosted an open house for residents concerned with the Concord-West Ringgold portion of the project. Residents were invited with a letter and were encouraged to visit "one-on-one with representatives about any aspect of the line, including route selection, design, construction, and environmental matters" (See figures 4-6, 4-7 and 4-8).

OPEN HOUSE
Date: Thursday, April 29, 1993
Time: 5:00 p.m. to 8:00 p.m.
Place: Ringgold Nutrition Center
203 Evitt Street (next to the Fire Department)
Ringgold, Georgia

Dear :

You are invited to attend an open house April 29 on the proposed Concord-West Ringgold power transmission line and the new West Ringgold Substation. These are the first of a number of projects planned by TVA and North Georgia Electric Membership Corporation to improve electric service in the north Georgia area. See the enclosed factsheet for details on the area involved and other features.

We are seeking public input early in the planning process so that we can take individual needs and concerns into consideration as we proceed. We are mailing invitations to owners of property that may be involved in these improvements.

At the open house, displays of the project will be shown and representatives of TVA and North Georgia EMC will be available to answer any questions. You're welcome to stop by and talk one-on-one with the representatives about any aspect of the line, including route selection, rights-of-way, design, construction, and environmental matters. Light refreshments will be served.

If you are unable to attend the meeting but are interested in receiving information about the project, please contact Steve Pitt at 1101 Market Street, SP2D, Chattanooga, Tennessee 37402, or you may telephone him at 1-800-362-4355.

We look forward to receiving comments from the citizens of the Ringgold area on this project.

Sincerely,

James G. Copp, Manager
Siting and Environmental Design

Figure 4-6. Open House Letter to Residents

TVA OPEN HOUSE

WELCOME

We need your ideas...

You're invited to visit the information stations and ask questions about the new power transmission line and substation that TVA and North Georgia Membership Corporation are planning to improve electric service. The new line will run from the TVA Concord Substation in the East Brainerd area of Hamilton County, Tennessee almost 12 miles through Peavine Valley to a point west of Ringgold, Georgia, where the substation will be constructed.

Learning what you think is important to us in designing and constructing this project. We want the line to have as little impact as possible on homes and sensitive cultural, environmental, and scenic areas. Please take a few moments to answer the questions on the back of this sheet.

The attached fact sheet lists the kinds of information that you can obtain at the information stations. The stations are staffed with professionals who will be here until 8:00 to answer your questions and listen to your suggestions.

We will notify you once the final route for the transmission line is selected.

We appreciate your taking the time to stop by and share your thoughts with us.

Glenn E. Parrish

Glenn E. Parrish
Vice President
Customer Service (East Area)

P.S. Be sure to write your comments on the new power line on the back of this note, and leave it in the box at the door.

Figure 4-7. Open House Information, p. 1

Name_____

Address_____Phone_____

City, State, Zip_____

If you have information about the proposed route that will help us make a better siting decision, please answer the questions below:

Do you know of plans for any major developments near the route for the new line?

_____

_____

_____

_____

Are you aware of any environmentally, historically, or archaeologically unique or sensitive areas in the vicinity?_____

_____

_____

_____

Do you have any additional questions about the line or corridor TVA has proposed?

_____

_____

_____

_____

Please leave this in the box at the exit or mail no later than May 29, 1993, to Steve Pitt, Tennessee Valley Authority, SP 2D, 1101 Market Street, Chattanooga, Tennessee 37402-2801.

Figure 4-8. Open House Information, p.2

At the open house, people were able to meet with specialists to discuss specific issues or concerns. The information stations included line/substation location where details about the route, how it related to someone's property, the reasons for the route and other details could be learned. Other stations included environmental protection, building the line, right-of-way purchase, and information about what happens after the line is built.

Residents also could complete a questionnaire to leave with TVA if they were unable to meet with them or did not want to talk with TVA officials. According to Pitt, TVA's open-house meeting was about six hours long. The room was set with several tables that represented different stations for various subjects, such as the location and routing corridor, operations and maintenance, and appraisals.

According to Pitt, residents could come, visit, and ask questions in informal, non-threatening situations. The meetings also were valuable to TVA because TVA could learn more information about the route it had selected. Residents could tell TVA of future development plans they may have for their property or other issues that could make it difficult for them if TVA chose the routing. The sessions were a lot more open than the formal meeting structure TVA had with Brentwood.

TVA also provided pamphlets to residents to explain current issues, such as right-of-way selection, EMFs and other information. TVA tried to provide residents as much information as possible about how it would maintain the right-of-way once it was cleared.

Crowder recalled that the open house concept probably emerged from TVA's experience with the transmission line project through Brentwood, Tenn.. Crowder felt the

open houses were designed to help TVA work better with the community. The meetings were designed to allow TVA to talk about what it had in mind with this project, why it had to do it, and ask the community for its thoughts about the project. It made communications with TVA a better experience, according to Crowder.

The meeting was more of a drop-by situation and far more informal than the way these meetings previously were conducted, according to Crowder. It was good for a resident who had a concern about a specific issue to talk with a TVA representative and specialist on that topic, said Crowder. The resident also could ask TVA for help on any issue. Residents could get better information in greater detail with less confrontation potential.

TVA also had hired a communications person to help the TVA organization responsible for siting transmission lines. According to Crowder, this person helped conduct the open houses and other public meetings, prepared updates for residents and local officials, updated project area maps and performed other work as needed.

At the meetings, TVA did not encounter any major concern over the EMF issue. The concern was focused more on the aesthetics of the transmission line and how it could impact property value. Because that was such a critical concern, TVA worked very closely with residents to identify those concerns. And, according to Pitt, TVA tried to address that issue in the beginning with the selection of the corridor and the study area.

In July 1993, the local distributor, North Georgia EMC, had information about the upcoming project in its newsletter.

On August 3, 1993, TVA mailed information to new property owners moving into the area about the project. In the information, TVA explained that the project would include a 161-kV transmission line. The project would be built on 3.2 miles of existing right-of-way and then would continue on 8.6 miles of right-of-way from I-75 through Peavine Valley that would be purchased. It would provide a second source of power to the area and thus increase reliability. The line and substation were scheduled to be in service by June 1995. TVA added that in designing the line, it would do the following:

- Take individual needs and concerns expressed by those involved into full consideration.
- Cross the property of as few landowners as possible.
- Keep the power lines as far from homes and neighborhoods as possible.
- Avoid sensitive environmental and cultural areas.
- Use double, steel pole, concrete structures, which tend to be lower and less visible than latticework steel towers. (TVA update, 1993)

In August 1993, TVA hosted an information day for residents in the Ringgold area, which generated a second opportunity for residents to discuss the project with TVA. Because of adjustments made in the line, it affected some additional property owners, and TVA offered the information day to meet with them and talk about the project. The information day began at 10:30 a.m. and ran through 7:30 p.m. TVA asked for residents' assistance as TVA looked at "individual needs and concerns" as it "tries to balance land use, aesthetics, and environmental factors to meet the need for the line" (TVA news release, August 1993).

More than 370 property owners and elected officials were invited. Only about 60 people attended the event. According to TVA reports, there was limited interest in EMFs. Only one developer and two residents made general inquiries about the subject at this meeting.

Crowder said this meeting was not as widely publicized because TVA wanted to focus more on the property owners who would or could be impacted the line. This additional meeting was to enable TVA to work more closely with the residents.

At the meeting, TVA focused on what officials had heard at the earlier open house and the research conducted since that time. TVA reported that based on what it had heard, here is what it planned to do. Even at that point, Crowder said TVA still would be open to negotiations and adjustments in the line still were possible.

However, one person representing the Misty-Ridge subdivision presented TVA with a petition signed by 42 people objecting to the proposed location of a transmission line on the Concord-West Ringgold portion of this project. TVA agreed to review the issue.

In February 1994, TVA sent letters to its retirees and employees living in the north Georgia area to provide them information about the transmission line project. In these letters, TVA cited the growth in the area and used the blizzard of 1993 as an example when the current transmission system could be overloaded and create significant power outages for residents.

On September 29, 1994, TVA conducted a follow-up meeting with some of the residents in the Misty Ridge subdivision to talk about their concerns on the Concord-West

Ringgold portion of the line. At the meeting, TVA committed to buying 150 feet of right-of-way south of their property lines to give an extra 50-foot buffer between their property and the transmission lines. TVA also committed to working with the residents to locate trees (at TVA's cost) in locations that would minimize the visual impact created by the transmission line.

Crowder said the residents of this subdivision were upset that the line was too close to them and they wanted the line out of view. TVA met a couple of times with these residents to ensure that their needs and concerns were addressed. At the meetings, TVA explained it could not place the line just anywhere. However, TVA offered to look at the situation and see what it could do. TVA did move the line some.

Overall, TVA's experience with the transmission line project represented more of a negotiation than it had on the other transmission line projects.

CHAPTER 5

RESULTS AND DISCUSSIONS

Introduction

The beginning of this paper outlines that the author's intent was to determine how media advocacy was used by a citizen activist group in TVA's siting of the Maury-Radnor transmission line through Brentwood, Tenn., and if it was an effective tool for a citizen activist group to affect public policy changes. The following four questions were offered as the basis for making this determination:

1. How did a citizen activist group use media advocacy to influence TVA's siting decision?
2. What successes/failures were apparent in the use of media advocacy?
3. What policy changes by TVA did/did not occur as a result of the advocacy effort?
4. What can public relations practitioners learn from this case study about publics pressuring an organization?

To help with making these determinations, the author used three case studies of transmission line sitings that spanned a ten-year period and were representative at the time of the processes used by TVA to site and communicate to the public about its projects. The three cases were contained within a 10-year period to reflect the timeliness of any

changes made by TVA during that time. Two of the projects served as pre- and post-tests of TVA's siting procedures, with the Maury-Radnor transmission line serving as the pivotal point at which it is suggested TVA made changes in its siting procedures.

It is important to note that while media advocacy is becoming a more sophisticated media tool for many activists (Wallack, 1993), the group in Brentwood, Tenn. may not have been aware at the time that it was using such a tool.

Part of the supposition of this paper is that groups that use media advocacy are frustrated by communication attempts through normal channels with an organization and, as a result, feel a need to take the story to the media to realize results or change.

First, this section will explore the evidence that answers each of the questions posed earlier in the paper. Then, this section will discuss overall findings and make recommendations for future areas of study.

Use of Media Advocacy

The first question posed by this paper asked how a citizen activist group used media advocacy to influence TVA's siting decision. For the Brentwood community organization, media advocacy was used to get TVA's attention and to apply continual pressure on both TVA and local government officials. When compared to the other two transmission line projects presented in this paper, citizen activism through media advocacy was able to garner substantial media attention for concerns about the Maury-Radnor (Brentwood, Tenn.) project. The other two transmission line projects, which served as pre- and post-tests for this study demonstrated little media attention. The first

transmission line, Coffeeville-Mississippi Chemical Corporation, also revealed little citizen activism. The third line, the Concord-West Ringgold, Ga., portion of the Alpha-Georgia line, revealed more extensive community activism but also showed TVA's increased willingness to negotiate on issues associated with the line.

For the Brentwood community, the pivotal Maury-Radnor line project, citizen activists used media advocacy as a key tool for framing their issues and concerns. First, the community used an informal neighborhood meeting as an opportunity to quiz TVA on its siting practices in front of invited media. Also, the meeting was timed closely, intentionally or not, with the release of the Environmental Protection Agency's report on the health impacts of EMFs.

These two activities provided a catalyst for the community's activities over the next several months. Before mid-December 1990, only about three articles related to EMFs had appeared in the regional papers for November and early December 1990. These articles totaled approximately 52 column inches. However, from mid-December 1990 through the end of May 1991, approximately 100 articles, totaling about 1,450 column inches, appeared in the local newspapers about EMFs, with nearly 90 percent of them mentioning TVA and the transmission line project underway. In December alone, approximately two dozen articles appeared in the local newspapers about TVA, the transmission line project and concerns over EMFs.

The local community also used media advocacy to apply pressure on TVA through the news media and through other government officials. In their December 1990 meeting, the community activists called for a public meeting with TVA. TVA agreed to the

meeting and conducted the public meeting as part of the Brentwood City Commission's regular meeting schedule. In news articles before and after the meeting, continual references were made to the residents in the Brentwood community and their concerns about EMFs.

In late December 1990, *The Tennessean* reported that residents were asking the Brentwood City Commission to halt TVA's construction of the power line. Later, the city commission issued an ordinance limiting the amount of EMFs emitted from the transmission lines. At the state level, in late January 1991, two state representatives "introduced legislation to halt expansions of high-voltage power lines," according to *The Tennessean.* And, at the national level, U.S. Senator Jim Sasser requested that TVA conduct further studies into the potential health hazards posed by the construction of the new transmission lines (*Nashville Banner*, 1991).

In addition, the Brentwood community used media advocacy to shape the debate about its struggles with TVA. Media advocacy strategy advises activists to find personal stories that can attract the attention of the media and then use that attention to take the message to the public policy level (Wallack, 1993). In Brentwood, this framing of the story was found in the way they presented their children early on as a critical component in the story they wanted to tell.

Successes/Failures

The second question posed in this paper asked what successes/failures were apparent in the use of media advocacy. The most noteworthy success was that the

community group was able to get TVA's attention and initiate a dialogue, however limited, between the city of Brentwood and TVA. The limited dialogue is mentioned because TVA's communication still found its roots in formal presentations and asymmetrical communications that included only disseminating information instead of listening and negotiating.

However, following TVA's experience with the transmission line project through Brentwood, TVA changed its meeting format to offer opportunity for greater communications. The meeting format was structured to allow more two-way symmetrical communications. Through its open houses and information days, TVA offered residents the opportunity to visit with TVA employees and discuss in depth any issues or concerns associated with the transmission line projects. This new meeting style was demonstrated in 1993 with the process TVA used to site the Concord-West Ringgold, Ga., portion of the Alpha-Georgia line. Also, TVA employees working on these projects were given more authority to negotiate with the public on certain issues, according to Pitt.

A second success created by the use of media advocacy was that TVA began to consider more carefully the aesthetic impacts of proposed transmission line projects and incorporate those considerations into its siting plans. To work with residents on this issue, TVA today incorporates aesthetics impact into siting considerations. Using a computer model known as the GIS, the system provides TVA with intricate topographical details that enables TVA to run the lines behind hillsides. This new system was another process demonstrated in the study of the Concord-West Ringgold transmission line siting in 1993 in Georgia.

The community group in Brentwood also could see another success through the amount of news coverage it received. By getting to the media first with the story and by connecting the story with a timely health issue, the residents created a media opportunity that played for six months in the media. As mentioned earlier, prior to mid-December 1990, although this transmission line project had been underway for several months, there was limited coverage in the news media. Following the meeting with the residents in the Brentwood community, news coverage averaged about 15 to 20 stories a month.

The most significant failure to note is that, although TVA made changes in its policy following the experience with Brentwood, it continued with the transmission project on the same right-of-way originally selected and it continued with the same forms of communication that involved little exchange of information and limited opportunity for negotiations. The original intent of the active public was to alter the proposed route for the transmission line, but the line route did not change.

One of the observations of this author is that media advocacy requires a great deal of effort on the part of the active public. It appears that a public could become discouraged very quickly when publicly debating a large organization. For the activist group in Brentwood, Tenn., it undertook letter-writing campaigns, attended numerous city commission meetings, and worked with the news media to provide reporters information about their situation with the transmission lines. In the end, the transmission lines were constructed through the originally planned right-of-way, and TVA was able to prove that EMF emissions from the transmission lines had decreased with the construction of the new lines.

Policy Changes

A third question asked what policy changes by TVA did/did not occur as a result of the advocacy effort. While TVA may not have developed a written formal policy for future communications on transmission line sitings, TVA did move along a continuum from asymmetrical communications to two-way symmetrical. This movement was demonstrated through several actions.

First, TVA initiated more open dialogue with the communities in which it was siting transmission lines. Comparing TVA's communications between the Brentwood project and a subsequent project in Georgia, known as the Concord-West Ringgold, TVA demonstrated improved communications that moved toward two-way symmetrical communications. The policy involved providing advance notices to the public about upcoming meetings, holding two information meetings with the public, and structuring the meetings in more informal sessions where exchange of information could happen more freely. An example noted in this case study is the Concord-West Ringgold, Ga., transmission line. For this project, TVA bought additional right-of-way and offered to plant trees to help hide the transmission lines.

As mentioned earlier, another noted change in policy was TVA's recognition of the concerns by residents of the aesthetic impact of a transmission line running near their property. To work with residents on this issue, TVA today incorporates aesthetics impact into its siting considerations. Using a computer model known as the GIS, the system

provides TVA with intricate topographical details that enables TVA to run the lines behind hillsides.

However, there still are certain policy changes that did not occur. Among the most important is that TVA continues to site transmission lines in the most cost-effective manner to run power from point A to point B. While TVA will work within a community to help make the routing decision, the routing selection still is TVA's final decision. As pointed out by Pitt, if TVA had to site the transmission line again through Brentwood, Tenn., it probably would have retained the same route because of the limited corridor options created by development in the area.

Also, while TVA appears to have moved along a continuum from asymmetrical to symmetrical communications for its transmission line siting projects, as demonstrated by the Concord-West Ringgold, Ga., transmission line, TVA still relied on asymmetrical communications. In this case, TVA framed messages and determined strategies for communications to persuade the public toward TVA's position on the project. This process may or may not have included opportunity for negotiations, which is a trait of symmetrical communications (J. Grunig, 1992). In the transmission line project for Concord-West Ringgold, Ga., TVA demonstrated a move toward two-way symmetrical communications in its negotiations with one of the communities that wanted TVA to create an additional buffer between their subdivision and the transmission line.

Public Relations Lessons

The final question offered in this paper asked what public relations practitioners can learn from this case study about publics pressuring an organization. From the data presented, the most important lesson learned is that media advocacy works. Public relation practitioners need to recognize active publics early on in any project and initiate communications with them from the beginning. They should meet often with key publics, communicating openly. The communications should take the form of two-way symmetrical communications, which involves negotiations with the publics to achieve a balance between the organization's goals and the needs of the publics. The organization needs to be willing to offer compromises whenever possible.

To facilitate these negotiations, the organization needs to recognize up front that negotiations will occur and that there should be room for compromise within the project. Again, as with TVA's policy today for transmission line sitings, TVA recognized the public's concern over the aesthetic impact of transmission lines. TVA now builds that consideration into its transmission-line siting practices and offers room for negotiations and compromise by planting trees, running the lines behind hillsides and providing other opportunities to "hide" the transmission line from view behind natural barriers.

Also, public relations practitioners need to build relationships with publics to ensure the publics do not become frustrated with the normal channels of communications. In the case of Brentwood, the community was not communicated with clearly and continuously and, as a result, took its story to the media. As a result, the controversy

between TVA and the community continued to appear in the news media for more than six months.

The organization also needs to build relationships with local officials and the media from the beginning and identify every opportunity to tell its story to these groups to avoid misinformation being communicated. With TVA and Brentwood, the community group was the first to tell its story to the media and the public, forcing TVA to react to many stories.

Also, TVA can set the agenda in the media by taking the initiative in bringing the story to the media's attention. TVA demonstrated this to some extent in the Concord-West Ringgold, Ga., transmission line when it brought the story of this transmission line to a local newspaper. Through actions like this, TVA can become more proactive and also move along the continuum to symmetrical communications.

Conclusions

As several researchers have demonstrated, active publics are becoming more involved in health issues at the community level. This action is forcing the decision-making from the organization's board room to the community's social center (Wallack, 1992). This change is creating a rethinking and retooling of public relations practices that include more issues management, strategy development, and increased negotiations. Critical to success is the ability of the public relations practitioner to be a part of the decision-making at the top.

Although media advocacy use occurs with environmental and health-related issues, the strategy appears to be one that could work with other community-related issues. While the core debate between TVA and Brentwood emerged as an environmental and health-related issue, the overall debate also soon included issues about property values and the aesthetic impact of transmission lines. This suggests there is room for additional study about media advocacy. If the Brentwood argument had been framed initially about property values and the impact of unsightly transmission lines, would the debate have caught on as forcefully in the media?

This case study demonstrates that media advocacy can be effective in guiding certain changes in the public policy of an organization. This study presented three transmission line projects spanning a ten-year period that modeled TVA's communications practices at that point in time. With the first transmission line, little community activism occurred and little media attention was brought to the issue. The public appeared not to question TVA's decision to construct the line and did not approach any local media to address any issues. The next transmission line project, known as the Maury-Radnor line, brought with it increased citizen activism and media attention. As a result of the Brentwood experience, TVA changed some of its policies in working with the public on transmission line sitings. TVA established a model for communicating with publics about these projects, which includes opportunities for the community to communicate with TVA about the project, aesthetic impacts in the proposed route selection, and room for negotiation on the routing selection. The new communication policies were demonstrated in the third transmission line project studied, Concord-West Ringgold, Ga., and were met

with greater success as TVA appeared to negotiate more with its publics and concerned citizens.

REFERENCES

References

Alcalay R. & Taplin, S. (1989). Community Health Campaigns: From Theory to Action. In R. Rice & C. Atkin (Eds.), Public Communication Campaigns (pp. 105-129). Newbury Park, CA: Sage Publications.

Allen, R. L. & Izcaray, F. (1988). Nominal Agenda Diversity in a Media-Rich, Less-Developed Society. Communication Research. Newbury Park, CA: Sage Publications.

Anderson, J. (Jul.-Aug. 1990). Responding to Fears about EMF. Public Power. (p.20).

Atkin, C. & Arkin, E. B. (1990). Issues and Initiatives in Communicating Health Information to the Public. In C. Atkin & L. Wallack (Eds.), Mass Communication and Public Health (pp. 13-40). Newbury Park, CA: Sage Publications.

Backes, D. (1995, Summer). The Biosocial Perspective and Environmental Communication Research. Journal of Communication, 45, 147-163.

Bil'Etang, J. (1994, February). Public Relations and Corporate Social Responsibility: Some Issues Arising. Journal of Business Ethics, 13, 111-124.

Botan, C. H. & Hazelton, V. (eds.). (1989). Public Relations Theory. Hillsdale, NJ: Lawrence Erlbaum Associates.

Bracht, N. & Gleason, J. (1990). Strategies and Structures for Citizen Partnership. In N. Bracht (Ed.), Health Promotion at the Community Level, (pp. 1109-123). Newbury Park, CA: Sage Publications.

Bradford, J. L. & Garrett, D. E. (1995, November). The Effectiveness of Corporate Communicative Responses to Accusations of Unethical Behavior. Journal of Business Ethics, 14, 875-892.

Brodeur, P. (1990, July 9). Annals of Radiation: Calamity on Meadow Street. The New Yorker, pp. 38-71.

Copp, J. G. (1993, April). Open House (Letter to residents along Concord-West Ringgold transmission line route).

Cutlip, S., Center A., & Broom, G. (1985). Effective Public Relations. Englewood Cliffs, NJ: Prentice Hall.

Cutlip, S., Center A., & Broom, G. (1994). Effective Public Relations. Englewood Cliffs, NJ: Prentice Hall.

Doyle, W. A. (1988, March). TVA to build transmission lines (Letter to residents along Maury-Radnor transmission line route).

Elmer-Dewitt, P. (1990, December 24). Mystery--and Maybe Danger--in the Air. Time. pp. 67-69.

Flora, J. & Cassady, D. (1990). Roles of Media in Community-Based Health Promotion In N. Bracht (Ed.), Health Promotion at the Community Level, (pp. 143-157). Newbury Park, CA: Sage Publications.

Gaunt, P. & Ollenburger, J. (1995, Fall). Issues Management Revisited: A Tool that Deserves Another Look. Public Relations Review, 21, 199-210.

Gay, C. D. & Heath, R. L. (1995, Fall). Working with Technical Experts in the Risk Management Infrastructure. Public Relations Review, 21, 211-224.

Gaziano, C. (1985). Neighborhood Newspaper and Neighborhood Leads: Influences on Agenda Setting and Definitions of Issues. Communication Research. Newbury Park, CA: Sage Publications.

Grunig, L. (1992). Activism: How it limits the effectiveness of organizations and how excellent public relations departments respond. In J. Grunig (Ed.), Excellence in Public Relations and Communications Management (pp 503-530). New Jersey: Lawrence Erlbaum Associates.

Grunig, J. (Ed.). (1992). Excellence in Public Relations and Communications Management. Hillsdale, NJ: Lawrence Erlbaum Associates.

Hayes, M. S. (1994, February). Plans for transmission line construction in north Georgia (Letters to TVA employees, retirees, officials, and residents).

Hobday, V. C., (1969). Sparks at the Grassroots. The University of Tennessee Press.

Kern, R., (1992). 1992 Survey of Buying Power Demographics USA. Sales Marketing Management Magazine.

Lauzen, M. M. (1995, Winter). Public Relations Manager Involvement in Strategic Issue Diagnosis. Public Relations Review, 21, 287-304.

Mayer, N. (1984). Neighborhood Organizations and Community Development. Washington, DC: The Urban Institute Press.

Measuring EMFs: What a utility needs to know. (1990, October). Electrical World.

Miller, K. (1995, Winter). National and Local Public Relations Campaigns During the 1946 Steel Strike. Public Relations Review, 21, 305-323.

Montgomery, K. (1989). Target: Prime Time: Advocacy Groups and the Struggle over Entertainment Television. New York, NY: Oxford University Press.

Moore, F. E., (1981). Public Relations: Principles, Cases, and Problems. Homewood, IL. Richard D. Irwin, Inc.

Morgan, M. G. (1989). Electric and Magnetic Fields from 60 Hertz Electric Power: what do we know about possible health risks? Pittsburgh, PA: Carnegie Mellon University.

Olien, C. N., Tichenor, P. & Donohue, G. (1989) Media Coverage and Social Movements. In C. Salmon (Ed.), Information Campaigns: Balancing Social Values and Social Change, (pp. 139-163). Newbury Park, CA: Sage Publications.

Saeki, M. & O'Keefe, B. (1994, September). Refusals and Rejections: Designing Messages to Serve Multiple Goals. Human Communication Research. 21, pp. 67-102.

Severin, W., with Tankard, J., (1988). Communication Theories: Original, Methods, Uses. (Longman, Inc.).

The Tennessee Valley Authority Act. (Published 1933, Revised 1987). TVA Office of Governmental and Public Affairs.

The Tennessee Valley Authority. (1990). Facts About Electric and Magnetic Fields. Tennessee Valley Authority.

The Tennessee Valley Authority: The First 50 Years. (1983), Knoxville, TN: The Tennessee Valley Authority.

The Tennessee Valley Authority. (1987). Environmental assessment, Coffeeville-Newsprint South 161-kV transmission lines.

The Tennessee Valley Authority, (1987). Siting report, Maury-Radnor 161-kV transmission line.

Wallack, L. (1990). Improving Health Promotion: Media Advocacy and Social Marketing Approaches. In C. Atkin & L. Wallack (Eds.), Mass Communication and Public Health (pp. 147-163). Newbury Park, CA: Sage Publications

Wallack, L. (1989). Mass Communication and Health Promotion: A Critical Perspective. In R. Rice & C. Atkin (Eds.), Public Communication Campaigns (pp. 353-367). Newbury Park, CA: Sage Publications.

Wallack, L., Dorfman, L., Jernigan, D., Themba, M., (1993). Media Advocacy and Public Health: Power for Prevention Newbury Park, CA: Sage Publications.

Walsh-Childer, K. (1994, Winter). A Death in the Family - A Case Study of Newspaper Influence on Health Policy Development. Journalism Quarterly, 71, 820-829.

Weinstein, N.D. & Sandman, P.M. (1993, February). Some Criteria for Evaluating Risk Messages. Risk Analysis, 13, 103-114.

Wimmer, R. D. & Dominick, J. R. (1983). Mass Media Research: An Introduction. Belmont, CA: Wadsworth Publishing Company.

Yin, R. K. (1984). Case Study Research: Design and Methods. Beverly Hills, CA: Sage Publications.

Newspaper References

Nashville Banner articles

Brentwood: City may regulate power lines. (1991, January 15). Nashville Banner, p. A4.

Court dismisses couple's fight over power lines. (1990, December 28). Nashville Banner, p. B1.

Electric fields a puzzle. (1991, March 26). Nashville Banner, Editorial page.

Evans, T. (1991, January 14). Don't put power lines in residential areas. Nashville Banner, p. A4.

Franklin: TVA power lines move ahead. (1991, February 2). Nashville Banner, p. B2.

Judge hears couple's suit against TVA power lines. (1991, January 23). Nashville Banner, p. B2.

Phillips, L. (1991, March 26). Electromagnetic levels at Metro school probed. Nashville Banner, p. A1.

Ritchie, L. C. (1991, January 4). Couple renews fight to halt TVA project. Nashville Banner, p. B3. .

Ritchie, L. C. (1991, February 12). Vote on electromagnetic limit delayed. Nashville Banner, p. B4

Ritchie, L. C. (1991, March 1). TVA, Brentwood near agreement on power lines. Nashville Banner. p. B1.

Ritchie, L. C. (1991, March 12). Brentwood delays power-line limits. Nashville Banner, p. B5.

Sasser requests TVA probe. (1991, January 12). Nashville Banner, p. B5.

Siegel, L. (1991, February 9). Childhood leukemia linked to power lines. Nashville Banner, p. A5.

Snyder, B. (1990, December 22). Waterbed heater source of long illness, girl says. Nashville Banner, p. A1.

Wilder, A. (1991, January 29). Brentwood may regulate TVA's high voltage lines. Nashville Banner, p. B2.

Wilder, A. (1991, April 9). Brentwood takes hard line on volts. Nashville Banner, p. B5.

Wilder, A. (1991, June 8). Official may seek power line analysis. Nashville Banner, p. A4.

Willard, J. P. (1990, December 14). TVA foes: Study links power lines, cancer. Nashville Banner, p. A1.

Willard, J. P. (1990, December 21). TVA says power line tests find output about like car's. Nashville Banner, p. B1.

The Tennessean articles

Brentwood's power surge. (1991, April 14). The Tennessean, p. D4.

Cancer, electricity link shown. (1991, February 9). The Tennessean, p. B7.

Ciastko, K. (1991, January 21). Avoid EMFs until we have more info. The Tennessean, p. A11.

Dempsey, J. (1990, December 15). TVA admits lines' effects not known. The Tennessean, p. B4.
Dempsey, J. (1990, December 20). Power line halt sought until cancer tie seen. The Tennessean, p. B2.
Dempsey, J. (1990, December 21). Panel asks TVA to delay power line increase. The Tennessean, p. B1.
Dempsey, J. (1990, December 24). Evidence hinting at power line, health risk connection. The Tennessean, p. B3.
Dempsey, J. (1991, January 12). Expert may be used to check power line. The Tennessean, p. A2.
Dempsey, J. (1991, January 16). Electromagnetic spillage limits wanted. The Tennessean, p. B5.
Dempsey, J. (1991, January 25). Commissioners to delay power line controls. The Tennessean, p. B7.
Dempsey, J. (1991, January 29). Limits sought to high-voltage emissions. The Tennessean, p. A1.
Dempsey, J. (1991, January 31). Power line bill sparks resistance. The Tennessean, p. B4.
Dempsey, J. (1991, February 11). Radiation limits on TVA line urged.. The Tennessean. p. B5.
Dempsey, J. (1991, February 12). Brentwood action postponed on power line safety hazards.. The Tennessean. p. B5.
Dempsey, J. (1991, February 26). Board moves toward limit on power lines. The Tennessean p. B5.
Dempsey, J. (1991, March 3). TVA refuses to alter power line project. The Tennessean. p. B1.
Dempsey, J. (1991, March 8). Brentwood commission may delay limit on TVA power line radiation. The Tennessean, p. B7.
Dempsey, J. (1991, March 26). TVA seeks compromise on reconfiguring power lines. The Tennessean, p. B5.
Dempsey, J. (1991, April 9). City passes tough power line law. The Tennessean, p. B2.
Dempsey, J. (1991, April 14). TVA radiation controversy has Brentwood charged up. The Tennessean, p. D2.
Dempsey, J. (1991, May 28). Open talks on TVA line in dispute. The Tennessean, p. B1.
Dempsey, J. (1991, May 30). Vice mayor, TVA to meet over power line. The Tennessean, p. B5.
Dempsey, J. (1991, June 7). City ordinance left loophole for TVA. The Tennessean, p. B4.
East, J. (1991, February 23). Commission won't wait on TVA meeting. The Tennessean, p. B6
Electric research site resembles community. (1991, January 19). The Tennessean, p. A8.

Held-up EPA report ties childhood cancers to electromagnetic fields. (1990, December 14). The Tennessean, p. A10.
Keep power talks open. (1991, May 31). The Tennessean, p. A12.
Klausnitzer, D. (1991, January 1). Lawsuit seeks to block new TVA power lines. The Tennessean, p. B6.
Margulies, E. (1991, January 11). Power line up to city, NES vows. The Tennessean, p. B7.
Meeting with TVA on power line today. (1990, December 14). The Tennessean, p. B8.
Paine, A. (1990, December 21). No need for alarm over electricity -- TVA. The Tennessean, p. B1.
Paine, A. (1990, December 28). Judge dismisses suit over power lines. The Tennessean, p. B1.
Power line debate should be continued. (1990, December 28). The Tennessean, p. A10.
Power lines' current affair. (1991, January 30). The Tennessean, p. A8.
Thien, M. (1991, January 24). Judge delays his decision on power line. The Tennessean, p. B5.

The Review-Appeal articles
Cartwright, J. (1990, December 26), Research agency fights TVA's power lines. Review Appeal, p. A1.
Cartwright, J. (1991, January 13), TVA to answer residents' queries. The Review Appeal, p. A1.
City, TVA head for EMF battle. (1991, April 10). The Review Appeal, editorial page.
Editorial cartoon. (1991, February 6). The Review Appeal, p. A5
EMF concerns are overblown. (1991, January 16). The Review Appeal, p. A2.
Lexa, L. (1991, January 30). Brentwood moves to restrict TVA's EMF radiation. The Review Appeal. p. A1.
Lexa, L. (1991, February 1). TVA studies options for eliminating EMFs. The Review Appeal. p. A1.
Lexa, L. (1991, February 3). EMFs exist away from power lines. The Review Appeal. p. A1.
Lexa, L. (1991, February 8). TVA prepares for second round on proposed EMF ordinance. The Review Appeal. p. A1.
Lexa, L. (1991, February 13). Brentwood commissioners postpone radiation ordinance vote. The Review Appeal. p. A1.
Lexa, L. (1991, February 22). TVA, Brentwood officials to meet seeking compromise. The Review Appeal. p. A1.
Lexa, L. (1991, February 24). Brentwood commissioners want to move forward with EMF ordinance. The Review Appeal. p. A1.
Lexa, L. (1991, February 27). Commissioners OK second reading of EMF law. The Review Appeal. p. A1.
Lexa, L. (1991, March 3). TVA, Brentwood Inch Toward EMF Compromise. The Review Appeal. p. A1.

Lexa, L. (1991, March 8). Brentwood Lacks Authority to Limit EMF. The Review Appeal, p. A1.
Lexa, L. (1991, March 27). Compromise eludes Brentwood, TVA officials. The Review Appeal, p. A1.
Lexa, L. (1991, April 5). TVA, Brentwood out of sync on EMFs. The Review Appeal, p. A1.
Lexa, L. (1991, April 7). EMFs, Oakhall road top agenda. The Review Appeal, p. A1.
Lexa, L. (1991, April 10). Brentwood challenges TVA with EMF law. The Review Appeal, p. A1.
Lexa, L. (1991, May 22). TVA prepares to energize Brentwood line. The Review Appeal, p. A1.
Lexa, L. (1991, May 24). TVA, Brentwood meet in private. The Review Appeal, p. A1.
Lexa, L. (1991, June 9). TVA energizes local part of new line. The Review Appeal, p. A1.
Lexa, L. (1991, June 16). Residents energize local EMF group. The Review Appeal, p. A9.
Lexa, L. (1991, January 16). Brentwood to legislate limit on EMF. The Review Appeal, p. A1.
McWhorter, J. (1991, June 9). EMF level low near Grassland School. The Review Appeal, p. A2.
Officials move toward accord. (1991, February 22). The Review Appeal, p. A4.
Private meeting planned by TVA. (1991, May 24). The Review Appeal, editorial page.
TVA, City Efforts Get Low Marks. (1991, March 3). The Review Appeal. Editorial page.

The Brentwood Journal articles

City commission to meet Monday. (1991, April 3). The Brentwood Journal, p. B2.
City defers EMF bill for TVA discussion. (1991, March 13). Brentwood Journal, p. A1.
City seeks advice on EM field limits. (1991, January 23). Brentwood Journal, p. 1.
Deutsch, K. (1990, December 19). Residents fear TVA's new lines. Brentwood Journal, p. A1.
Dunkle, J. (1991, April 3). TVA lines should be at no cost. Brentwood Journal, editorial page.
EMF: Compromise is Answer to Progress. (1991, March 6). Brentwood Journal. Editorial page. Rossi, J. (1991, March 13). Opinion: On power lines and taxes: A citizen's commentary. Brentwood Journal, p. A4.
French, S. (1991, January 30). City amends ordinance, gives TVA 5 years. Brentwood Journal, p. A1.
Moore, J. (1990, December 26). Power transmission line questioned. Brentwood Journal, p. A4.
Residents ask change in EMF ordinance. (1991, June 12). Brentwood Journal, p. B3.
Second lawsuit may arise over TVA power lines. (1990, December 16). Brentwood Journal, p. A1.

Tate, M. (1991, February 6). Callicott bill limits TVA lines. Brentwood Journal. p. 1.
Tate, M. (1991, February 27). EMF ordinance may come too late to stop line. Brentwood Journal. p. 1.
Tate, M. (1991, March 6). City Takes Wait-and-See Attitude on EMF. Brentwood Journal. p. A1.
Tate, M. (1991, March 27). TVA says city, citizens should pay for safe lines. Brentwood Journal, p. A1.
TVA authorities to visit city. (1991, January 1). Brentwood Journal, p. B3
TVA power lines controversy deserves further study. (1990, December 26). Brentwood Journal, p. A4.
Utility giving big government a bad name in Brentwood. (1991, February 27). Brentwood Journal, p. A4.
What price does safety of children, resident carry? (1991, March 27). Brentwood Journal, editorial page.
Wiersum, B. (1991, January 23). Supports single pole system. Brentwood Journal, p. 4.

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