The 1979 South Atlantic Flash: The Case for an Israeli Nuclear Test*

By

Leonard Weiss
Visiting Scholar
Center for International Security and Cooperation
Stanford University
Email: len-weiss@sbcglobal.net

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ABSTRACT

This paper reviews the history of the September 22, 1979 double flash recorded by the VELA satellite and concludes that the flash was an Israeli nuclear test assisted by South Africa. The paper also relates a personal experience of the author in 1981 while working in the U.S. Senate that reinforces the conclusion. The paper calls for the declassification and release of documents that could remove any lingering uncertainty regarding the event.

Introduction: The VELA Satellite

In the wake of the 1963 Partial Test Ban Treaty, the United States launched a series of satellites under the name Vela[1].(Vela is a constellation in the southern hemisphere sometimes called “the sails” because of its configuration). The Vela satellites were designed to monitor compliance with the treaty by detecting clandestine nuclear tests either in space or in the atmosphere. The first such satellite was launched in 1963 and the last in 1969. They operated by measuring X-rays, neutrons, and gamma rays, and, in the case of the more advanced units, emissions of light using two photodiode sensors called bhangmeters (a name derived from the Indian word for cannabis). These satellites had a nominal life of seven years after which the burden of detection was to be shifted to a new series of satellites under the Defense Support Program (DSP) with infra-red detectors designed to detect missile launches as well as nuclear tests. The Vela satellites, however, kept

operating long past the end of their nominal design life; one of them, designated Vela 6911, detected an event on September 22, 1979 that has become a subject of intense interest ever since.

The Mysterious Flash

What Vela 6911 detected was a light pattern that had the characteristic “double hump” shape associated with a nuclear explosion.[2] As a function of time, the observed light pattern of a nuclear test rises to an initial peak of luminosity with a subsequent decline due to the fireball being obscured by the shock wave (a thin layer of highly compressed air). As the shock wave cools it becomes less opaque and the fireball is then increasingly visible, with luminosity rising to a second peak before declining monotonically.[3] (See Appendix, Figures 1 and 2).

Ordinarily, both bhangmeters on the satellite would have recorded exactly the same signal with an amplitude or phase difference depending on the spatial orientation of the satellite with respect to the point of origin of the blast. However, one of the bhangmeters, possibly because of a malfunction, did not reproduce precisely the record of the other.[4] This has been a key element in the argument of the increasingly small community of interested parties who believe that no test took place.

In any case, the U.S. government acted quickly and began searching for data from sources other than the Vela that could corroborate the event as a nuclear test. This included data from the bhangmeters on the DSP satellites, and from the Ionospheric Observatory at Arecibo which might detect an ionospheric wave resulting from an atmospheric test. Aircraft were dispatched to try to obtain evidence of radioactive debris in the atmosphere in the vicinity of what was calculated to be the site of the event. In addition, the Naval Research Laboratory (NRL), which had played an important part in establishing a nuclear test detection system early in the cold war era, prepared to analyze any data that would be collected by Naval ships dispatched to try to collect radiological evidence in the ocean; NRL’s task included collecting and analyzing hydro-acoustic and ocean wave data that might also provide evidence of a nuclear test.[5]

The results of these efforts were mixed, i.e., the DSP satellites recorded no flash[6] and no radioactive debris was found, but a researcher at Arecibo recorded an ionospheric wave traveling in an anomalous direction that could have been the result of a nuclear test.[7] The Naval Research Laboratory analysis of its hydro acoustic and wave data took time to prepare and in the end convinced its scientific director that a nuclear test had taken place.[8] However the data and analysis are still classified.[9] The lack of an immediate and definitive corroboration that a nuclear event had taken place led to rampant speculation about the event. The initial assessment of the National Security Council (NSC) in October 1979 was that the intelligence community had “high confidence” that the event was a nuclear test.[10] A later NSC report altered this conclusion to one of “a position of agnosticism”.[11]

A Problem for the Carter Administration: Who Did It?

In the meantime, the Carter Administration had to think about the political ramifications of a test if indeed one had taken place. One problem was that a clandestine test not definitively labeled as such meant that the system for detection could be claimed to be insufficiently reliable, calling into question the ability to detect any Soviet cheating on the Partial Test Ban Treaty, and therefore undermining the value of the SALT II treaty that had been signed in June 1979 and was awaiting a Senate vote on ratification. Carter had made nonproliferation and disarmament a key element of his presidency and was expected to run for reelection in 1980 touting his successes in that arena. A Soviet clandestine test was unlikely, but if the “mysterious flash” was not a Soviet test, who else would have and could have done it?

Initial speculation centered on South Africa[12] because of the calculated geographic location of the event and the knowledge that South Africa was developing nuclear weapons. In addition, a Washington Post story revealed that U.S. intelligence had tracked a secret South African alert of some of its naval forces a few days prior to the Vela event and an associated movement of some of its ships in the calculated vicinity and the ostensible time of the event.[13] A January 1980 intelligence report sent to the Arms Control and Disarmament Agency said South Africa was the most likely perpetrator. But the South African program was actually insufficiently advanced at that point to conduct a

small clandestine test, a conclusion that was verified later by the International Atomic Energy Agency, among others.[14]

Attention then turned to Israel and presented the Carter Administration with additional political concerns. The Camp David Accords agreement between Israel and Egypt had been brokered earlier that year by President Carter and was also going to be an important element of Carter's reelection campaign. Assistant Secretary of State Hodding Carter described the State Department attitude as one of "sheer panic" upon receipt of the news of the Vela incident and that Israel might be involved.[15] The State Department had taken a hard line toward Pakistan in 1977 and 1979, cutting off economic and military assistance as a result of Pakistan's nuclear enrichment and reprocessing imports which had violated the Symington and Glenn amendments to the Foreign Assistance Act even though Pakistan was still years away from the ability to test a nuclear device. Under the circumstances the U.S. government would be hard pressed to ignore an evident Israeli test, especially since Israel had signed the Limited Test Ban Treaty. To do so would have negative repercussions in the Arab world and possibly blunt progress toward peace in the Middle East, but to take any punitive action against Israel would upset the Jewish Diaspora in the U.S., an important constituency for Carter and the Democratic Party.

The Ruina Panel

To relieve the political pressure created by the Vela event, the Carter Administration seized upon the discrepancy between the VELA bhangmeters and speculation that the meters could have recorded a combination of natural phenomena (e.g., lightning plus a meteor strike) that might mimic a nuclear test to parry the growing opinion in intelligence circles that the Vela event was a nuclear test.

The White House asked Frank Press, the president's science advisor and Director of the Office of Science and Technology Policy to convene a panel of scientific experts to review the available data and determine whether the "double flash" was the result of a nuclear test, a natural phenomenological event, or a satellite malfunction. An MIT electrical engineering professor and long-time consultant to the government on defense matters named Jack Ruina was

made chairman of the panel which included scientific luminaries Luis Alvarez, Richard Garwin, Wolfgang Panofsky, Richard Muller, Alan Peterson, William Donn, Riccardo Giacconi, and F. William Sarles.

The panel was specifically tasked to ignore all political questions concerning the event such as who might be in a position to conduct such a test if it was nuclear.[16] CBS News reported that the administration withheld intelligence data from the Ruina panel showing that Israel and South Africa were cooperating on the development of missiles that could carry nuclear warheads.[17] This guaranteed that Israel would not be mentioned in the report if the conclusion was that a nuclear test had occurred.

Thus, while the Carter Administration did not create false intelligence data to reach a desired conclusion, it hoped to create an alternative explanation of the data at hand that could enable it to ignore or counter the conclusion of most of the government's intelligence analysts.

One possibility was the effect of sunlight glinting off the debris of a micrometeoroid that had struck the Vela satellite. Studies had been performed by Mission Research Corporation (MRC) and Sandia National Laboratory suggesting several meteoroid shape and trajectory models that could explain the waveform observed by the Vela bhangmeters. In addition, there was considerable data from an experiment on the spacecraft Pioneer 10 that might shed light on what kind of optical signals might be detected from meteoroid collisions. SRI International was tasked in December 1979 with assessing the probability that the Vela signal was caused by a sunlight-meteoroid interaction, and examined both the Pioneer 10 data and whether the circumstances postulated in the MRC and Sandia models would actually come about, taking account of the number of sensor observations over the life of the bhangmeters. The SRI report concluded that the Pioneer 10 data contained insufficient information to make a definitive judgment about the Vela signal's origin, but that the aforementioned models would require more than one meteorite strike with a particular set of characteristics to result in the Vela signal of September 22, 1979, and that the probability of this happening was of the order of one in one hundred billion.[18] Their calculation was reviewed and affirmed in the context of other data in a 1980 DIA study.[19]

The Ruina Panel's Report

The Ruina panel's report was classified and officially presented on May 23, 1980. An unclassified version was released on September 23, 1980.[20]

The report focused on the differences in the measurements obtained by the two bhangmeters and concluded that the signal was probably not that of a nuclear explosion, though it could have been. The panel offered an alternative explanation of the signal, suggesting the possibility that it could have come from sunlight glinting off the debris of a micrometeoroid that had struck the Vela satellite. As already indicated above, the probability of a micrometeoroid causing the bhangmeter signals of September 22, 1979 was estimated as one in 100 billion. A personal explanation of the Ruina panel's conclusion was provided by Luis Alvarez in his 1987 memoir,[21] in which he states that he asked DIA to provide a selection of the Vela records that indicated events that were nuclear explosions, or were unclear as to their origin but had some signal characteristics associated with a nuclear explosive event. The latter were called "zoo animals" or "zoo-events" in reference to the "zoo-ons" that physicists like Alvarez called the unexplainable tracks in a bubble chamber experiment. In his memoir, Alvarez seems to claim that only one bhangmeter recorded the September 22 "flash" and on that basis suggests that the flash was a "zoo-event". But the panel's report and other accounts of the flash refer to differences in the two bhangmeters recorded intensities rather than a complete non-detection. And in a private conversation I once had with Richard Garwin, he spoke merely of "phase differences" between the recorded signals of the bhangmeters, not a failure to detect. More recently, the light signals seen by Vela 6911 on September 22, 1979 have become publicly available (see Appendix, Figure 3) showing detection by both bhangmeters. What Alvarez was probably referring to was not the bhangmeters but a third optical sensor that was used normally to locate the geographic origin of an event but was no longer operating on Vela 6911. A paper by Carey Sublette[22] in the Nuclear Weapon Archive lays out other flaws in Alvarez's defense of the Ruina panel's report which had concluded that the Vela

signal more likely represented a “zoo-event” than a nuclear explosion.

The NRL Report

It is interesting to compare the U.S. government’s treatment of the Ruina panel’s report with other classified documents that suggested more definitively that the Vela event was a nuclear test. In the late fall of 1981 I interviewed Alan Berman, the former scientific director of the Naval Research Laboratory, who had retired from NRL and was then the Director of the marine Laboratory of the University of Miami. I had known Berman for more than a decade as a result of my part-time consulting and research position at NRL. Berman was unanimously viewed at the naval laboratory as a superb scientist and administrator who would never color a scientific data-based conclusion because of political or ideological considerations. My interview with him took place about 18 months after a 300-page NRL report had been completed in the summer of 1980 laying out the laboratory’s analysis of the hydro acoustic and other data collected following the Vela event. According to one account, the report concluded that the event was most likely a nuclear test and was accompanied by a large underwater signal resembling signals given by previous nuclear explosions conducted by France in the Pacific in the 1970s.[23]

Berman had said that pulses of underwater sound detected by Navy sensors at two locations following the blast were the strongest corroborative evidence that a nuclear explosion had taken place. Regarding that evidence, he said further that “It’s strong enough to make the case in its own right.”[24] The Navy sensors showed that the explosion’s signal was reflected off the Antarctic shelf and the reflection was also detected, allowing a calculated estimate of the event’s location, in the vicinity of Prince Edward and Marion Islands.

The White House ignored the NRL report and referenced only the Ruina panel’s report whenever publicly queried. Berman had vociferously objected when the Ruina panel’s report was released prior to the completion of the NRL report, and he was still furious when I interviewed him in his office. On two other occasions in late 1980, following the delivery of the NRL report, he had contacted the White House with new

information indicating additional support for the conclusion that a nuclear test had taken place, and offering to undertake a broader analysis of the information. But his offer was ignored or rebuffed.[25] One of these contacts was by means of a letter to John Marcum, then a senior advisor to the White House on Technology and arms control.[26] Marcum was one of the officials helping the administration deflect attention from the growing consensus in the intelligence community that the Vela signal was nuclear in origin.

Further Evidence of a Nuclear Test: A Personal Memoir

Based on what I had learned in a number of briefings, I had myself reached the conclusion that the September 22 event was a nuclear test and I was not shy in offering that opinion during discussions within the government on nonproliferation issues. But I said nothing publicly. The first news story about the Vela detection occurred on October 25, 1979 when John Scali, then working for ABC News broke the story of the flash after being briefed by contacts at the Pentagon. But Scali did not claim that the event was a nuclear test. Others, however, did.

One of the most outspoken proponents of the notion that a nuclear test had taken place was Major General George J. Keegan, former head of Air Force Intelligence. Keegan had had a long military career before retiring in January, 1977, and received much notoriety for claiming that the USSR had achieved a breakthrough in the development of directed energy weapons, specifically in the area of particle beam weapons, and that this constituted a serious shift in the balance of strategic power between the two superpowers. Although both President Carter and Defense Secretary Harold Brown issued public statements refuting Keegan’s claim, the administration responded to political pressure from Congress on the issue and significantly expanded the American directed energy program. Later it became clear that Keegan had misidentified a nuclear rocket facility in the USSR as a particle beam facility.[27] Keegan took a significant hit to his reputation over this error, and he became persona-non-grata within the Carter Administration, whose personnel began referring to his claims as “Keegan’s Follies”. Thus, when Keegan publicly stated his opinion that the Vela event was a nuclear test, the Carter Administration lost no time in pointing out how

wrong he was in the past on the directed energy weapons issue.

This was brought home to me personally when, at a non-proliferation briefing given by Carter administration personnel I was taken aside and told that if I persisted in stating my belief that a nuclear test had taken place on September 22, my reputation would take a hit and I would suffer the same fate as Keegan. Nonetheless, in my role as Staff Director of the Senate Subcommittee on Energy and Nuclear Proliferation, I continued to make numerous requests to see the classified data from Vela 6911, but without success. I felt I was being stonewalled.

All this simply reinforced my belief that the Vela event was a nuclear test and that the Ruina panel was engaged in an exercise designed by the White House to give it the ability to point to an alternative scenario, one which, however, had low probability of occurrence.

But any small doubt I might still have harbored about the origin of the double flash was erased by an event that took place in the office of Senator John H. Glenn of Ohio on March 6, 1981. At the time I was working as Glenn's chief advisor on nonproliferation issues as well as my formal position on the Senate subcommittee of which Senator Glenn was the Ranking Member (he lost the chairmanship when the Republicans took over the Senate in the wake of the 1980 election in which Ronald Reagan beat Jimmy Carter). I had received a call to my own office that morning from a well known CBS News reporter named Robert Pierpoint. Pierpoint said that CBS was doing a story on the "mysterious flash", that he had heard that I had some "interesting" opinions about it, and would I be willing to say those things on camera for possible broadcast on the CBS Evening News show anchored by Walter Cronkite? Perhaps naively, I said "OK", and gave Pierpoint permission to bring a camera crew to my office, which he did a few hours later. While they were setting up their equipment, the phone rang and my secretary announced that Senator Glenn was on the phone. The first thing he said to me after I said hello was to tell me that a phone call had been made to his office by the White House and that (much to my astonishment) the White House had heard that I was going to give an on-camera interview about the VELA event. He asked if that was true, and I said that not only was it true, but the camera crew was in my office as we spoke. Senator Glenn responded by saying that the

White House was very upset and that I needed to come to his office immediately to discuss this. I excused myself and told Pierpoint I needed to talk to Glenn for a few minutes. It took about three minutes to walk to Glenn's office, and when I entered his inner office, he was there with his press secretary and erstwhile campaign manager Steve Avakian. They looked grim. Glenn began by telling me again how upset the White House was about the proposed interview, and he asked me what I intended to say. When I said that "I intend to say that the 'mysterious flash' was a nuclear test," he responded sharply, "No! You can't say that!" And then he reiterated how upset the White House was and how damaging the political fallout could be if I went ahead. Glenn said the White House told him that my interview could result in a serious foreign policy problem for the United States. Then he uttered a cryptic comment about how his political enemies would make hay over this were I to cause a problem. Needless to say I was stunned by all this. I had given interviews before on other issues, and had never before been given an order to say or not say something. But I was not about to risk losing my job, so I said I would go back to my office and call off the interview. At this, Avakian jumped in and, with Glenn's evident approval, said "No! You have to go ahead with the interview but you can't say there was a nuclear test!" As I started walking out I asked who had made the call to Glenn. They said it was John Marcum, the same person who Alan Berman had written to in an attempt to get the White House to pay attention to the NRL report and the laboratory's capabilities in analyzing any new data. Only now, Marcum was representing the Reagan Administration in trying to scuttle unwanted comments and conclusions about the Vela event. Clearly, concerns about Jimmy Carter's presidential fortunes in September 1979 were not the only reason for White House panic over the "flash". It was now a bi-partisan panic, and that meant to me not only that the "flash" was a nuclear test but that Israel was the likely perpetrator.

I left Glenn's office with my head swimming. How was I going to do an interview on the Vela event without lying and without saying explicitly that I believed it was a nuclear test? I decided the least I could do was to indicate my disdain for the alternative scenario contained in the report of the Ruina panel. I said that "I was surprised at the zeal which some people were bringing to the question of proving that this was not a nuclear event", and used the

White House locution that “If this was a nuclear event it would present a serious political problem for the United States.” I concluded by saying, “I don’t think it is possible to lay this event to rest with a report that indicates that a group of people feel that the probability of it not being a nuclear event is perhaps more than half and on that basis we all should forget about it and go to sleep”. The comment about the event being a political problem for the U.S. was code for the problems that would be created by naming Israel as the culprit. I was upset that I had to resort to verbal subterfuge to get my point across, but I was relieved that Pierpoint did not accuse me of bait-and-switch. In fact the interview was broadcast that night and was the last segment of Walter Cronkite’s farewell broadcast as anchor before he personally signed off. But my experience that day in the Glenn office and the representations made of the panicky White House phone calls were the last bits of evidence for me, if any were needed, that Vela 6911 had recorded a nuclear test, and the most likely perpetrator was Israel, probably with South African support. To underscore the unique nature of my interaction with Glenn in this case, I worked for him for another twenty years, gave many interviews, and never was told again what I could or could not say.

It was perhaps a coincidence that about three weeks after the CBS broadcast I was finally allowed to see the Vela satellite data I had been seeking for months. I examined the graphed “flash” data along with the group of “zoo events” referred to by Luis Alvarez. Perhaps I should not have been surprised at that point, but notwithstanding the phase differences between the bhangmeters on Vela 6911, the plot of the data showed the two humps of the classic curve associated with the light intensity from a nuclear explosion. (See Figure 3). Moreover, there was not a single “zoo animal” that came close to the classic shape in duration and amplitude. (See Figures 4a,b). Finding an alternative explanation other than a nuclear test for the “flash” of September 22, 1979 required some serious stretching of mind by the individuals on the Ruina panel.

Further Evidence Supporting the Conclusion that the “Flash” was an Israeli Test

In 1991, Seymour Hersh published “The Samson Option”, which described the history of the Israeli nuclear weapons

program up to that time. Hersh reported that former Israeli government officials told him that Vela 6911 recorded an Israeli test of a low-yield nuclear artillery shell and that the test was the third of a series carried out over the Indian Ocean. Hersh wrote that the test was preceded by a visit to the site by two Israeli ships and that elements of the South African Navy were observers. He also describes the panic among White House and State Department officials upon learning of the Vela event. But Hersh ascribes the panic mainly to the Carter Administration's concerns about the fate of the SALT treaty and the political ammunition a clandestine test would give to Republican opponents. My own experience showed that the Reagan White House was equally concerned over the prospect of a confirmed clandestine Israeli nuclear test at a time when the U.S. was ostensibly trying to hold the line on proliferation activities in Pakistan and Congress was considering legislation prohibiting military assistance to Pakistan in the event of a Pakistani nuclear test. Hersh also quotes a number of prominent members of the Nuclear Intelligence Panel who had examined the VELA data and concluded it was a nuclear test, but were ordered not to discuss it publicly. In particular, the chairman of the panel, Donald Kerr, who had been acting director of defense programs at the Department of Energy, told Hersh, "We had no doubt it was a bomb".[28]

On April 20, 1997, an article in the Israeli newspaper Ha'aretz quoted South African Deputy Foreign Minister Aziz Pahad as confirming that the VELA event was a nuclear test. The article said that Israel had helped South Africa develop its bomb designs in return for 500 tons of uranium and other assistance. Although Pahad later claimed his statement had been taken out of context, the Ha'aretz article was referenced in a July 11, 1997 Los Alamos Laboratory newsletter under the headline: "Blast from the past: Lab scientists receive vindication". This referred to earlier work by the laboratory concluding that a nuclear test had taken place on September 22, 1979. Dave Simons of the Nonproliferation and Arms Control Research and Development division said: "The whole federal laboratory community came to the conclusion that the data indicated a bomb", and that "we were quite thoroughly convinced of our interpretation".[29] Although the power of the article has been diminished somewhat by Pahad's partial retraction, the latter did not result in any retraction by laboratory scientists that a nuclear test took place.

That the Vela event was the result of a cooperative effort by Israel and the apartheid regime of South Africa has been claimed or suggested many times[30]; and such effort would have been the logical result of an arms trade relationship between the two countries that included the transfer of advanced military technology and nuclear materials. It has been reported that at one point in 1975, Israel offered to sell Jericho missiles to South Africa that could carry nuclear warheads, and may even have offered to sell the warheads themselves.[31]

A U.S. Government Cover-up at the Top?

As of this time, the conclusion that the Vela event was a nuclear test is shared by the Directors of the U.S. nuclear weapons laboratories, senior officials at the Defense Intelligence Agency, and many members of the scientific community.[32] Others in the intelligence community, such as the Director of Central Intelligence's Nuclear Intelligence Panel, many scientists and analysts at the Los Alamos, Livermore, and Sandia National Laboratories, and at SRI International, DIA, Mission Research Corporation, and the Aerospace Corporation subscribe to the conclusion that the event was "most probably" a nuclear test.[33] Yet, despite this considerable body of expert opinion, the U.S. government under both Democratic and Republican administrations still has not admitted that a nuclear test took place.

In his recently published book with diary entries, former President Jimmy Carter briefly, but revealingly, writes about the September 22, 1979 "flash". In the entry dated on the day of the flash, he writes that, "There was indication of a nuclear explosion in the region of south Africa -- either South Africa, Israel using a ship at sea, or nothing."[34] In another diary entry, dated October 26, Carter writes, "At the foreign affairs breakfast we went over the South African nuclear explosion. We still don't know who did it."[35] It is no coincidence that this entry occurred the day after ABC reporter John Scali revealed publicly the existence of the VELA event. Five months later, on February 27, 1980, Carter writes, "We have a growing belief among our scientists that the Israelis did indeed conduct a nuclear test explosion in the ocean near the southern end of Africa."[36] That Israel is immediately mentioned in the first entry by Carter about a possible nuclear test near South Africa is not a surprise. The intelligence agencies were

watching the military relationship between Israel and South Africa, and Carter was specifically aware of the Israeli nuclear weapon program and where they might have obtained weapon materials. In a cryptic reference to the NUMEC affair[37], his diary entry of August 2, 1979 reads as follows: ”The question of lost uranium in the 1960s that may or may not have gone to Israel is a matter we have been discussing. It’s going to be a public issue shortly when ERDA [the Energy Research and Development Agency] makes its report.”[38] It’s clear from these entries that Israel was a prime suspect in the Vela event from the beginning, and the appearance of these entries in his book strongly suggests that Carter believes the flash was indeed an Israeli nuclear test. But he didn’t say anything approaching that when he was president. The public path of ambiguity taken by Carter as president on the Vela event has been trod by every president since then, enabled by the refusal to declassify relevant data and documents.

Keeping important evidentiary data still secret makes it difficult for outside independent investigators to evaluate critically and definitively the conclusions of the Ruina panel and the 300 page NRL analysis, among other things. One of the likely reasons that the U.S. government is withholding the declassification of relevant documents is to assist Israel to maintain its policy of opacity in nuclear affairs, a policy which had its origin during the Johnson presidency and was reinforced in a bargain made with the U.S. during the Nixon presidency.[39] Its abandonment accompanied by the admission that Israel violated the Limited Test Ban Treaty would create some serious political fallout for both countries. But it is hard to argue that helping Israel in this way contributes to U.S. national security at a time when the U.S. demands openness in the nuclear activities of Iran, North Korea, Syria, and all other countries who may be engaged in clandestine weapon-related nuclear activities.

Final Comment

This raises a general policy question. The Iraq war has shown the harm that can result from the politicization of intelligence in order to support a desired policy outcome whose support by the public would otherwise be problematic. In the case of the Vela event, U.S. administrations on both sides of the political fence have sought to ignore or demote the value of legitimately collected and analyzed

intelligence information in order to reduce or eliminate pressure to take an action with unpredictable or negative political repercussions. Obfuscating or denigrating hard intelligence data in order to avoid a political problem can be as dangerous to national security and democracy as inventing bogus intelligence in order to smooth the way into a war. Both tactics are designed to mislead the public and are therefore antithetical to democratic governance. It is time for the U.S. government to open up its files on the Vela event and end a charade that has been going on for over thirty years.

ENDNOTES

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[9] D. Albright and C. Gay, op.cit.

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[12] NSC Memo dated October 22, 1979, op.cit.

[13] Interagency Intelligence Memorandum, "The 22 September 1979 Event", January 21, 1980, p.8; approved for release June, 2004. http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB190/03.pdf
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[14] Ibid, p.11

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[16] S. Hersh, Ibid, p.277

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[26] J. Richelson, op.cit., p.310

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[29] Daily Newsbulletin, Los Alamos National Laboratory, Friday, July 11, 1997. http://www.lanl.gov/orgs/pa/News/071197.html

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[31] S. Polakow-Suransky, Op. Cit., p.83

[32] T. Reed and D. Stillman, *The Nuclear Express*, Zenith Press, Minneapolis, 2009, p.177

[33] T. Reed and D. Stillman, Ibid

[34] J. Carter, *White House Diary*, Norton and Co., New York, 2010, p.357

[35] J. Carter, Ibid, p.365

[36] J. Carter, ibid, p.405

[37] See V. Gilinsky and R. Mattson, Revisiting the NUMEC Affair", Bull. Atomic Scientists, vol. 66, no. 2, March/April 2010, pp.61-75

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APPENDIX: The light patterns of an early nuclear test, the Vela detection of September 22, 1979, and two “zoo events”

Figure 1: Light pattern for a 19kt nuclear test

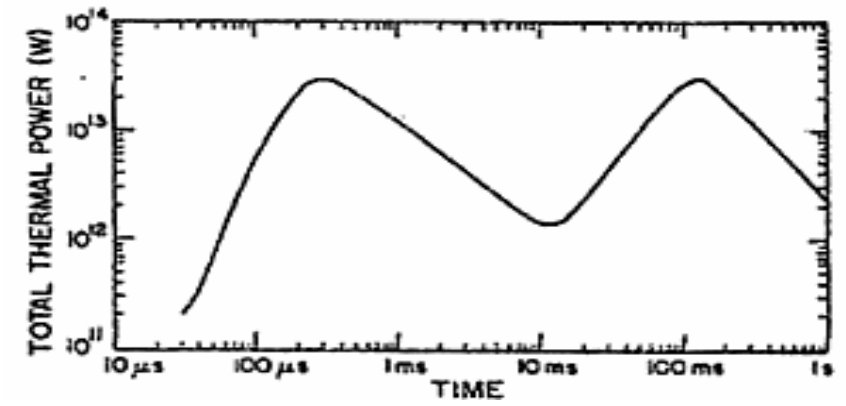

Figure 2: Light pattern detected by two bhangmeters of a Vela satellite for a known nuclear test (Signals above a fixed threshold are shown)

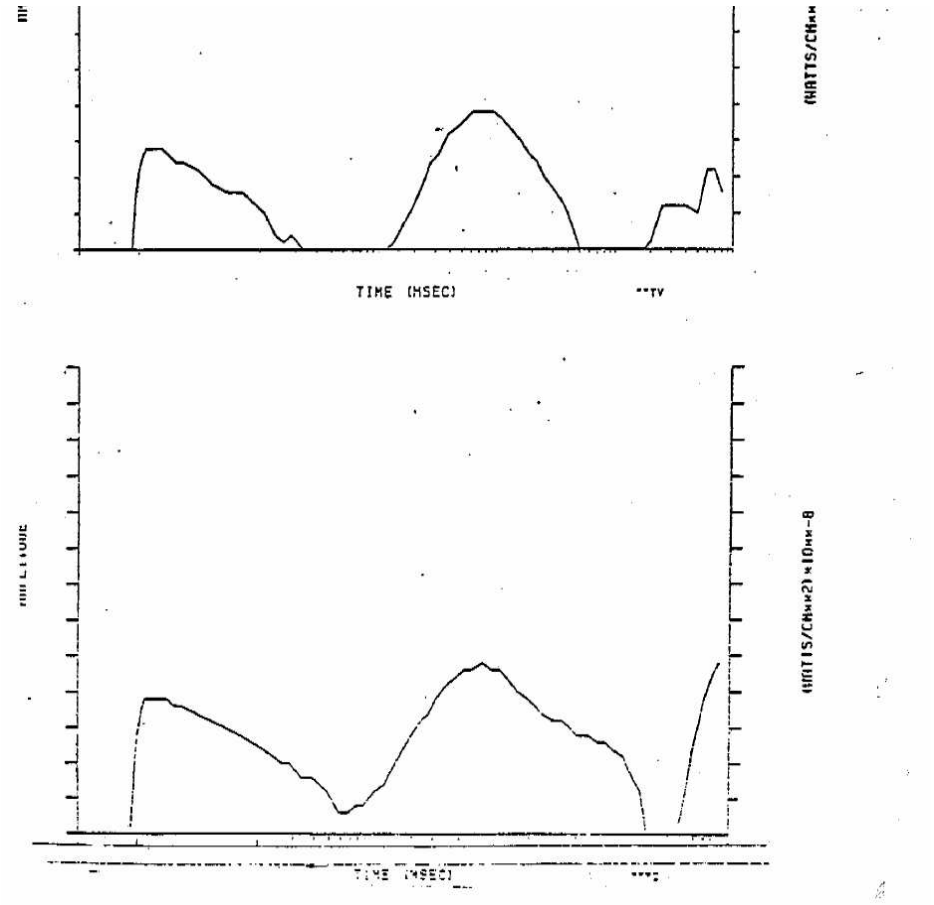

Figure 3: Bhangmeter light patterns for event detected by a Vela satellite on 9/22/79

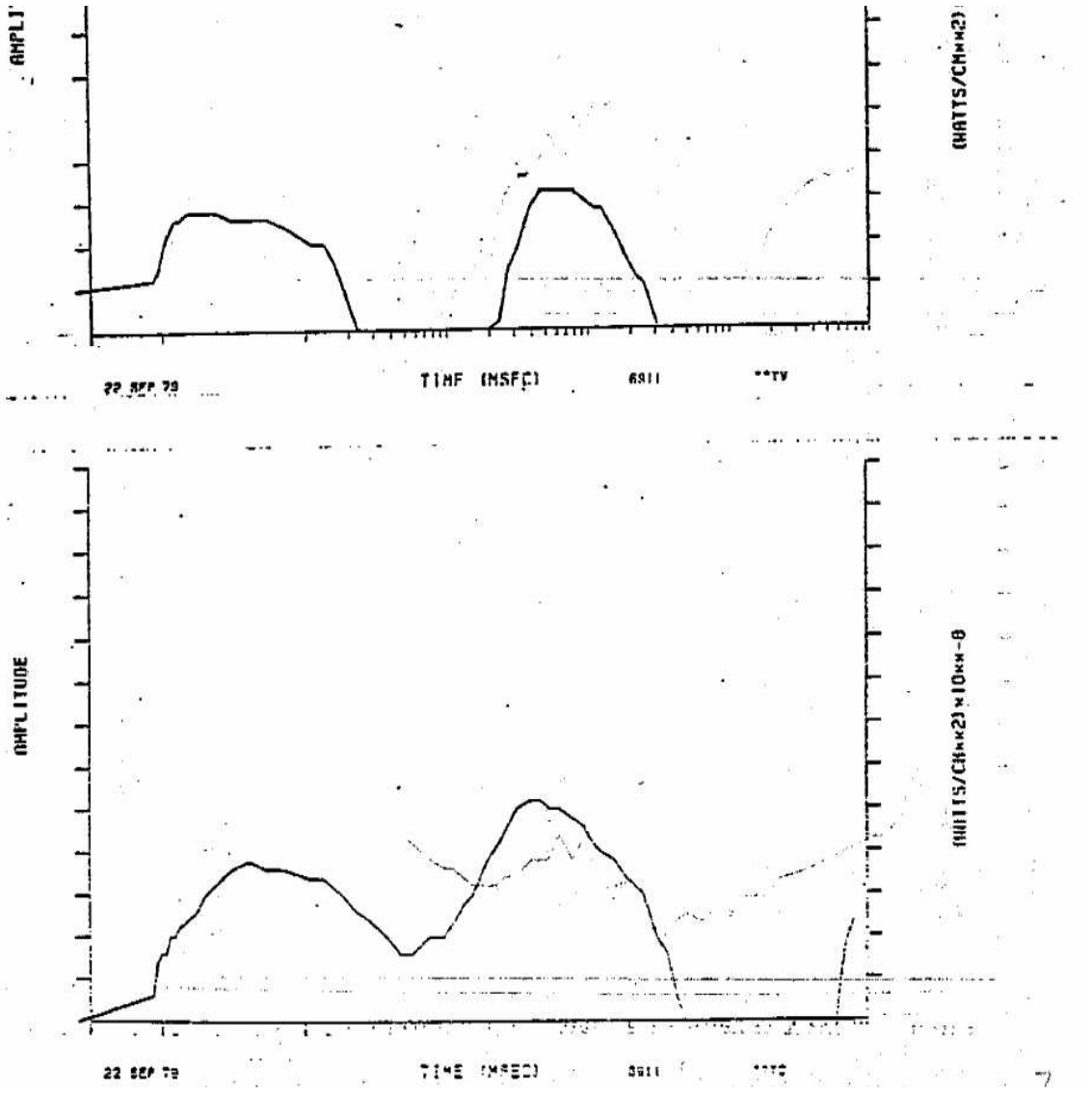

Figure 4a: “Zoo Event”

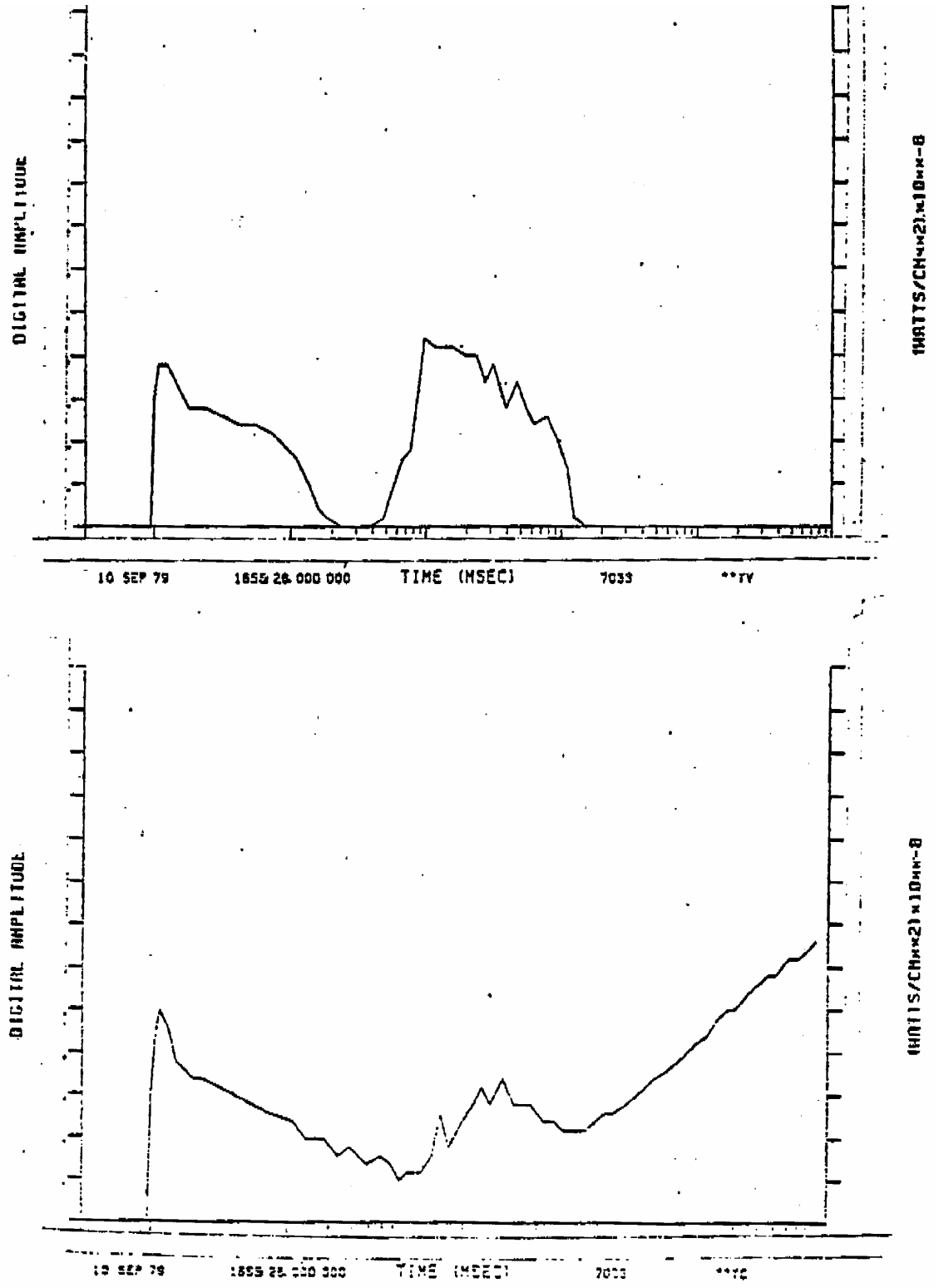

Figure 4b: “Zoo Event”