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THE ATOMIC ENERGY COMMISSION AND ITS SITE AT GERMANTOWN

by Marie Hallion and Clarence Hickey

World War II saw the introduction of nuclear weapons which marked the dawn of the atomic age. When the war ended, Congress established the United States Atomic Energy Commission to foster and control the peacetime development of atomic science and technology. Reflecting our country's postwar optimism, Congress declared that atomic energy should be employed not only in the Nation's defense, but also to promote world peace. After months of debate among politicians, military planners and atomic scientists, President Harry S. Truman confirmed the civilian control of atomic energy by signing the Atomic Energy Act on August 1, 1946.[1]

The Manhattan Project had served its wartime purpose of developing the world's first atomic bomb, in response to reports that Nazi Germany was studying the military possibilities of atomic energy. The bomb, using large amounts of fissionable plutonium, was tested at 5:30 a.m. on July 16, 1945, at a barren site in New Mexico and yielded the equivalent of 21,000 tons of TNT. Three weeks later, on August 6, an atomic bomb was dropped on Hiroshima.

On January 1, 1947, the fledging Atomic Energy Commission took over the atomic energy program from the Army's Manhattan Engineer District. As inheritors of the Manhattan Engineer District's numerous scientific and industrial endeavors, the Atomic Energy Commission continued the government monopoly in the field of atomic research and development. President Truman appointed David E. Lilienthal, former head of the Tennessee Valley Authority, as chairman of the new Commission and its first permanent headquarters were in Washington at 19th Street and Constitution Avenue, in a building constructed in the 1930s for the Public Health Service.

The new Commission faced a challenging future as the Cold War began a few years after World War II. In September 1949 the United States Air Force detected a large radioactive mass over the Pacific, meaning that the Soviet Union had successfully detonated a nuclear device. America was no longer safe from nuclear attack; major strategic installations were at risk.

When news of the detonation reached Washington, there was a general sense of concern. The Atomic Energy Commission (AEC) Division of Biology and Medicine prepared a report entitled "The City of Washington and an Atomic Bomb Attack." The report reflected the contemporary fear of Soviet bombers attacking Washington with atomic weapons and observed "in the event of an attack upon the Atomic Energy Commission building, the building would be completely destroyed and following the attack those who emerged from the shelter would be quite helpless to carry on the far-flung operations of the atomic energy program." On November 4, 1949, AEC Chairman Lilienthal submitted the report to John Steelman, Acting Chairman of the National Security Resources Board, noting: "The recent atomic explosion in Russia brings closer the time when decisions must be made on major issues of civilian defense, including the matter of dispersal out from congested urban areas of facilities such as those of Government in Washington."

With the Soviet Union in possession of the atomic bomb, it was time for the United States to consider what an atomic attack would mean for the nation's cities. W. Stuart Symington, Chairman of the National Security Resources Board, indicated the gravity of the situation in a speech before the annual convention of the American Red Cross in 1950. "In this atomic age," he said, "there is no place to hide." The AEC was already helping in the process of education, declassifying many documents for civil defense use. On October 18, 1950, air-raid shelter signs appeared on the streets in New York City, and within a few days the Government began distributing a booklet, "Survival Under Atomic Attack." Shields Warren, Director of Biology and Medicine, set up training courses for nurses, civilian defense instructors and emergency radiation teams. This heightened awareness for civil defense continued through the 1950s, with the Federal Civil Defense Administration taking the lead. Citizens were provided detailed plans for constructing home shelters, sirens were installed to warn of attack and school children were regularly drilled in taking cover under their desks.

A bill giving permission to relocate the Atomic Energy Commission headquarters outside of Washington received Congressional approval on April 25, 1955. Faced with the task of finding an appropriate site that offered the needed safety, security and remoteness, the Commission decided that the site should be approximately 20 miles from the Washington Monument, the potential "ground zero" in any attack on the Nation's Capital.[2]

An imaginary north-south line running from the Washington Monument grounds was used in the site search. If north of Washington, the site should be west of the north-south line, in the rolling Piedmont hills of Maryland. South of Washington, it should be in Virginia, west of the line. This criterion would ensure that the location could take advantage of hilly terrain which would provide some protection from possible blast effects and permit the headquarters building to be located on high ground for security. The 20-mile distance took into account the largest weapon conceivable at the time, 20 megatons - the bomb dropped over Hiroshima in 1945 had a yield of much less than one megaton. The proximity to Washington would enable the Commission to maintain frequent and personal contact with Congress and with other government agencies. Other criteria included good access roads, developed communities nearby to support the agency staff, and of course, a site large enough for the new building, parking, etc.

The national decision on relocation of the AEC, made during the early days of the Cold War, was to become a piece of Montgomery County's local history. In July 1955, after considering over 50 locations, the AEC selected farmland near Germantown, at the junction of the Germantown-Neelsville Road (MD 118) and the Washington National Pike (now US 270). By a "Declaration of Taking" signed in November, the AEC took 109 acres and deposited with the court $54,000, which it estimated to be just compensation for the land taken. Owners of the tract were William O. Dosh and Georgia M. Dosh, his wife, and there was a tenant, W. H. Taylor.[3] Dosh did not settle for $54,000 but after some skillful negotiating was paid $64,000.

William A. Dosh had acquired the Germantown farmland in December of 1942 in a land swap with Charles T. Johnson of Germantown. Dosh conveyed 85 acres of his Gaithersburg farm to Johnson, and Johnson conveyed 155 acres of his Germantown farm to Dosh, with each making a token payment of just $10 to the other.[4] Johnson had been using the 155 acres to raise animal feed and hay, which he shipped out by railroad, but was willing to trade it for fewer acres in Gaithersburg.

The Evening Star of July 30, 1955, carried a story entitled "U.S. Faces Horsetrader In Acquiring AEC Site." In the article, Dosh was quoted as stating that he swapped, bought and sold more than 10,000 animals at the height of his horse trading business during the early 20th century "in the days when horsepower was not associated with gasoline motors." He invested principally in Belgians and Percherons, heavy draft horses used at that time to pull brewery wagons and milk wagons, by contractors and freight-hauling companies, and for Army artillery caisson mounts.[5]

After acquiring the 155 acres from Johnson, Dosh owned four farms in Montgomery County, totaling about 700 acres. The Germantown farm had a farm house, which was rented to a succession of tenants. Dosh himself lived on Brooks Avenue in Gaithersburg and used hired hands to run the Germantown farm. The farm was used primarily for pasture of "dry" cattle (i.e., not milk-producing) and for production of hay that was used as feed for the horses at Dosh's Shadow Lawn Farm at Quince Orchard Road and MD 28 in Gaithersburg, built about 1906 on land purchased from the Tschiffely family. Dosh was a horse dealer and trader, farmer, local businessman and professional bondsman.[6]

Dosh's Germantown land had open farmland, plus wooded areas, wetlands and small streams that are still present on the land today. The 1955 aerial photo of the Dosh farm on page 193,[7] probably taken by the AEC during its site search process, shows not only the farmhouse, outbuildings and cultivated land, but wooded areas around the periphery of the site. Some of the land on which the woods was located had apparently been used for farming at times and for timber production at others. In the early years, farmers needed wood for cooking and heating, as well as a source of lumber, and consequently used some of their less desirable farmland as woodland. The small cluster of trees in the upper center of the picture contained wetlands, with a small tree-lined stream leading to a more extensive wooded area. The farm offered the AEC the distance from Washington that it desired, plus remoteness, high ground, the Washington National Pike for transportation, and the nearness of local community infrastructure.

The AEC hired Voorhees, Walker, Smith and Smith, a New York architectural firm, to design the new building and the construction contract was awarded to John McShain, Inc., of Philadelphia. Construction of the facility began May 29, 1956 and was completed in 18 months.

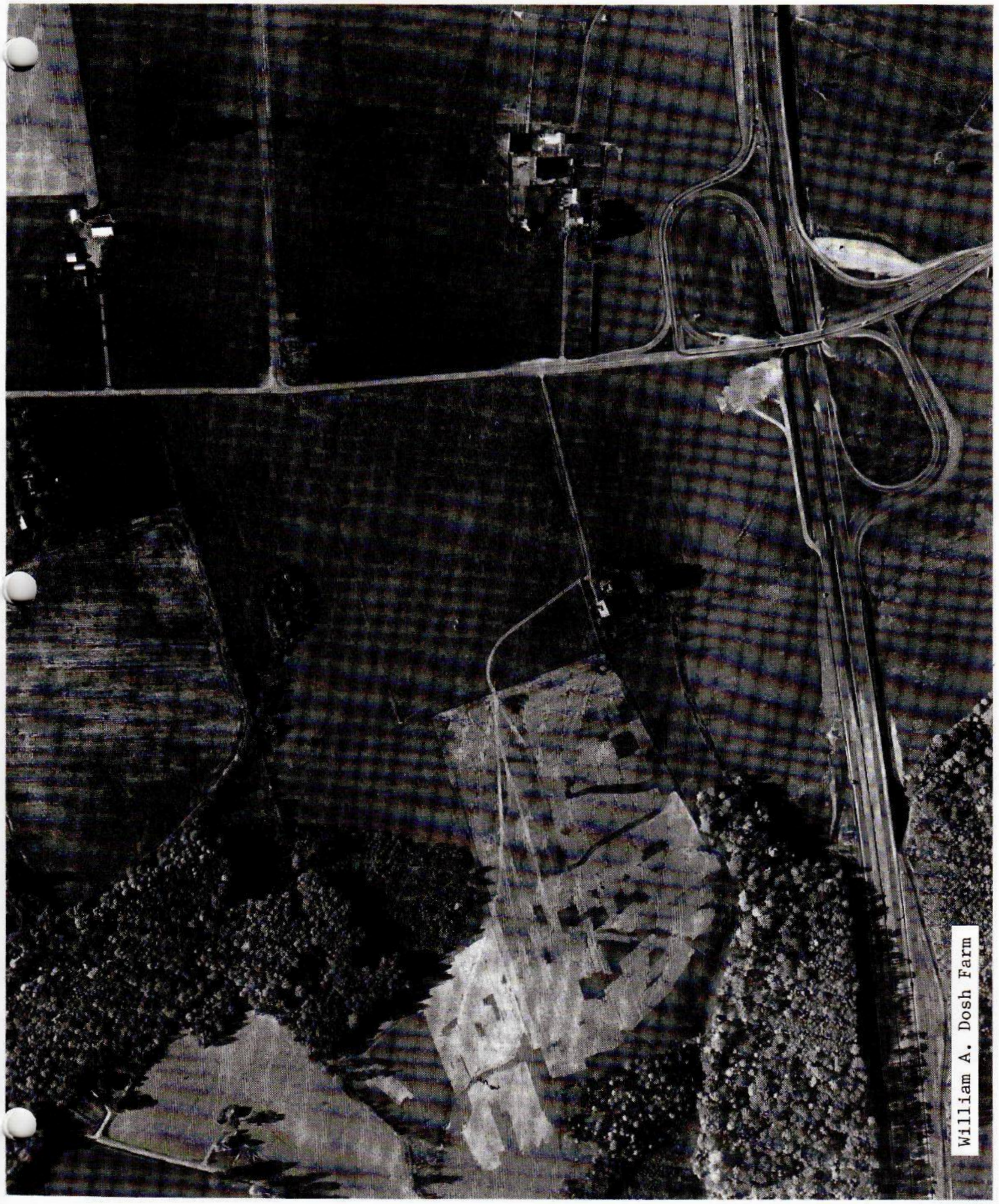
The headquarters building was designed to be functional, with many protections built into it to safeguard against a nuclear blast. It was faced with brick and lined with reinforced concrete, with the length of the building running north-south because having a narrow end on the south would minimize as much as possible the blast effects of a bomb dropped on Washington. The building had all the conveniences of a modern office complex, including air conditioning. The facility, about one-tenth the size of the Pentagon, had a floor space of 516,000 square feet and was designed to hold 1600 employees. It also had a modern cafeteria and auditorium. In the spirit of the Cold War times, the below ground basement of the building served as a bomb shelter and contained living quarters, a hospital, cafeteria, and emergency power and communication facilities. The AEC conducted bomb drills by evacuating the building's staff into the survival-outfitted basement. There were very thick steel doors at all the stairway entrances to the basement level that would close and seal off the basement from the rest of the building. Congress initially appropriated $10 million for the project, but the final cost reached in excess of $13.3 million, due in part to labor disputes and minor changes to the design.

The dedication of the new headquarters building took place on a cold, rainy afternoon in November 1957 before an audience of some 3000 persons. President Dwight D. Eisenhower, accompanied by AEC Chairman Lewis Strauss, arrived by helicopter to help dedicate the facility. Besides the five AEC Commissioners, guests at the ceremony included members of Congress, federal, state and local officials, and members of the diplomatic corps.

The President, with the assistance of Chairman Strauss and the Chairman of the Congressional Joint Committee on Atomic Energy, Carl T. Durham, laid the cornerstone behind which was placed a sealed metal box containing mementos of milestones of the atomic age. The mementos included linens from the Dead Sea Scrolls which radiocarbon technology had dated at 35 A.D. and Strauss noted in his remarks that radiocarbon dating had originated with AEC Commissioner Willard Libby.

In his dedication speech, Eisenhower echoed the "Atoms for Peace" address which he had given before the United Nations, in which he proposed the international development of peaceful uses of atomic energy. From this genesis emerged the International Atomic Energy Agency and the budding domestic nuclear power industry. As part of the dedication ceremony, the President pressed a button actuating a mechanism powered with batteries charged by eight of America's nuclear reactors, which unveiled a dedication plaque for the lobby of the building.

About 1500 AEC employees moved into the building in early January 1958, but the new building expanded within a year. The previous July, Congress had authorized construction of an addition to the headquarters building and the new wing was completed in October 1958. In the meantime, a contract was awarded in early September for an extension to the cafeteria.



William A. Dosh Farm

The completed building served as the office complex for the AEC's headquarters from which it administered atomic research and development programs that were conducted elsewhere across the Nation. These included the radio-carbon dating mentioned earlier; nuclear medicine research resulting in the CT-scan, radiation treatment for cancer and other medical advances; development of civilian atomic power plants and research on their effects on the environment; and research on renewable sources of energy such as wind and solar power. There was also research and development on new and better atomic weapons and the AEC was charged with the production of nuclear material for atomic weapons for military use, if ever needed.

Over the years, the AEC at Germantown has hosted many distinguished visitors. Shortly after his inauguration, President John F. Kennedy met with the Commission. Accompanied by Chairman Glenn T. Seaborg, the President left the White House by helicopter at 9:15 a.m. on February 16, 1961, arriving at Germantown fifteen minutes later. After providing the President with an overview of AEC programs, Seaborg presented several policy questions. He later wrote in his journal that the discussion included a general appraisal of Russian and United States nuclear weapon capability and that "The President seemed to be very interested and asked many questions throughout."

Dr. Seaborg, a Nobel Laureate in chemistry, served as AEC Chairman for ten years, longer than any other Commissioner in the 28-year history of the agency. He resigned in August 1971 to return to educational and nuclear energy research purcuits. When at the Germantown site, Seaborg often walked with colleagues along a path that winds around the periphery of the site and through the wooded areas. Today this path is known as the "Seaborg Trail."

Dr. James R. Schlesinger followed Seaborg as Chairman, serving until January 1973, when he left to become head of the Central Intelligence Agency. In February Dr. Dixy Lee Ray, a marine biologist from the state of Washington, succeeded Schlesinger as Chairman of the AEC. Dr. Ray, the first woman to head the AEC, took over at a time when the nation was faced with reconciling energy needs with environmental concerns and economic goals. In June 1973 President Nixon asked Dr. Ray to undertake a review of America's energy program and six months later she submitted a report entitled "The Nation's Energy Future." The president's energy proposals to Congress the following January reflected the recommendations submitted by Ray, which included support of the President's recommendation to establish an Energy Research and Development Administration.

In the early 1970s, Congress became concerned that the AEC was conducting conflicting missions on atomic entegy. It was performing research and development on atomic energy, promoting its uses, and also regulating commercial nuclear power plants. To eliminate the conflict of interest, Congress passed the Energy Reorganization Act of 1974, which abolished the Atomic Energy Commission. In its place, the Act called for the creation of the Energy Research and Development Administration to assume the AEC's research and development activities, while the newly created Nuclear Regulatory Commission assumed licensing and regulatory functions. This split severed the research and promotional aspects of AEC's work with civilian commercial nuclear power plants from its licensing of the same power plants. The Atomic Energy Commission passed on its unique facilities,

including the Germantown site, to the Energy Research and Development Administration, which three later became part of an even larger organization when Congress passed the Department of Energy Organization Act. The Department of Energy opened for business on October 1, 1977.

Although the Cold War has long since passed, the Germantown site, 23 miles from "ground zero," serves as a reminder of a bygone era. Today the U.S. Department of Energy Headquarters occupies the Germantown site, as well as the Forrestal Building on Independence Avenue, S.W., in Washington.

The Germantown site, used by the Department of Energy for offices, is mostly open space, with adjoining roadways, parking areas, lawns, gardens, small wooded natural areas, a pond and small streams. The 1960s aerial photograph of the site on page 197, taken facing roughly southeast, has MD Route 118 at the bottom left corner and I-270 angling across the top left. The entrance road is on the north end of the building, with a water tower and a helicopter pad to the rear, and parking areas around the building. At top of the photo are the creek and woods along the Seaborg Trail.

Adjacent to the creek and existing wooded area of seven or eight acres in the southeast portion of the site, near the boundary with I-270, approximately two acres were recently planted with a mix of young hardwood trees. The planting is an effort to begin to reforest some of the land that had been open lawn and by reducing the amount of lawn will reduce the amount of fertilizer and pesticide used, as well as the need for mowing. It should also reduce runoff, improve water quality in adjacent areas, and in time will add new wooded habitat that will both benefit wildlife and provide a place of natural beauty for human enjoyment.[8]

The open areas of the site, the existing wooded areas, a spring-fed pond of 1-7/10 acres, and two small streams, all contribute to a mix of habitat conditions that are conducive to a variety of wildlife. Over the years, DOE employees have tallied at least 36 species of birds during their mid-day walks around the site. These include the usual backyard varieties plus various field and woodland species such as blue jay, eastern bluebird, pileated and downy woodpecker, flicker, killdeer, oriole, nuthatch, junco, chickadee, owl, hawk, waxwing, warbler, grosbeak and American goldfinch. Also frequenting the site are birds such as Canada geese, mallard ducks, redwing blackbirds, tree swallows, great blue herons, green herons, belted kingfishers and eastern kingbirds. These are attracted by the pond, streams and associated marshy areas, which contain small fishes, aquatic turtles and snakes, frogs, salamanders, crayfish and a wide variety of dragonflies, damselflies and other insects that provide food. The main mammals (other than human) that use the site are associated primarily with wooded areas and include whitetail deer, which jump the boundary fence, and red and gray fox, eastern cottontail rabbit, groundhog, gray squirrel and chipmunk.

Despite its multiple uses and changing hands over time, the natural aspects of the Department of Energy headquarters at Germantown have been reasonably well preserved. The farm in the rolling hills of the Maryland Piedmont was primarily open agricultural land fringed with woods along portions of its eastern, southern and western boundaries. The majority of the onsite portions of these wooded areas are still intact today. They have been protected by site security and the peripheral property fence line that

since 1956 have kept human use of these areas to a minimum, and by land management practices that have allowed these areas to remain relatively natural. These have allowed the natural habitat to regenerate and self-renew. The wooded areas contain two small headwater streams that drain into Gunners Branch and thus into Seneca Creek, which flows to the Potomac River and ultimately to Chesapeake Bay. Like so many other DOE sites nationwide, the Germantown site has witnessed the advance of urbanization, right up to its fence line in some places. Nearby wooded areas that once adjoined those onsite are now gone or greatly reduced in size. As the population of upper Montgomery County continues to expand northward, farming has all but disappeared from the Germantown area

During the summer of 2000, DOE staff in Germantown surveyed the wooded area of 7 or 8 acres in order to describe its natural history, to estimate its age, and to relate the wooded area to the human history of the Germantown site. At that time, it was at least 45 years old, as the 1955 aerial photo clearly shows the presence of the woods. Since the wooded area at the site seemed similar to woods in the 1955 photo, the study attempted to estimate just how old the largest trees were and thus how old that wooded acreage might be. Another aerial photo, circa 1956, of the AEC Germantown site under construction, shows excavation and leveling of the site for the building. It seems to indicate that construction, grading and leveling did not disturb wooded areas around the periphery of the site. The AEC building and associated facilities apparently were constructed primarily on the existing open land of the old Dosh farm site. The relatively natural and undisturbed condition of the wooded area today seems to substantiate this.

The Seaborg Trail through the woods today seems to be in good condition, suggesting that walkers and hikers have stayed on the trail and not wandered off into the surrounding woods. This is evidenced by the fact that the Trail is a narrow path for most of its length and areas along it appear to be undisturbed and not trampled upon. AEC and DOE employees have been hiking the Trail for 30 or 35 years and for a time it served as part of the cross-county route for Seneca Valley High School.[9] Thus, while the farmland area around the Germantown site has changed dramatically since 1955-1956, some of its undeveloped portions do not seem to have changed appreciably in many years.

The results of the natural history survey suggest that the wooded area is a relatively undisturbed natural area with many wild-like qualities. It contains many trees that are estimated to be more than 100 years, dating the woods to the middle or late 1800s, with a few trees old enough to suggest that it goes back to the early 1800s. One white oak was estimated to date back to roughly the 1750s. It is probably the oldest tree in this woods and certainly appears to be the most massive tree there. The woods is predominantly a mix of hardwood trees of many ages, with tulip poplar and white oak the dominant species in terms of number and distribution. These also appear to be the oldest tree species, although there are several large red maples and chestnut oak whose age was not checked by boring through tree rings. Other major tree species are red oak, hickory, Virginia pine, sourgum and sassafras. The understory consists primarily of young trees of the major species, with other understory growth such as American holly, five species of ferns, jack-in-the-pulpit, wild blackberry and various vines. The predominance of tulip poplar, especially the younger trees at the

Atomic Energy Commission
Site at Germantown

periphery of the woods, suggests that the wooded area has been regenerating and self-renewing over time. The mixed hardwood makeup of the woods, its understory, and its vast carpet of ferns suggest that it is at or near a climax stage, stable and beginning to perpetuate itself, as are some wooded areas in Rock Creek Park.[10]

It is interesting that what appear to be the oldest and largest trees in this wooded area are located in close proximity to the creek. The very oldest trees to be found in Montgomery County today are often located along stream courses, as these areas generally have not been cleared for farming or, in recent years, for development. Some mature hardwoods in the Rock Creek Park system today, for example, are found in areas that were unsuitable for cultivation in years past. Scattered throughout that Park are trees that are estimated to range in age from 150 to 250 years.[11] The wooded area on the DOE Germantown site seems to parallel the general trends and conditions of other remaining older forests in Montgomery County.

In 1999 Montgomery County chartered a Forest Preservation Task Force to develop a countywide forest preservation strategy to assist in balancing community growth and the demand for forest and tree preservation. The Task Force suggested that the County goal should be "to increase the quantity and quality of forests and trees, and to restore and protect the natural forest ecosystems in Montgomery County. This strategy provides the first steps toward fulfilling our mission - to manage the forest and tree resources that already exist, to restore unforested and marginal forest areas to natural forest ecosystems, and to assess the need for additional preservation initiatives."[12] The long-term stewardship of the woods on the DOE Germantown site over the years, and the recent reforestation of two additional acres, are supportive of the County forest preservation vision, even though the site is on Federal land, not County land.

The natural history of the wooded area is intertwined with the history of Montgomery County. Native American tribes hunted throughout the region and when white settlers began arriving in the 1730s, they found soil ideal for farming. During the Civil War, Union and Confederate Armies passed through the area. In a unique way, the natural history is connected to the Cold War and the subsequent siting of the AEC headquarters building, which resulted in the preservation of most of the wooded area. The effect of contributing to the self-renewal of this woods over the last 45 years may be partially an unintended consequence, but it has been beneficial to the quality of the woods and has contributed to the beauty of it. The woods and the Seaborg Trail are now a historic, scenic, restful and peaceful environment for hiking and provide quality habitat for wildlife.

The Washington Post ran an article in 1996 about the suburban growth in Germantown in recent years. The article, entitled "A Community in Progress: Fast Growing Germantown Stands Apart in Montgomery," talked about there being "little sense of history" in Germantown today. It stated that "Almost everything in Germantown is new. There is little left to remind people of its history other than a small neighborhood near the MARC station that used to be the center of town."[13] The Atomic Energy Commission's move to Germantown in 1956 perhaps kindled the beginning of growth for the

small suburban community and the AEC's and DOE's stewardship of the 200-year-old woods, with remnants of farm fencelines, seems to bridge the gap between the past and the present. It is a reminder of history and a hope for the future.

Dr. Marie Hallion is a historian with the U.S. Department of Energy at Germantown. Born in Washington, D.C., she received her Ph.D. at the University of Maryland in 1968 and at present is an adjunct professor at University of Maryland University College, which offers courses to those interested in completing a degree or going on to an advanced degree. Dr. Hallion has prepared exhibits on the history of Germantown for the Department of Energy's Germantown lobby and on the history of energy for its Forrestal Building lobby.

Clarence Hickey is a biologist and environmental protection specialist with the U.S. Department of Energy's Office of Science at Germantown, with a M.S. in marine biology from Long Island University, New York, in 1971. He leads guided nature walks along the Glenn Seaborg Trail and is a docent in the Montgomery County Historical Society Stonestreet Museum of 19th Century Medicine. He has written numerous articles and reports on environmental and nature topics for scientific journals, newspapers and government publications.

NOTES

1. "Germantown Site History," U.S. Department of Energy, Germantown, Maryland, a brochure on Atomic Energy Commission published in 2000, from which much of the information in this article on the agency and the institutional history of the Germantown site is taken.
2. Letter dated May 3, 1955, from W. F. Libby, AEC Acting Chairman, to President Dwight D. Eisenhower.
3. Montgomery County Land Records Liber 6087, f. 254.
4. Montgomery County Land Records Liber 899, f. 285, 287.
5. The Evening Star, November 30, 1956, "William O. Dosh, 70, Dies, Farmer and Horse Trader."
6. Interviews with Joseph B. Rabbitt of Bethesda, Maryland, son-in-law of William O. Dosh, and Jane Johnston, Dosh's daughter, on December 11, 2000, and January 9 and 12, 2001.
7. Photograph from archives of Montgomery County Historical Society.
8. "Germantown Facility: A Natural History," U.S.Department of Energy, Germantown, MD., brochure published in 2000. Clarence R. Hickey, Emily F. Dyson and Lakia N. Powell, "Natural History Along the Department of Energy Glenn Seaborg Trail, Germantown, Maryland," March 2001, U.S. Department of Energy Office of Science. Much of the information on the natural history of the site in this article is taken from these references.
9. Interview with Dick Franklin, Seneca Valley High School, Germantown, March 11, 2001.
10. Robert Shosteck, "Rock Creek Watershed Habitat Survey and Inventory of Fauna and Flora, Montgomery County, Maryland," The Maryland-National Capital Park and Planning Commission, March 1977.
11. Ibid.

12. Montgomery County, Maryland, "Forest Preservation Strategy: A Task Force Report Requested by the County Executive," 2000.
13. The Washington Post, October 6, 1996, "A Community in Progress: Fast Growing Germantown Stands Apart in Montgomery," by Manuel Perez-Rivas.

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