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Article

## Forgotten Fallout The Missing Impact of the SL-1 Disaster

Darren Bradley

**N**UCLEAR ENERGY HAS LONG BEEN A VOLATILE SUBJECT IN AMERICAN history and public discourse. Reactor accidents, domestic and foreign, such as the meltdown at Three Mile Island in Pennsylvania and the disaster at the Chernobyl plant in Pripjat, Ukraine have been major milestones in shaping public opinion of nuclear energy in the United States. While these events have remained atomic milestones of sorts, due to the fact that nearly everyone has heard of them, the 1961 explosion of the SL-1 reactor at the Nuclear Reactor Test Site in Idaho, the first in the world to inflict casualties, has never held anywhere near the same space in American memory, or had any semblance of the effect on opinion and approval ratings other disasters have had. The SL-1 accident did not have a long term or wide-reaching impact on American memory or public opinion of nuclear power due to the remote location of the NRTS, the military nature of the operation, the nature and limitations of the media coverage SL-1 received, and the cultural timing of the event itself.

### SL-1 and the NRTS

SL-1 was one of more than 20 reactors operating on the Nuclear Reactor Test Site (NRTS), located about 40 miles west of Idaho Falls. Chosen for its location in an abandoned gunnery range, the Atomic Energy Commission (AEC)

envisioned NRTS as a new scientific community, similar to other atomic projects in remote locations such as Los Alamos and Richland. The nearby town of Idaho Falls would receive the wealth and jobs that come with government contracts, and the AEC would have the workers it required to run its new testbed of experimental military reactors.<sup>1</sup>

SL-1 was the Army's part in what was, in the 1950s, something of a competitive nuclear reactor race between the different branches of the US military, all of which converged with the AEC at the NRTS. The Navy had built miniaturized reactors which, powering the submarine Nautilus, had allowed them in 1958 to sail underneath the North Pole. The Air Force, likely in a misguided effort to keep pace with the Navy, went down a rabbit hole attempting to build a nuclear-powered bomber, capable of remaining in flight for indefinite periods of time. The Army, for its offering, applied resources to developing a reactor for a much less dramatic, but perhaps far more pragmatic issue than the Air Force: providing power to bases and outposts in isolated or remote locations.<sup>2</sup>

Thus, SL-1, or Stationary Low Power Reactor #1, received its name. The Army and AEC contracted Argonne National Laboratory from Chicago to build SL-1 as a prototype, or demonstrator for reactors that could be easily assembled, would require little water, and could be run by just a few crew members.<sup>3</sup> Unlike a large commercial nuclear power plant, SL-1 was only designed to output around 3 thermal megawatts of power,<sup>4</sup> or as some soldiers put it, just enough to "heat the general's bath water."<sup>5</sup> Ultimately, reactors following SL-1's blueprint were intended to provide power and heat for arctic radar stations along the "DEW line," America's Distant Early Warning System designed to detect soviet bombers long before they reached the continental US.<sup>6</sup>

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1. Jack M. Holl, "The National Reactor Testing Station: The Atomic Energy Commission in Idaho, 1949–1962," *Pacific Northwest Quarterly* Vol. 85, no. 1 (January 1994): 15, <https://www.jstor.org/stable/40491427>

2. Todd Tucker, *Atomic America: How a Deadly Explosion and a Feared Admiral Changed the Course of Nuclear History* (New York: Free Press, 2009): 105

3. The SL-1 Report Task Force, *IDO Report on the Nuclear Incident at the SL-1 Reactor: January 3, 1961 at the National Reactor Testing Station* (Idaho Falls: U.S. Atomic Energy Commission Idaho Operations Office, January 1962): 1, <https://www.osti.gov/servlets/purl/4809634>

4. Walter C. Patterson, "Chernobyl: Worst but Not First," *Bulletin of the Atomic Scientists* 42, no.7 (1986): 44, <https://doi.org/10.1080/00963402.1986.11459405>

5. William McKeown, *Idaho Falls: The Untold Story of America's First Nuclear Accident* (Toronto: ECW Press, 2003): 44.

6. Tucker, *Atomic America*, 96–99.

From the very beginning, SL-1 had serious safety issues. Supercriticality is the point of reaction in a nuclear reactor where fission has essentially escalated out of control. This is mitigated by control rods, which contain a “poison,” that slows or blocks nuclear fission. Control rods can be lowered into a reactor to gain control of the amount of fission occurring. Typically, a reactor will have numerous control rods, and, as an added measure of safety, will never rely on any given rod to control the entire reactor. However, in effort to prioritize efficiency, Argonne National Labs designed SL-1 with an unconventional manually lifted 9-rod configuration<sup>7</sup>, with a large center rod that had a very high degree of control over the whole reactor, creating a potentially dangerous situation if an issue were to arise with that rod.<sup>8</sup>

There were also problems with the poison elements of the rods. Boron strips were the poison used to slow reactions, but because they were “spot welded” to the rods they were prone to sticking when being pulled out by operators.<sup>9</sup> Eventually, by what was called “some undetermined mechanism” in an AEC report, the rods began shedding boron.<sup>10</sup>

These issues in the design and construction of SL-1 opened the door for what likely destroyed it: human error. By 1961, SL-1 had become somewhat obsolete within the echelon of NRTS reactors, and badly needed repairs were often neglected.<sup>11</sup> Although Combustion Engineering Inc. had been contracted to oversee the operation of SL-1, the reactor’s operating crews consisted completely of military personnel, who had been selected based on their “good” backgrounds and performance in Army conducted courses.<sup>12</sup>

## The Accident

Three servicemen, Jack Byrne, Dick Legg, and Richard McKinley were operating SL-1 on the night of January 3rd, 1961. On that night, the three men were tasked with routine maintenance, which included lifting the center control rod. Byrnes

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7. Combustion Engineering Inc, *SL-1 Reactor Accident on January 3rd, 1961: Interim Report* (Connecticut: Atomic Energy Commission, May, 1961): 9, <http://large.stanford.edu/courses/2017/ph241/berrios1/docs/ido-19300.pdf>

8. Tucker, *Atomic America*, 107.

9. Tucker, *Atomic America*, 109–10.

10. The SL-1 Report Task Force, *IDO Report on the Nuclear Incident at the SL-1 Reactor*, 2.

11. David Mosey, *Reactor Accidents: Institutional Failure in the Nuclear Industry* (UK: Nuclear Engineering International Publications, 2006): 48–49.

12. David Mosey, *Reactor Accidents*, 38–40.

lifted the rod, while Legg crouched over it, ready to clamp a spacer on it to hold it in place, and McKinley watched from nearby in the room. For some unknown reason, Byrnes hoisted the nearly 100-pound control rod around a foot higher than the required 10 inches, instantly sending the reactor into a supercritical reaction. The 9 feet of water that covered the reactor core immediately turned to steam, exploding with enough force to launch the 13-ton steel reactor lid 9 feet into the air. Byrnes and Legg were killed instantly, and Legg's body was pinned to the ceiling with debris from the control rod. McKinley died just a few hours later, deeply irradiated and suffering horrific head and body wounds.<sup>13</sup>

The explosion required a massive cleanup effort, requiring 13 months and 2.5 million dollars of funding. The bodies of the three men were so highly irradiated that they had to be taken to a nearby chemical plant and stored in ice and alcohol baths.<sup>14</sup> Custom poles with blades and tools on the end of them had to be furnished by local metalworkers in order to allow autopsies to be performed from a safe distance.<sup>15</sup>

General Electric was contracted to perform the investigation, which included full-scale mockups of the reactor for reenactments and simulations of possible scenarios that could have caused the explosion.<sup>16</sup> Investigations were launched into uncovering Jack Byrne's motivation for pulling the rod out nearly a foot further than necessary. Although theories ranging from an effort to unstick a jammed rod, to a practical joke,<sup>17</sup> to a murder-suicide in revenge for an alleged affair between Legg and Byrne's wife were entertained, no motivation was ever truly determined.

## SL-1 in Memory

Despite its death toll and costly aftermath, SL-1 has played such a small part in the narrative surrounding nuclear energy in the United States that it has even been forgotten by insiders in the field. In an informal poll of professors,

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13. James Mahaffey, *Atomic Accidents: A History of Nuclear Meltdowns and Disasters: From the Ozark Mountains to Fukushima* (New York: Pegasus Books, 2014): 139–41.

14. The SL-1 Report Task Force, *IDO Report on the Nuclear Incident at the SL-1 Reactor*, 185–86.

15. McKeown, *Idaho Falls*, 127.

16. General Electric Company, *Final Report of SL-1 Recovery Operations* (U.S. Atomic Energy Commission: July, 1962), <http://large.stanford.edu/courses/2017/ph241/berriosI/docs/ido-19311.pdf>

17. Mahaffey, *Atomic Accidents*, 142.

students, and professionals, a professor at Fordham University failed to find anyone who knew the world's first nuclear reactor deaths took place in SL-1, just outside Idaho Falls. Most, including a professor with a degree in nuclear engineering, assumed that the Three Mile Island Meltdown had been the first fatal nuclear reactor accident in US history, despite the fact that Three Mile Island caused no immediate fatalities.<sup>18</sup>

Historians have also overlooked the SL-1 disaster. Only a select few books solely dedicated to the history of the subject exist. These include William McKeown's *Idaho Falls*,<sup>19</sup> in which McKeown blends a journalistic reconstruction of the culture in the Lost River Desert during the early Cold War with interviews and firsthand accounts of the accident, and Todd Tucker's *Atomic America*,<sup>20</sup> which leans heavily into Tucker's insider experience as a nuclear technician in the Navy along with in-depth historical analysis. Despite the quality of these works, they are a far cry from their counterparts from better known reactor accidents in terms of sheer abundance and popularity.

The extent of SL-1's disappearance from memory extends beyond the academic world. In fact, evidence shows that SL-1 never entered the public consciousness to much of a degree at all. In data gathered from 1955 to 1983 measuring "host community attitudes toward nuclear power plants," 1961, the year the SL-1 accident occurred, shows no notable drop in attitude, with an estimated 85% percent in favor of nuclear power plants. This is down just 5% from 1960, but when viewed with the rest of the data, is not at all inconsistent with the general trend from 1955 to 1978. In 1979, however, there was an extreme drop off in the amount of people who favored nuclear power, which was clearly influenced by the events at Three Mile Island. In the wake of Three Mile Island, the percentage of those in favor of nuclear power plummeted from approximately 75% to under 40%.<sup>21</sup> Clearly, Three Mile Island was occupying a space in the American public consciousness that the SL-1 accident never had.

This is further reinforced not only by the results of polls, but by the content of polls themselves. In 2017, the American Enterprise Institute compiled polls that referenced nuclear energy as an issue. In the forward of the section, the AEI lists Three Mile Island, Chernobyl, and Fukushima as nuclear accidents that caused clear dips in public opinion of nuclear power but makes no mention

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18. McKeown, *Idaho Falls*, 253.

19. McKeown, *Idaho Falls*.

20. Todd Tucker, *Atomic America*.

21. William R. Freudenburg, Rodney K. Baxter, "Nuclear Reactions: Public Attitudes and Policies Toward Nuclear Power." *Policy Studies Review*, Volume 5, Issue 1 (1985): 103.

of SL-1.<sup>22</sup> Additionally, Three Mile Island is mentioned by name in questions asked by CBS, NBC, Harris, AP, and Gallup, even decades after its occurrence. One 1979 Gallup poll even showed that 96% of participants had heard or read about Three Mile Island. Clearly, this event entered American memory and was shaping public opinion in a way that SL-1 never did.<sup>23</sup>

## Remote Location

One reason for this boils down to the geographics of where SL-1 occurred. While 3 Mile Island is in Pennsylvania and was located near a population center of over 600,000, SL-1 was situated on the NRTS facility, in the middle of the Lost River Desert. This location was, from the very beginning, selected for its remoteness.

Argonne National Laboratories, which was based in Chicago, specifically sought out a remote area, and was willing to accept the distance from their headquarters as a tradeoff for testing their reactors at a safe distance from urban populations, where the only modification necessary to the land would be “displacing a few cattle and sheep from their ranges.”<sup>24</sup> The main allure of the Lost River Desert area was that it offered a space for experiments that was close enough to the community of Idaho Falls to receive the support that it needed, while simultaneously distant enough to prevent a major disaster from reaching urban areas or causing panic amongst a large population. As nuclear scientist James Mahaffey put it, “Frankly, if an experiment happened to go rogue and self-destruct, there was not much there to be harmed, and it was good practice to concentrate all dangerous stuff in one place.”<sup>25</sup>

In practice, this strategy proved to be quite effective. Despite an explosion, deaths, and a period in which there were unknowns about how much radiation was being released into the surrounding area, SL-1 was remote enough that no

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22. Karlyn Bowman and Elanor O’Neil, *Polls on the Environment, Energy, Global Warming, and Nuclear Power*. (Washington D.C.: American Enterprise Institute, 2017): 137, [https://heinonline-org.erl.lib.byu.edu/HOL/Page?collection=amenin&handle=hein.amenin/aciaaofooo1&id=1&men\\_tab=srchresults](https://heinonline-org.erl.lib.byu.edu/HOL/Page?collection=amenin&handle=hein.amenin/aciaaofooo1&id=1&men_tab=srchresults)

23. Bowman, *Polls on the Environment, Energy, Global Warming, Nuclear Power*, 157–59.

24. Jack M. Holl, “The National Reactor Testing Station: The Atomic Energy Commission in Idaho, 1949–1962,” *The Pacific Northwest Quarterly* Vol. 85, no. 1 (January 1994): 15. <https://www.jstor.org/stable/40491427>

25. Mahaffey, *Atomic Accidents*, 113.

evacuation of civilian populations was ever deemed necessary. This is in stark contrast to other nuclear accidents, such as Three Mile Island, where nearly 150,000 people fled their homes in a matter of days;<sup>26</sup> Fukushima, where 100,000 evacuated in the wake of a horrific earthquake and tsunami;<sup>27</sup> and Chernobyl, where an enormous population of around 350,000 people were forced from their homes.<sup>28</sup> While the families of those who died in the explosion were deeply affected, without a major population displaced, the SL-1 accident simply did not cut as deep of a scar into the psyche of a large population like other significant nuclear accidents did.

## Military Nature of Operations

While population density is certainly a factor on the long-term impact of a nuclear accident, the ownership, operation, and purpose of the plant can also be factors. Unlike the commercially operated and financed nuclear power plants that would follow it, SL-1 was, from the beginning, part of a military operation taking place on the NRTS (a military base) being run by military personnel. While all the other reactors mentioned in this essay (Fukushima, Chernobyl, and Three Mile Island) were created to provide commercial power, SL-1 was created strictly for proof of concept. Its military purposes were novel and disconnected from civilian life. Although private companies were involved in its creation and oversight, SL-1 would have been viewed by outsiders as a purely military endeavor, which reduced the effect the accident had on public opinion.

This is largely because there was, in the early 1960s, an assumption that significant danger and risk existed in military operations. As the son of one of the firefighters who entered the reactors put it, “In this era, we approach things with such skepticism. But these guys had a very different reference point back

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26. Robert Starlings, “Evacuation Behavior At Three Mile Island,” *International Journal of Mass Emergencies and Disasters* (1984): 12.

27. World Nuclear Association, “Fukushima Daiichi Accident,” *World Nuclear Association*. April, 2021, <https://world-nuclear.org/information-library/safety-and-security/safety-of-plants/fukushima-daiichi-accident.aspx>

28. World Nuclear Association, “Chernobyl Accident 1986,” *World Nuclear Association*. May, 2021, <https://world-nuclear.org/information-library/safety-and-security/safety-of-plants/chernobyl-accident.aspx>



then. They were like Chuck Yeager; they were guys out in the Wild West—one minute they're up in the hills plinking with guns and the next they're jumping into hot reactors or flying X-15s at twice the speed of sound.”<sup>29</sup> To some degree, the expectation that danger exists and accidents happen on military bases would have lessened the shock of the news for many people.

The military nature of NRTS and SL-1 was also important in the way that it affected the public, because, despite being the result of contracts with companies that would run the impending nuclear industry, it ultimately had a degree of separation from what would be the nuclear power industry. This was, after all, a reactor at a test site, a facility that implies inherent risk, rather than a reactor within a community, touted as perfectly safe, like Three Mile Island. In the end, much of the public ire regarding nuclear power was actually directed towards the nuclear *industry*. This is supported by polls taken at the time, which in 1986 showed 45% approval of nuclear power, but only 19% approval of the nuclear power *industry* just three years earlier.<sup>30</sup>

Another significant aspect of SL-1 being a military reactor, was that military intentions and desires had the power to shape the narrative of operations under their control. No evidence exists of a direct coverup occurring at SL-1, as the media was immediately allowed to cover the event, but the military clearly took efforts to shape the narrative around SL-1, although suppression and alteration of information would have been nothing new in the history of nuclear experiments conducted by the United States.

This was a pattern that began as soon as the first atomic weapons were used. Fearing backlash, the brutal extent of the damage and suffering caused by the atomic bombs dropped on Hiroshima and Nagasaki in the final days of WWII were initially suppressed, and the effects of radiation poisoning was initially lied about by government officials. The American public would learn more details about the bombings in the coming weeks, but some, like the fact that they killed a dozen or so American POWs, were suppressed much longer.<sup>31</sup>

Government control of negative atomic information would continue through decades of nuclear weapons testing. The Accident at Bikini Atoll and the harmful fallout from nuclear tests in the Nevada desert were both covered up and lied about. At one point the AEC even prevented Herman J. Muller, a geneticist who

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29. McKeown, *Idaho Falls*, 233.

30. Bowman, *Polls on the Environment, Energy, Global Warming, Nuclear Power*, 137.

31. Barton J. Bernstein, “Nuclear Deception: The U.S. Record,” *Bulletin of the Atomic Scientists* 42:7 (1986): 40–43. <https://doi.org/10.1080/00963402.1986.11459404>

had been studying the effects radiological genetic damage could have on future generations, from presenting his work abroad. To save face and hide their intentions, the AEC blamed their censorship on a bureaucratic “snafu” by lower-level staff and never admitted their true intentions. All these coverups and government actions were to suppress information that, as a Corps of Engineers Intelligence officer put it, “might well cause injury to the interest or prestige of [the] nation or government.”<sup>32</sup>

While knowledge of the SL-1 accident may not have been suppressed as drastically as knowledge of these other events, it is likely that the military engaged in a soft coverup, or misdirection. While interviewing sources to try and learn more about the cause of the accident, nuclear engineer Rod Adams of the *Atomic Insights* podcast reported that while “the term ‘cover-up’ was not used, the phrase ‘let sleeping dogs lie’ was used more than once.”<sup>33</sup> Rather than lying about what happened at SL-1, the government probably took actions to shift the attention to something else. The love triangle theory, which proposed that Byrnes pulled the rod out an extra ten inches to intentionally detonate the reactor in order to enact revenge on Legg, who was supposedly having an affair with his wife, may have been the attention shift the Army was looking for. This theory was stated as the official cause of the accident by AEC investigator Stephen Hanauer after a hastily conducted investigation, consisting of inconclusive and speculative interviews, even though he was never present at SL-1 during its operation or initial accident investigation. The theory’s validity was denied by the those who knew and worked with Byrnes and Legg, and eventually even Hanauer himself expressed regret at having been instrumental in furthering it.<sup>34</sup>

This focus on a “whodunit” murder mystery, embedded with sexual scandal and intrigue, shifted the focus away from long-term implications about government responsibility and toward more tabloid-esque matters. This intentional shift of focus had implications for the way SL-1 was remembered. Rather than spelling doom for the future of nuclear power, or highlighting major safety concerns, the SL-1 incident was trivialized through portrayal as a titillating sex scandal.

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32. Bernstein, *Nuclear Deceptions*.

33. Rod Adams, “Letter from the Editor: Solving the SL-1 Mystery,” *Atomic Insights*, July, 1996, <https://atomicinsights.com/1996/07/>

34. McKeown, *Idaho Falls*, 227, 245.

## Limited Coverage

Another factor that seriously impacted the way SL-1 was remembered by many people was the nature and limitations of the media coverage that it received in 1961. Although the SL-1 accident did receive media coverage within a day of the explosion, it was nearly all in print, rather than the televised news cycle that later disasters would receive. Additionally, the reporting was largely confined to the here and now of the explosion and did not make bigger connections or implications to the future of the community, country, or nuclear industry.

In the first few days, the reporting was done primarily by somewhat local papers, such as *Deseret News* and the *Spokane Daily Chronicle*, who both published brief articles covering the event on January 4th, just one day after the explosion.<sup>35</sup> These articles were both very brief, very limited in scope, and very accurate, save for the *Spokane Daily Chronicle* attributing the explosion to “a chemical explosion.”<sup>36</sup> A day later, on January 5th, the accident was covered in similar detail and scope by papers such as the *Spokesman Review*<sup>37</sup> and *Lewiston Morning Tribune*.<sup>38</sup> It even gained national recognition in a *New York Times* story titled “3 Killed By Blast in Atom Reactor.”

A common aspect of all these published stories is their brief, factual nature. They seemed to make no effort to sensationalize the events of the accident or to raise questions about the nuclear industry or the safety of Idaho Falls residents, and in fact even went out of their way to stress the exact opposite message. For example, *The New York Times* stated that “4,500 men employed at the station went to work as usual this morning,” and confidently declared “there is no danger to the surrounding area.”<sup>39</sup> Perhaps the furthest the media went in connecting SL-1 to the bigger issue of the future of nuclear energy was when it was listed as one of a number of setbacks in a *Time* magazine article titled “Atomic Slowdown,” published nearly five months after the explosion. It was spoken of only very briefly and was presented as one of several obstacles preventing

35. Steve Hale, “3 Killed in Severe Blast at Idaho A-Reactor Site,” *Deseret News*, Jan 4, 1961, <https://news.google.com/newspapers?id=uHkvAAAAIbAJ&pg=6455%2C479786>

36. Associated Press, “3 Die in Reactor Blast,” *Spokane Daily Chronicle*, Jan 4, 1961, <https://news.google.com/newspapers?id=EaASAAAAIbAJ&pg=4433%2C513325>

37. Associated Press, “Three Technicians Die in Reactor Blast,” *Spokesman Review*, Jan 5, 1961, <https://news.google.com/newspapers?id=zTJWAAAAIbAJ&pg=5509%2C1196197>

38. Frank Casey, “Reactor Blast Kills Three, Pours Out Radiation,” *Lewiston Morning Tribune*, Jan 5, 1961, <https://news.google.com/newspapers?id=zntfAAAAIbAJ&pg=3951%2C484527>

39. Associated Press, “3 Killed by Blast in Atom Reactor,” *New York Times*, January 5, 1961, <https://www.proquest.com/docview/115451042/45EC22FA354948PQ/1?accountid=4488>

the nuclear industry from delivering the affordable power that Americans were hoping for.<sup>40</sup>

Future reactor accidents would receive more comprehensive and sensational coverage. For example, by the second day of the accident at Three Mile Island, reporters swarmed officials at the site, with major newspapers sending staffs of up to two dozen men to cover the crisis.<sup>41</sup> Officials at the plant, unprepared for the sheer amount of press at every meeting and caught off guard by the antagonistic nature of their questioning, eventually complained that they needed to spend less time with the media so they could actually get back to solving the crisis.<sup>42</sup>

Despite causing no direct fatalities, Three Mile Island was generally covered in a way that spun the public into much more of a frenzy, which both carved out a larger space for it in public memory and took a bigger toll on the way the public saw atomic power. The television news stations reported several facts incorrectly which caused varying degrees of panic. At one point, a woman who decided to evacuate stated that “they came on and basically said in very definite terms that nobody was going to get back to Middletown . . . it was pretty much over as far as being a resident there.” Shortly thereafter, the station walked back their report, but the mark had been left on this woman’s memory.<sup>43</sup>

Less than a week after the event, the Los Angeles Times published a cartoon titled “The Unthinkable,” in which Rodin’s “*The Thinker*” clutches his face in fear, eyes bulging, as a huge mushroom cloud envelops Three Mile Island behind him.<sup>44</sup> Clearly, the media took an active part in stoking public fears of the Three Mile Island accident, and creating a public memory of it as a near death experience—the exact opposite of what the media had done in the case of SL-1, when papers like the *Post Register*, which, less than one week after the explosion, set out to reassure the public that the plant could not blow up like a bomb.<sup>45</sup>

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40. “Public Policy: Atomic Slowdown,” *Time Magazine*, May 19, 1961, <http://content.time.com/time/subscriber/article/0,33009,872432,00.html>

41. Samuel J. Walker, *Three Mile Island: A Nuclear Crisis In Historical Perspective* (London: University of California Press, 2004): 105.

42. PBS, “Meltdown at Three Mile Island: 40 Years Later,” March 26, 2019. *PBS.org video*, <https://www.pbs.org/video/meltdown-at-three-mile-island-40-years-later-yj2jx2/>

43. PBS, “Meltdown at Three Mile Island.”

44. Walker, *Three Mile Island: A Nuclear Crisis In Historical Perspective*, 166.

45. Tucker, *Atomic America*, 158.

## Cultural Timing

The media coverage of SL-1 and other nuclear accidents did not occur in a vacuum, so when attempting to understand why the American public was affected differently by atomic accidents at different periods, the culture of those times must be taken into consideration. The cultural timing of the SL-1 accident, near the peak of the Cold War, had a profound effect on the attitudes and memory of the American population who were exposed to the accident.

This was a period of time, less than two decades separated from the bombings of Hiroshima and Nagasaki, when potential nuclear war with Russia was looming large in the minds of many Americans. A 1961 poll showed that 59% of Americans were at least “fairly worried” about “the chance of a world war breaking out in which atom bombs and hydrogen bombs would be used.”<sup>46</sup> Rather counterintuitively, proximity to total nuclear annihilation was not driving Americans in 1961 away from nuclear energy; the prospect of nuclear destruction made nuclear power plants seem *more* appealing.

A major reason for this was that in the eyes of many Americans, death raining from above, via nuclear bombs or missiles from a communist foe, overshadowed and minimized the threat that any domestic health hazards, like radiation from a small reactor explosion, could really pose. As William Faulkner put in his Nobel Prize banquet speech, “There is only the question: When will I be blown up?”<sup>47</sup> Because this question loomed so large in the minds of so many, it had a profound impact on attitudes toward controversies and toward government entities like the AEC. The son of an SL-1 rescue crew member said his father “described it as a different time. . . . It was a time [when] we all lived under the threat of nuclear annihilation by the Soviet Union. What’s judged by today’s standards to be improper was, in those times, clearly thought to be in the national interest and in the best interest of the American public.”<sup>48</sup> Nearly anything that could propel the United States ahead of the Soviet Union in the Cold War received less skepticism than it otherwise would have.

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46. Hazel Gaudet Erskine, “The Polls: Atomic Weapons and Nuclear Energy” *The Public Opinion Quarterly* 27, no. 2 (1963): 155–90. <http://www.jstor.org/stable/2746913>.

47. William Faulkner, “William Faulkner’s Speech at the Nobel Banquet at the City Hall in Stockholm, December 10, 1950,” *The Nobel Prize*, <https://www.nobelprize.org/prizes/literature/1949/faulkner/speech/>

48. McKeown, *Idaho Falls*, 233.

This “put your country first and ask questions later” mentality applied heavily to the SL-1 accident and greatly impacted the way it was remembered by those who experienced it. One biologist who worked at the NRTS site stated, “you have to understand the mindset back then. . . . No one worried about what we considered low-level radiation. Everybody was excited about what we were doing and thought it was important. The Cold War was part of it. We were all worried about the Russians.”<sup>49</sup> This filter, of skewing everything in favor of your country, had impacted how SL-1 family members would remember their lost loved ones. When asked why she and the other widows of the SL-1 explosion had not brought attention to their story via book or film, Arlene Legg, whose husband had been impaled to the ceiling of the reactor room, stated “none of us wanted to pursue any of it—we wouldn’t even talk about it . . . you have to look out for your government.”<sup>50</sup>

SL-1 may not have significantly impacted the American public’s opinion of nuclear energy in 1961, because questioning something that was seen as a tool in winning the fight against the soviets would not have culturally fit in line with the mindsets of many Americans at the time. When even those involved in the accident filtered it through such a heavy layer of patriotism, it is easy to see why the public gave so little focus to SL-1.

By the late 1970s, many of these cultural factors protecting the nuclear industry from a massive dive in public opinion in the wake of an accident were, for the most part, gone. The cultural period of the Three Mile Island incident in 1979 was a stark contrast to that of the SL-1 accident in 1961. The threat of the USSR still existed, but had peaked in the 1950s and 1960s, and new terrors had been added to the public consciousness, such as the threat of domestic terrorism. While statements from the AEC after SL-1 simply reassured the public that the explosion was very different from a bomb and that they were in no danger from radiation,<sup>51</sup> a 1976 pamphlet from ERDA (who, along with the NRC, replaced the AEC) found it necessary to reassure the public that nuclear power plants could not explode like nuclear bombs, that they would not release poison into the air, and that their plutonium fuel could not be stolen by “radical revolutionaries” to construct their own bombs.<sup>52</sup> The very tool that was helping

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49. McKeown, *Idaho Falls*, 237.

50. McKeown, *Idaho Falls*, 245.

51. Tucker, *Atomic America*, 157–58.

52. Energy Research and Development Administration, *Questions about nuclear power* (Washington D.C.: Office of Public Affairs, 1976), Pamphlet.

save the United States from the Soviets by powering radar stations and submarines was now being seen by some as a threat from within.

While the wives of the men killed in SL-1 had turned away from the prospect of telling their story, Hollywood was now creating fictional meltdowns on the big screen. The film *The China Syndrome*, which casts actors such as Jane Fonda in a fictional thriller about nuclear mismanagement, murder, and near disaster, premiered mere days before the Three Mile Island accident.<sup>53</sup> In this case, the public was primed and ready for a meltdown, small or large, fatal or not, to enter their conscious.

## Conclusion

In 1983, the Diane Orr and C. Larry Roberts documentary titled *SL-1* concludes with the notion that the lesson to be gleaned from the SL-1 explosion is that if nuclear war were to break out, humanity would have no hope of survival.<sup>54</sup> This is a clear and interesting example of the more cynical attitude that many Americans had adopted toward nuclear energy after the Cold War. It is interesting to hear it applied to SL-1, an event not often revisited which, due to the dry and brisk media coverage it received, its sheer geographic isolation, the military influence surrounding it, and the layers of cultural patriotism that it was filtered through by those who experienced it, was not widely remembered, and did not cause a major swing in public opinion of nuclear energy. Tragically, Orr and Roberts' documentary may serve as the perfect testament of that. Since its 1983 release, *SL-1* has fallen into obscurity; almost no information regarding its creation exists online, copies are difficult to track down, and it is totally unavailable in digital formats. In the end, SL-1, both film and event, are all but forgotten by the American public.

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53. James Bridges, 1979, *The China Syndrome*, Columbia Pictures.

54. Diane Orr, C. Larry Roberts, 1983, *SL-1: Bizarre Beginning . . . Never Ending . . .* Beecher Films.