

The Challenge of Nuclear Power Development Records

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THE ATOMIC ENERGY ACT OF 1954 established a base for the nuclear power industry in the United States. Although the Atomic Energy Commission (AEC) had been created by the 1946 Atomic Energy Act, that statute mandated the agency to continue the government's monopoly of nuclear technology which, in effect, prevented the development of a private nuclear industry. The 1954 law substantially altered the original act by freeing the atom from exclusive government control and allowing private commercial participation in many nuclear areas. The new law made the AEC responsible for both promoting and regulating the infant industry and spelled out how this would be accomplished: through research activities including assistance to private enterprise, by providing to industry government-owned "special nuclear materials" (plutonium-239, uranium-233, and uranium containing more than the natural abundance of uranium-235, for use as fuel in reactors), through licensing of nuclear facilities, and by continued inspection of facilities and enforcement of the commission's regulations. As one views the past twenty-seven years of nuclear power development and regulation in this country, it is easy to see how the

1954 law also formed the basis for the accumulation of a massive amount of records of nuclear technology and regulation. Much has been written and spoken about the secrecy of nuclear weapons development, nuclear fallout, and the proliferation of weapons systems. Still there is a need to understand better the quantity and accessibility of the vast array of unclassified records relating to the domestic nuclear power program. This essay provides an overview of those records and suggests strategies for archivists concerned with both current and future documentation of the nuclear field.

Nuclear power developed from the atomic weapons program of World War II, and its immediate aftermath.¹ Top secret government control, framed in that Cold War era, combined with the esoteric technology, made the nuclear business a unique and mysterious novelty to Americans, including most historians and archivists. That legacy of secrecy is still with us today, although in diminished proportions. Nonetheless, nuclear power was heralded in the 1950s as the energy source of the future, and the nuclear power field engendered a great accumulation of records.

The private nuclear power business developed differently from most new tech-

¹ See Richard G. Hewlett and Oscar E. Anderson, Jr., *The New World, A History of the United States Atomic Energy Commission, 1939-1946*, vol. 1 (Chicago: University of Chicago Press, 1962) and Hewlett and Francis Duncan, *Atomic Shield, A History of the United States Atomic Energy Commission, 1947-1952*, vol. 2 (University Park: Pennsylvania State University Press, 1969).

nologies. The government, because of its monopoly on the secrets of the technology, became the midwife for the atomic industry, rather than permitting its natural birth through the traditional private research and development characteristic of most American industrial growth. The political struggle over passage of the 1954 Atomic Energy Act characterized the continued government role as private enterprise became involved in nuclear development. Likewise, regulation of the technology evolved differently. Most American industries were regulated by the government after they had developed fully. But nuclear regulation progressed side-by-side with the development of the technology itself. There was good reason for this. Both nuclear experts and the authors of the Atomic Energy Act recognized the dangers in the technology. Consequently, in the interest of "public health and safety," the Atomic Energy Commission was given broad authority to regulate the technology before it came into general use.²

Regulation meant establishing standards by which the safety of plants was judged, reviewing designs and operating plans against those standards, and inspecting the construction and operation to ensure that all conditions were met. Regulation also meant that records on the evolution of the technology by which regulatory standards were developed would be unclassified and in the public domain. Each utility wishing to construct a power reactor had to apply to the AEC for a construction permit; once the reactor was constructed, the utility needed an operating license to fire up the

reactor. Then, the utility had to comply with AEC's regulations on reactor operation. Thus the complete life cycle of the reactor was regulated, and a public record maintained.

In the late 1960s and early 1970s, several developments affected this highly regulated technology. The National Environmental Policy Act (NEPA) of 1969 applied to nuclear power reactors as well as to other environmental areas, and the *Calvert Cliffs* court case in 1971 obligated the AEC to incorporate wider environmental concerns in its regulatory programs. Until then, the AEC had concerned itself only with radiological issues.³ Not only did NEPA and *Calvert Cliffs* greatly increase the complexity of regulating the technology, it also created an even broader array of records.

The bulk of these records belonged to the Atomic Energy Commission and, after 1974, to its successor agencies: the Energy Research and Development Administration, now incorporated in the Department of Energy, and the Nuclear Regulatory Commission (NRC). When Congress disbanded the Atomic Energy Commission, AEC records were split: development records went to the Department of Energy, and regulatory records went to the NRC.

Until recently, most of these records, because of their inaccessibility, could not be used by people outside the government. But, because the records were government owned, they became subject to two recent laws that have made accessibility easier: the Freedom of Information Act (FOIA) and the newer Government in the Sunshine Act.⁴ Although the bulk of the records still

² Elizabeth S. Rolph, *Nuclear Power and the Public Safety, A Study in Regulation* (Lexington, Mass.: D.C. Heath and Co., 1979); George T. Mazuzan and Roger R. Trask, "An Outline History of Nuclear Regulation and Licensing, 1946-1979," unpublished manuscript, U.S. Nuclear Regulatory Commission, 1979.

³ Ibid.; Roger R. Trask, "The Calvert Cliffs Decision, NEPA, and Nuclear Power Plant Licensing, 1969-1972," unpublished manuscript, U.S. Nuclear Regulatory Commission, 1978. A group of environment intervenors brought the case against the AEC. They challenged the commission's licensing action on the Baltimore Gas and Electric Company's Calvert Cliffs plant on Chesapeake Bay and charged that AEC's environmental regulations used in licensing the plant were not consistent with NEPA. The D.C. Circuit Court of Appeals ruled in favor of the intervenors and opined that AEC's "crabbed interpretation of NEPA makes a mockery of the Act." The commission responded to the ruling by revising its regulations in response to the court's mandate. *Calvert Cliffs Coordinating Committee v. AEC*, 449 F. 2nd 1109, D.C. Cir. (1971).

⁴ The Freedom of Information Act (FOIA) is 80 Stat. 383; 5 U.S.C. 552, as amended. The Government in the Sunshine Act is 90 Stat. 1241; 5 U.S.C. 552b.

are under the control of the agencies and will not be accessioned by the National Archives for some years, FOIA and the Government in the Sunshine Act have had two broad effects on records of the agencies. First, most records pertaining to the technology are available under FOIA, the major exceptions being national security classified documents, trade secrets, and commercial or financial information. Second, and reference is mainly to the recently created records of the NRC, the Government in the Sunshine Act, which regulates the conduct of meetings of collegial agencies and makes their deliberative processes accessible to the public, has made the NRC an agency that operates in a fishbowl. The Three Mile Island accident probably underscored this point more than any other event.

Three Mile Island has undisputedly become the watershed in United States nuclear history. The tension-filled days of March and April 1979, when the nation worried that the reactor near Harrisburg, Pennsylvania, would spew forth large amounts of radioactive material, banished forever any complacency about the safety of the nuclear machines and the people who design, build, and operate them. For the record keepers of the nuclear story, the accident also has major implications. It would be hard to find a more detailed mass of public records about any technological accident than there are about those ominous events. (The only other such accident that comes to mind is the 1967 NASA fire that killed three astronauts.) There are the tapes and transcripts of the commissioner-level meetings revealing the decision process (or lack thereof) at the highest agency

level. For the stout-hearted researcher, recordings of telephone conversations between the Three Mile Island site and the NRC's emergency operations center are maintained for posterity. And the post-accident investigations—the President's Kemeny Commission, the NRC-generated Mitchell Rogovin study, and the congressional investigations—abound with testimony not only of the accident, but of perceptions, attitudes, and actions. Already, these records have resulted in a growing body of secondary literature.⁵

In addition to these agency records, there are other, more easily accessible records relating to nuclear technology that are important in understanding the larger picture in which the technology developed. Each licensed facility has its own documentation, kept in a docket file at the NRC Washington, D.C., headquarters, and a duplicate is located in the NRC's main Public Document Room. In addition, near each facility site, at some local outlet such as a town library, municipal office, or college library accessible to the public, local public document rooms have been established under contract with the NRC. There, various categories of documentation (duplicated from the dockets in Washington) are maintained for public use. For example, at the Apollo Memorial Library in Apollo, Pennsylvania, is the docket for the Babcock and Wilcox Company's Apollo fuel processing facility. Near Cincinnati is the Zimmer Nuclear Power Station of the Cincinnati Gas and Electric Company with its docket at the Clermont County Library in Batavia, Ohio. There are more than 130 local public document rooms scattered about the countryside with records of the various NRC-li-

⁵ The President's Commission on the Accident at Three Mile Island, Record Group 220, Records of Presidential Committees, Commissions and Boards, National Archives; Mitchell Rogovin, *Three Mile Island: A Report to the Commissioners and to the Public*, two vols. (Washington, D.C.: U.S. Nuclear Regulatory Commission, Special Inquiry Group, 1980); U.S. Congress, House Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs, *Accident at the Three Mile Island Nuclear Power Plant*, parts I and II, 96th Cong., 1st sess., 1979; U.S. Congress, Senate, Subcommittee on Nuclear Regulation of the Committee on Environment and Public Works, *Three Mile Island Nuclear Powerplant Accident*, parts I and II, 96th Cong., 1st sess., 1979. For a sample of the literature, see Ellyn R. Weiss, "Three Mile Island: The Loss of Innocence," in Lee Stephenson and George R. Zachar, eds., *Accidents Will Happen, The Case Against Nuclear Power* (New York: Harper and Row, 1979); Mark Stephens, *Three Mile Island* (New York: Random House, 1980); Philip L. Cantelon and Robert C. Williams, *Crisis Contained, The Department of Energy at Three Mile Island* (Washington, D.C.: U.S. Department of Energy, 1980).

censed facilities. Thus, the public domain houses a wide assortment of technological and legal records.⁶

A related collection of nuclear documents is presently open for research even while it is being processed at the National Archives. These are the extensive records of the Joint Committee on Atomic Energy, in Record Group 128. From 1946 until 1977, the Joint Committee had sole oversight authority on nuclear matters. Its work touched all aspects of the nuclear enterprise from the location of the AEC headquarters building in Germantown, Maryland, to the building of bombs, to the licensing of reactors. Those developing an expertise in nuclear history must become acquainted with these records, for the history of nuclear development in this nation is intimately tied up with the Joint Committee on Atomic Energy.⁷

The Joint Committee also was a prime mover in creating a large volume of printed materials. Its collection, located at any major government depository library, is a storehouse of information about almost every aspect of nuclear development. However, in 1977 the Joint Committee was abolished. In its place the Congress redistributed legislative jurisdiction and oversight authority over the NRC to several committees in both the Senate and the House. In the Senate, subcommittees of two committees assumed various responsibilities for different aspects of the agency's business. In the House, three subcommittees split the responsibilities. Their

committee prints must be included in this vast printed archives collection.⁸

Even though the Atomic Energy Commission was the main thrust behind nuclear development, other government executive branch agencies have documentation that relates directly to aspects of the AEC's work. The records of the Division of Radiological Health, in the U.S. Public Health Service, a part of the U.S. Department of Health and Human Services, are some of the best examples. Many of the division's records of its role in radiological safety are available for public examination at its library in Rockville, Maryland. Since its creation in 1970, the Environmental Protection Agency has accumulated records relating to the environmental aspects of nuclear power. Likewise, the prestigious quasi-official agency, the National Academy of Sciences, on several occasions sponsored important research projects on nuclear and radiation safety.⁹

Outside the federal government are records in various state repositories on nuclear matters, as well as private manuscript collections of people who dealt with the technology. The list is scattered and by no means complete. A few examples should exemplify the point. The Bentley Library at the University of Michigan has the papers of former Michigan Governor G. Mennen Williams, a strong early supporter of nuclear energy. The Williams collection is valuable for documenting Michigan's sizeable nuclear role in the 1950s. At Wayne State University's Walter P. Reuther Li-

⁶ U.S. Nuclear Regulatory Commission, "Local Public Document Room Roster."

⁷ Preliminary Inventory of the Records of the Joint Committee on Atomic Energy, Record Group 128, Records of Joint Committees of Congress, National Archives.

⁸ For an overview of this printed collection, see U.S. Congress, Joint Committee on Atomic Energy, *Current Membership of the Joint Committee on Atomic Energy, Joint Committee on Atomic Energy Membership, Publications, and Other Pertinent Information Through the 94th Congress, 1st Session*, Joint Committee Print, 94th Congress, 2nd sess. The present main oversight committees are the Subcommittee on Nuclear Regulation of the Senate Committee on Environment and Public Works; the Energy and Water Subcommittee of the Senate Appropriations Committee; the Subcommittee on Energy and the Environment of the House Interior and Insular Affairs Committee; the Energy and Power Subcommittee of the House Interstate and Foreign Commerce Committee; and the Subcommittee on Energy and Water Development of the House Appropriations Committee.

⁹ Records of the Division of Radiological Health, Public Health Service, Rockville, Md.; Environmental Protective Agency, Washington, D.C.; National Academy of Sciences, *The Biological Effects of Atomic Radiation* (Washington, D.C.: NAS, 1956); Committee on Biological Effects of Ionizing Radiation (BEIR Committee), *The Effects on Populations of Exposure to Low Levels of Ionizing Radiations* (BEIR I) (Washington, D.C.: NAS, 1972).

brary is a manuscript group depicting labor's constant concerns in the atomic field. And hordes of personal papers scattered around the country abound with insights on certain facets of atomic development—such as the Lewis Strauss papers at the Herbert Hoover Library, the Clinton P. Anderson Papers at the Library of Congress, the George Aiken papers at the University of Vermont, and the W. Sterling Cole papers at Cornell. These are the manuscripts of obvious leaders and policy makers in the public area of nuclear development. However, one must not over-emphasize their importance, for each provides only a limited perspective when viewed in the larger context of nuclear energy.

The foregoing discussion surveys records safely in repositories around the country. But critical for the historian of nuclear power development and regulation are potential collections that pose an immediate and future challenge for the archival profession. A tendency to think about what is already collected should not lull archivists into the view that the record is complete.

Several large American companies became the vendors of nuclear technology, the architects and builders of reactors and reactor systems. Corporate files of firms such as General Electric, Westinghouse, Babcock and Wilcox, General Atomic, Bechtel, and Stone and Webster are repositories of information on the technical development, decisions, and general business of nuclear promotion in both the private and public sectors of American industry. Future business histories must rely on the records of these organizations; furthermore, no overall picture of nuclear development and regulation would be complete without this significant aspect. Similarly, the buyers of nuclear plants—the public and private utilities in the United States—

are important institutions for archivists and historians seeking to document and write the nuclear story. For example, there are no utilities that rely solely on nuclear energy to generate their electric product, so the choice to “go nuclear” for a part of their generating capacity becomes a critical business decision. Ideally, there are responsible utility records managers and archivists who have documented such choices. One wonders, however, how carefully these businesses pursue archival programs that could preserve the record of such decisions. The 1978 *Directory of Archives and Manuscripts Repositories* lists only forty-six business archives (no vendor or utility companies are included) in its comprehensive compilation. The more recent *Directory of Business Archives in the United States and Canada* (1980) cites 174 American corporate archives. While the 210, total, American and Canadian entries show an encouraging increase of seventy-two since the first *Directory* was published in 1969, only four utilities and no nuclear reactor vendor or architectural engineering companies are listed.¹⁰ This is a critical area on which the archival profession needs to place immediate and constant emphasis: to promote non-profit archival programs in profit-making business institutions. Lack of continued effort might well result in the loss of an important segment of business, scientific, and technical history.¹¹

In addition to these business organization records, there are various industry support groups such as the Atomic Industrial Forum, the Edison Electric Institute, and the American Public Power Association. Their records are important in documenting industry viewpoints and the lobbying activities of different segments of the energy industry.

While vendors and utilities have the organizational means to maintain archival programs, the story will not be complete

¹⁰ National Historical Publications and Records Commission, *Directory of Archives and Manuscript Repositories* (Washington, D.C.: NHPRC, 1978); Society of American Archivists, *Directory of Business Archives in the United States and Canada* (Chicago: SAA, 1980).

¹¹ An additional indication of the need to emphasize archival programs in the business sector is provided by the 1980 annual meeting program of the Society of American Archivists. From a total of 175 formal presentations at seventy sessions, 4 were made by archivists in the business area. The Society is dominated by university and government archivists although it does have a Business Archives Professional Affinity Group.

without documentation from still another perspective. Much concern over the past dozen years has been with the nation's environment. Nuclear power has become one of the major battlegrounds in this area. Some national organizations, claiming that the government and the utilities have been lax in protecting the environment, have initiated legal actions. Ralph Nader's Critical Mass, the Sierra Club, the Audubon Society, the Natural Resources Defense Council, and the Union of Concerned Scientists are good examples. Like vendors and utilities, one hopes that these national environmental organizations maintain archival programs that document their activities. Again it seems imperative that strong professional encouragement and action must come from archivists to insure that these records are preserved.

In the nuclear power field below the national level, one is struck by the effort exerted through local and regional grassroots groups to apply pressure on utilities as well as state and federal governments to stop nuclear power or to make it as safe as possible. Groups (often *ad hoc*) like the Clamshell Alliance (New England), Paddlewheel (Kentucky), Catfish (Alabama), Cactus (Colorado, New Mexico, Nevada), Potomac Alliance (Virginia), and Three Mile Island Alert (Pennsylvania) are excellent examples of participatory democracy at work. In some instances, they have made a significant impact not only on nuclear history but also on local economics and politics.¹² For archivists, the presence of these organizations raises important questions. What rec-

ords do they have? What should be done about those records? Perhaps the answer to the first question is none, or, at best, scanty collections of newsletters, bumper stickers, petitions, and occasional policy statements. Nonetheless, the mere existence of these groups answers the second question. Archivists, particularly at college, state, and regional repositories, who have acquisition interests in local and regional history need to implement programs to search out, appraise, and accession the records of such groups. There is an immediacy to this problem. Some of these organizations have been formed to achieve a short-term goal; others may have longer range goals, but due to organization and financial problems as well as reliance on volunteer workers, they soon pass from the scene.¹³ The archivist, like an oral historian who often gathers reminiscences from people whom age and death may soon make unavailable, must be alert to the often tentative existence of these groups and be prepared to acquire their records on a moment's notice. Archivists cannot sit in repositories and hope the records will come to them.¹⁴

What, then, must the archivist and historian do, to deal with this wide collection of records? At the very least, there is a need for research by archivists working with the collections to acquaint themselves with related papers and records in other repositories. Archivists have a professional obligation to obtain the larger view of the technology in order to see where the particular collections fit in. Not only will this

¹² The list of local groups changes constantly. See "Nuclear Power Foes Go On But the Ranks are Thinner," *New York Times*, 23 Oct. 1980, sect. 2, p. 2. A good insight on these organizations is provided by Joseph Shatten, "The No-Nuke Wind Ensemble," *The American Spectator* (March 1980): 7-12. See also, Richard J. Lewis, *The Nuclear-Power Rebellion: Citizens vs. The Industrial Establishment* (New York: Viking Press, 1972), and Steven Ebbin and Raphael Kasper, *Citizen Groups and the Nuclear Power Controversy: Uses of Scientific and Technological Information* (Cambridge, Mass.: The M.I.T. Press, 1974).

¹³ The Clamshell Alliance, originally formed to stop construction of the Seabrook, New Hampshire, nuclear facility, is a good example. The alliance has disappeared, the victim of an internal struggle over the tactics of direct action (civil disobedience) versus the use of peaceful tactics. The "Clam's" records also have probably disappeared. *Nucleonics Week*, 9 Oct. 1980.

¹⁴ An encouraging development in this area is the recently established National Archives and Oral History Project for the Anti-Nuclear Movement, by the Special Collections Department at the University of California—San Diego. The library intends to collect "pamphlets; personal papers; tapes, transcripts, and oral history interviews with leaders and grassroots participants; organizational papers; videotapes; and movie films." See "News Notes," *American Archivist* 44 (Winter 1981): 71.

research facilitate a better understanding of their own collections, but it will enable archivists to perform their vital reference and acquisition roles.

This, in turn, suggests greater communication among archivists about the particular holdings they presently service, communication that might lead to the development of guides on these various materials through sponsorship by professional organizations such as the Society of American Archivists, the Society for the History of Technology, the American Association for State and Local History, or the new Society for History in the Federal Government. The Committee on Research of the Society for the History of Technology, for example, recently instituted in the federal government a survey of resources pertaining to the broader area of science and technology records, based on the assumption that professionals are not fully aware of what types of record collections and finding aids are available and accessible. That assumption is also true in the more narrow field of nuclear technology.

But, to develop overall guides and bibliographies, the impetus must come from the professionals working in these collections. Archivists are the ones intimately acquainted with parts of the whole. Archivists

should be the ones initiating such projects to complete the picture.

Satisfying as guides and bibliographies might be, the greater challenge is the continuing search for what ought to be in the country's repositories that would more fully document the history of nuclear development and regulation. Archival programs must be encouraged in industry. To paraphrase President Calvin Coolidge's statement that the main business of America is business, archivists cannot avoid their major responsibility to document that segment of American life. At the regional, state, and local level, the profession should be encouraged by the fact that over the past several years an expanded interest has developed toward local folkways and local history. Therein lies a fertile field for local and regional archivists to acquire and preserve those records of oftentimes fleeting environmental groups that emerged out of perceptions of the dangers of nuclear power.

In the end, the archivist's goal is to preserve the history of our times. That preservation requires not only the care and administration of collected records, but a search for new ones. The records of the nuclear field stand as one challenge for archivists to exploit in the 1980s.

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