

CHAPTER 4

SOMETIMES MAJOR VIOLATIONS OF NUCLEAR SECURITY GET IGNORED

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The traditional justification for accepting nuclear power activities around the world, despite their obvious technological overlap with military ones, is that they are covered by agreements restricting them to “peaceful uses,” and that any violations of these agreements would be detected in time by international inspectors or by national intelligence. “In time” means that a violation would be detected early enough so that the international community could use the information to thwart the effort to make bombs.

At this point, all non-nuclear weapon countries are members of the Nuclear Nonproliferation Treaty (NPT), so we are talking about the “safeguards” of the International Atomic Energy Agency (IAEA). The objective of these safeguards is thus to dissuade any would-be bomb makers from even attempting a violation for fear of a swift response. As stated in the basic IAEA safeguards document, the objective is:

the timely detection of diversion of significant quantities of nuclear material from peaceful nuclear activities to the manufacture of nuclear weapons . . . and deterrence of such diversion by the risk of early detection.¹

BUT, OF COURSE, THERE IS MORE TO IT

We know that some countries and leaders have been willing to take risks to make bombs, and some

have managed to avoid detection in the first stages of violations. To reduce the chance of such detection failures in the future, there are frequent policy suggestions that we spend more money on IAEA safeguards and on national intelligence to improve **detection**. Israel, India, and Pakistan never joined the NPT, but their bomb making involved violations of other nuclear-related agreements and understandings, and failures to detect these played a role in the ability of these countries to finesse international opprobrium.

But, of course, there is more to deterring violation of agreements than assuring detection. The IAEA's safeguards factsheet takes a realistic view – it says effectiveness in stifling proliferation as it relates to nuclear energy activities depends on three things: awareness of all nuclear activities in the various countries (to eliminate the possibility of clandestine facilities), physical access for inspectors to check on materials, and the “will of the international community . . . to take action.”² All are important, but the last, enforcement of the rules, is key, and it is the hardest to assure.

U.S. President Barack Obama underlined the need for firm international enforcement of nuclear rules in his 2009 Prague speech:

We need real and immediate consequences for countries caught breaking the rules . . . Some countries will break the rules. That's why we need a structure in place that ensures when any nation does, they will face consequences.³

He was talking about the NPT, but the suggestion applies more broadly to security agreements and laws and understandings with the three non-NPT states – India, Israel, and Pakistan.⁴ The trouble is, even when solid information on violations is available early

enough, the main countries on whose action international enforcement depends are sometimes reluctant to take needed action. If they do not, however, if there is no sure and swift response, then there is also no sure deterrence for subsequent events.

THE WILL TO RESPOND IS NOT A SURE THING

It is a familiar phenomenon in ordinary life that a friend of a violator of the law, or even a victim, is reluctant to report a crime. It also happens on an international level in dealings between states. It is natural, understandable, and difficult to rule out, however much of it undermines the rule of law. It suggests, therefore, that the seemingly plausible theories on how international safeguards would work if we only had adequate intelligence are just that, theories, and cannot be entirely relied upon in practice.

The example I want to concentrate on is the failure of the United States to react to the theft by Israel of highly enriched uranium (HEU) from a U.S. plant in Apollo, PA, in the mid-1960s. Aside from being an abuse of what friendly countries expect of each other, it was a flagrant violation of the U.S. Atomic Energy Act that could have subjected the perpetrators to the death penalty. I will explain in some detail why the conclusion that the Israelis swiped the material is in the beyond-a-reasonable-doubt category.

In 2010, I co-authored an article about the affair in the *Bulletin of the Atomic Scientists* that pointed strongly to Israel as the guilty party.⁵ I got lots of e-mail in response to the article, including from people who had held high positions in the nuclear world. No one ever wrote to me questioning the conclusion.

The Apollo theft is not the only such case in which the United States ignored a grave proliferation-related violation by Israel. Perhaps the most important such case involved Israel's 1979 bomb tests off South Africa.⁶ These tests violated the Limited Test Ban Treaty, of which Israel is a party. But the story that fits best with the material accounting theme of this book is the event at Apollo.

FEIGNING IGNORANCE TO AVOID RESPONDING

For obvious reasons — the strong support Israel has in domestic U.S. politics — the country is a special case when it comes to any U.S. governmental action. So it is not surprising that the U.S. Government was not inclined to take tough action in response to the disappearance of HEU at Apollo. This policy of feigning ignorance about nuclear violations when it was inconvenient to mention them was not, however, restricted to Israel. For different reasons, the United States also looked the other way at serious bomb-related violations in India, Pakistan, and North Korea.

When Congress started asking questions about possible U.S. involvement after India's 1974 bomb, the State Department presented misleading heavy water accounting to make it appear that there was no such involvement. In fact, India produced the plutonium for its bomb in its Canadian-Indian Reactor, U.S. (CIRUS) reactor, using American-supplied heavy water. The State Department never acknowledged that such use by India was a clear violation of the 1956 U.S.-India heavy water contract, which restricted applications to "research into and the use of atomic energy for peaceful purposes."⁷ India went on to stockpile CIRUS plutoni-

um for weapons, and thus some fraction of its nuclear warheads use plutonium produced illegally with U.S. heavy water. The United States has taken no notice of this.

Pakistan's nuclear weapons program was also a beneficiary, at a crucial time for it, of what might be called American benign neglect. The executive branch pretended ignorance to an extent of Pakistan's HEU production in the 1980s and maintained that position as long as it could in the face of facts, when the United States thought it needed Pakistani help to fight the Soviets in Afghanistan.

The case of North Korea was rather different in that its 1992 violation of its NPT responsibilities was public and obvious. Pyongyang refused to permit the IAEA inspectors to complete their check of its initial nuclear material declaration upon joining the treaty. In particular, North Korea would not let the agency inspect two waste sites to check whether the country had performed illicit reprocessing, which, of course, it had. North Korea threatened that if the IAEA insisted on the inspection, it would leave the treaty altogether. U.S. and other diplomats were afraid that a North Korean departure from the NPT would threaten the success of the upcoming 1995 NPT Review Conference at which the United States hoped to make the treaty permanent. Of course, if the North—which had a small reactor and reprocessing plant and was building two other reactors—left the treaty, it would be free to turn its facilities to military use. Adding to that was the constantly worrisome presence of thousands of North Korean artillery pieces trained on Seoul, South Korea.

The threats worked, and in 1994, instead of pressing for international sanctions against North Korea for its NPT violation, the United States offered it a

very generous deal in return for staying in the treaty. This deal, known as the Agreed Framework, included shielding the North from any NPT enforcement actions by postponing more or less indefinitely the disputed inspections.⁸ In addition, in return for stopping its two nuclear construction projects, the United States offered the North two large U.S.-type light water reactors (LWRs), to be built and paid for by the South Koreans and Japanese, and a generous supply of oil.⁹ The deal fell apart at the start of the administration of U.S. President George W. Bush when, in a meeting with a U.S. representative, the North Koreans admitted they had a secret uranium enrichment project.¹⁰ A contributing factor was that it was becoming obvious North Korea did not intend to allow the disputed inspections. The significant result, however, in terms of the NPT, was that the violator's threats forced the United States and other major NPT members to back off.

IGNORING ISRAELI THEFT OF HEU IN 1960s

To return to the principal subject of this note, in the mid-1960s, the Apollo Plant, which had been processing large quantities of HEU fuel for the U.S. Government, could not explain the loss of about 100 kilograms (kg) of HEU. The plant was operated by the Nuclear Materials and Equipment Corporation, which was known as NUMEC. The loss, and some of the circumstantial evidence known at the time connecting NUMEC's owners with Israel, caused considerable consternation within the U.S. Atomic Energy Commission (AEC), the agency that licensed the activity. Difficult as it is to believe, the loss was never investigated in a comprehensive way by the AEC or the Federal Bureau of Investigation (FBI), which had responsibil-

ity for investigating criminal violations of the Atomic Energy Act. The Central Intelligence Agency (CIA), on a separate and independent track, took an interest in the case as it related to the interest in Israel's secret nuclear weapons program and came to believe the missing HEU ended up in Israel.

The whole affair was enveloped in secrecy and, while there was some reporting in the press, the key documents did not, and have not, seen the light of day. At least four U.S. presidents—Lyndon Johnson, Richard Nixon, Gerald Ford, and Jimmy Carter—were aware of the case and kept it under wraps, and it has stayed that way.¹¹

WHAT DOES “COULD NOT EXPLAIN” MEAN?

A word is in order on what it means that the loss of HEU “could not be explained” (the usual term of art is “material unaccounted for” or MUF). The Apollo Plant's overall loss of HEU during material processing was in fact much larger than the approximately 100-kg reported in 1965. The plant and AEC understood that there were certain natural loss mechanisms, including escaping gases, fluids, material stuck to piping and equipment, etc., which were estimated and subtracted from the total loss. As they were both interested in minimizing the announced losses, we can be sure both NUMEC and the AEC assigned generous amounts to these loss pathways in the original inventories. The unexplained loss was what remained after all these possible process losses had been subtracted from the overall loss.

Over the couple of years after 1965, another loss of 100-kg could not be explained, so there remained in all about 200-kg total unexplained. Unexplained losses

were common in the industry, but NUMEC's losses were an unusually high percentage of the throughput while the original NUMEC management operated the plant (which continued for a time after the plant was sold to Atlantic Richfield in 1967). DOE's 2001 report stated that Apollo's cumulative HEU loss from the start of operations in 1957 through 1968 was 269-kg of uranium-235, including the approximately 100-kg that was missing in 1965. It also reported that only 76-kg was unaccounted for in the period from January 1969 until 1978, including the 8 years that Babcock & Wilcox (B&W) ran the operation, during which the plant's HEU "throughput" increased substantially. Records from the time indicate that losses of HEU in the 10 years of operation through 1968 exceeded 2 percent of HEU throughput, while losses in the 10 years after 1968 were less than 0.2 percent of throughput.

But there was more than simply material accounting to the concern that the missing material was stolen.

WAS THE MATERIAL EVENTUALLY FOUND?

I have first to clear away the oft-repeated claim that the missing "100-kg" of HEU was recovered when the Apollo Plant was taken apart. Seymour Hersh, in *The Samson Option*, wrote that the missing "100-kg" HEU was recovered when the Apollo Plant was taken apart.¹² Beginning in 1978, B&W, which bought the plant from Atlantic Richfield, did carefully dismantle Apollo, recovering HEU containing 95-kg of uranium-235 from equipment and structures, and estimating that another 31-kg was left unrecovered in the concrete floor and walls, for a sum of 126-kg.

But the cumulative MUF—the unexplained missing amount—for the entire 1957-78 period of HEU operations at Apollo was 463-kg. That leaves 337-kg as the cumulative amount of HEU still unaccounted for—more than three times the MUF in the 1965 inventory. In other words, the fact that about 100-kg of uranium-235 in the form of HEU was found during post-1978 decommissioning does not bear on whether the 100-kg that AEC could not account for in 1965 inventory, or the larger amount that went missing during the 1966-68 period, was diverted.

In fact, some or all of the material recovered during dismantling may have already been in the “accounted for” category, that is, already included in the normal industrial loss category. That would already have been subtracted from the total loss, and it made no sense to subtract it again. In any case, the conclusion stands that: The found 100-kg does not bear on whether there was a diversion.

REASONS TO BELIEVE ISRAEL SWIPED HEU

This brings us to the various elements of circumstantial evidence that the unusually high unexplained HEU losses while under NUMEC management point to thefts by Israel. The potentially most dispositive evidence is the reported CIA claim that, around 1968, it obtained environmental samples in Israel of HEU that match the HEU output of the Portsmouth uranium enrichment plant. Portsmouth produced fuel of higher enrichment than any other enrichment plant in the world. If the environmental samples taken in Israel were significant enough to identify this ultra-high enrichment, it would be a firm indication that the missing NUMEC HEU ended up in Israel. It was ap-

parently this data that convinced the CIA that its earlier suspicions about NUMEC were correct. The problem from our point of view is that the basic documents remain highly classified, and all we have are various reported conversations about the environmental samples that made it into the public domain. In any event, the CIA's conclusions drew attention to NUMEC.

The NUMEC plant was owned and managed by a group with close Israeli ties. The company president, Zalman Shapiro, met frequently with Israeli scientific attachés, who were obviously intelligence agents, and he gave evasive and contradictory responses about these meetings. He also visited Israel frequently. He admitted meeting with the head of Israeli military intelligence and knowing the head of LAKAM, the secret scientific intelligence agency that conducted daring operations.¹³

Israeli intelligence was obviously aware of the opportunities NUMEC's loose material accounting offered to snatch HEU for Israel's weapons program. During the early- to mid-1960s, Israel did not yet have plutonium from its Dimona reactor. HEU would have been a highly sought after commodity. It was, of course, a nuclear explosive and could be used in warheads. It could also serve as driver fuel to increase the power of the Dimona reactor and thus increase plutonium production. Israeli intelligence, especially LAKAM, had a stop-at-nothing approach to further Israel's nuclear weapons program, did not let opportunities slip, and was accustomed to taking big risks.

One might at first think that, however daring the Israelis, they would hesitate to run an illegal diversion of HEU at NUMEC because of the obvious risks. That thought should have been put aside after the elaborate Jonathan Pollard spying operation during

the mid-1980s, in the course of which, in a specially outfitted house in Potomac, MD, Israel stole and copied thousands of highly classified U.S. intelligence documents. The Israelis then did not cooperate with the U.S. investigation of the case. In a book about the Pollard operation, Wolf Blitzer wrote:

. . . a widely held attitude among Israeli officials that Israel can get away with the most outrageous things. There is a notion among many Israelis that their American counterparts are not too bright, that they can be 'handled' thanks partially to the pro-Israel lobby's clout in Congress.¹⁴

NUMEC was a commercial agent for Israeli government agencies. It also was in a partnership with Israelis ostensibly to develop technology to irradiate fruit to eliminate insects. The partnership was called ISORAD, and the small board at the Israeli end included the chairman of the Israeli Atomic Energy Commission, almost all of whose effort was devoted to weapons. Under the ISORAD rubric, NUMEC sent large shipments to Israel. These were large enough to cover shipments of illicit HEU. At the time, there were no government controls over such shipments. Nor did the AEC keep track of the amounts of nuclear materials exported; it relied on commercial firms to maintain their own records. According to FBI interview reports, NUMEC delivered a 600-pound package, listed as containing neutron sources, to El Al Airlines in December 1963. The AEC's 1965 inventory showed that more HEU went missing from the Apollo Plant in 1963 than any other year.¹⁵

Former NUMEC employees also told FBI agents about strange truck shipments in the 1960s that went directly to Israeli ships docked in the New York area.

One recalled an unusual truck loading what looked to be HEU containers from the plant one night in 1965 or 1966. He said that an armed guard ordered him to leave the area. Others claimed to have been threatened by NUMEC managers to keep quiet about what they saw at the loading docks. It is difficult at this point to assess these accounts. The FBI does not appear to have followed up, which is a significant example of how obvious violations sometimes get handled in a politically charged case. Of all of the various aspects of the Apollo affair, the one I find the most intriguing involved the 1968 visit to the plant of high-level Israeli agents, men used to running complex illegal operations, with false identities.

ISRAELI QUARTET 1968¹⁶

In September 1968, four Israeli visitors arrived at Apollo, supposedly to discuss small plutonium 238 power sources NUMEC was developing.¹⁷ NUMEC had to get AEC permission for the foreign quartet to visit the Apollo facility and so had to identify them. Their guide was Avraham Hermoni, scientific counselor at the Israeli Embassy in Washington, and a frequent visitor to NUMEC. The others were listed as Rafael Eitan, chemist, Ministry of Defense, Israel; Avraham Bendor, Department of Electronics, Israel; and Ephraim Biegun, Department of Electronics, Israel. Hermoni identified himself correctly. But no one in the AEC security apparatus seemed to know that he had been technical director of Israel's nuclear bomb project at Rafael, Israel's armament development authority. As scientific counselor, he surely reported to LAKAM. The others falsified their affiliations.

Eitan was not a chemist; he was a high-level, highly experienced Mossad agent who headed the team that captured Adolf Eichmann in Argentina in 1960. In later years, Eitan became an adviser to Israeli Prime Minister Menachem Begin and, in 1983, took charge of LAKAM, the scientific intelligence agency, in which role he ran the Pollard spying operation in the 1980s. No one seems to have asked what a top intelligence operative like Eitan was doing at the Apollo Plant in 1968 or why he lied about his affiliations.¹⁸ It is impossible to believe that the president of NUMEC, who had very close Israeli ties, including ties at the top level of Israeli intelligence, did not know Eitan's identity. Yet NUMEC passed on the false information to the AEC.

With Eitan was Avraham Bendor, who was not affiliated with a Department of Electronics; there was no Department of Electronics. His real name in Israel was Avraham Shalom (Bendor was his name before he immigrated to Israel). He was a long-time Shabak agent and served as Eitan's right-hand man in Eichmann's capture, in charge of logistics, that is, getting Eichmann from a safe house past airport guards onto an Israeli plane. He became the head of Shabak in 1981 but was forced to retire in 1986 after he ordered, and then covered up, the deaths of two Palestinian prisoners; in short, a tough character.¹⁹ He was not exactly the kind of person you would send to evaluate plutonium batteries, the supposed purpose of the mission to Apollo, but he would be the right man for figuring out how to move material offsite.

The third man, Ephraim Biegun, was the head of the Mossad's Technical Department.²⁰ Hermoni, of course, knew the trio's real identities, which meant that he, as an accredited Israeli diplomat, not only

participated in, but more likely orchestrated, the lie to U.S. authorities. There is no indication that anyone in AEC security grasped who these visitors really were.

HOW COULD THIS BE IGNORED?

It would be natural to assume that all these events have been thoroughly investigated by the AEC, the FBI, congressional committees, the White House, and the CIA. In fact, difficult as it is to believe, as we shall see, they were not. What is interesting for our purposes are the multiple ways in which bureaucratic politics, domestic politics in general, and international interests combine to submerge information about issues of genuine national security importance in relation to nuclear proliferation.

After the 1965 discovery that the loss of a large amount of HEU at NUMEC could not be explained, the main concern of the AEC commissioners, led by Chairman Glenn Seaborg, was not that someone made off with it, but that, if the matter became public, it would bring criticism of its overall nuclear power program. The AEC was in an embarrassing fix because it had not been doing its job. It had assumed that private firms working with HEU would minimize losses because of the intrinsic value of the material. The Commission licensed exports but did not keep track of what got sent. It had never imagined that material could be stolen and sent abroad.

What it now feared most was the reaction of the members of the powerful Joint Committee on Atomic Energy, the AEC's congressional oversight committee and the ones who really ran the agency. An AEC team questioned NUMEC employees. But the AEC General Counsel's attorney in charge made sure they

did not take any written statements and/or pursue any indication of illegal activity. The commissioners and staff rallied around a story line that dismissed the possibility of any criminality.

This position was essential to talking the FBI out of entering the case, because the FBI was charged with investigating criminal violations of the Atomic Energy Act. As it turned out, the FBI Washington Office, for its own bureaucratic reasons, did not seem eager to get involved, perhaps because it saw material accounting as a technical issue in which it lacked competence. In any case, the FBI focused on the question of whether, in view of NUMEC's function as an agent for Israeli government agencies, its president, Zalman Shapiro, should have registered as a foreign agent.

Unlike the FBI, the CIA, coming to the case from its interest in Israel's rapidly moving nuclear weapons program, **was** interested in NUMEC as a possible source of HEU for Israel. By 1968, on the basis of information obtained in Israel, the CIA was convinced that Israel had HEU and that it came from NUMEC. But the CIA was not permitted by law to conduct a domestic investigation. In April 1968, CIA Director Richard Helms wrote Attorney General Ramsey Clark a letter (one of the key documents that remain highly classified) suggesting that HEU processed at Apollo might have ended up at Dimona and asked that the FBI investigate.²¹ After the memo from the CIA, Clark imposed surveillance on Shapiro, which lasted about a year and produced information on his contacts with Israel that increased concern about NUMEC. Helms informed President Johnson of the CIA's suspicions. Johnson reportedly told Helms, "Don't tell anyone else, even Rusk and McNamara." It was an election year.

KISSINGER TO NIXON 1969

After he became president, Richard Nixon took an interest in the NUMEC case, but not so much about the missing HEU but rather about Shapiro's connections with Israel. At the start of the administration, the question of whether Shapiro should keep his AEC clearance at one time or another occupied the attention of the Attorney General, the Secretaries of State and Defense, the White House Counsel, the Science Advisor, the National Security Advisor, the AEC Chairman, and the FBI Director.

During 1969, U.S. National Security Advisor Henry Kissinger conducted a secret interagency study on how to deal with Israel's rapid advance toward nuclear weapons. (In truth, Israel had already produced its first nuclear warheads.) In the course of this, and in preparation for an upcoming discussion with Israeli Prime Minister Golda Meir, Kissinger provided a memorandum to the president that included in the "general intelligence judgment" the following: "There is circumstantial evidence that some fissionable material available for Israel's weapons development was illegally obtained from the United States by about 1965."²²

This what-should-have-been stunning information—a clear reference to NUMEC—obviously came from Helms. Nixon does not appear to have reacted. Perhaps "some fissionable material" does not mean much coming out of the blue. Or perhaps acting on it would have interfered with his plans. He was in the midst of making a deal with Golda Meir in which he would stop the U.S. Government from bothering the Israelis about nuclear weapons, which they were

supposed to keep hidden. In return, he expected them to stand with him in the Cold War and especially in Vietnam, and to get U.S. Jews on board, too.²³ So the NUMEC issue disappeared from sight.

ISSUE REVIVED IN 1976

The case got revived at the end of the Gerald Ford administration. This came after the U.S. Nuclear Regulatory Commission (NRC, of which I was then a member) asked the CIA to provide a briefing on the NUMEC affair. To everyone's surprise, CIA Deputy Director for Science And Technology Carl Duckett revealed that the CIA believed the missing HEU ended up in Israel.

The White House took an interest in the case. On the basis of his review of the FBI's performance, U.S. Attorney General Edward Levi informed Ford that the FBI had never conducted:

an investigation into the alleged discrepancy in nuclear materials at NUMEC because it was advised by the AEC that any loss likely was attributable to inadequate accounting procedures, and that there was no evidence or suspicion of a violation of law.²⁴

In short, the U.S. Government had never performed a thorough investigation of the loss of enough HEU for perhaps a dozen bombs.

Levi listed several criminal statutes that might have been violated, including some that pointed to the possibility that federal officials concealed the events after the fact. He concluded: "I believe it necessary to conduct an investigation,"²⁵ which he instructed the FBI to undertake. But Levi was soon out of office, as Jimmy Carter replaced Ford in the White House.

MARSH (FORD COUNSEL) TO WATSON (CARTER TRANSITION)

During the transition, John Marsh, Counsellor to the President, discussed the NUMEC case with Jack Watson, the head of Carter's transition team.²⁶ In early-1977, Marsh sent Watson the following Top Secret documents in the case:²⁷

1. Helms' 2-page memo to the Attorney General (Clark), with transmittal cover, dated April 2, 1968;
2. Photostat of 2-page letter from J. Edgar Hoover to Helms, dated September 3, 1969;
3. Helms' 3-page letter to the President, dated September 8, 1969;
4. Internal 3-page memo from Duckett to Director of Central Intelligence dated March 21, 1976, with a 7-page Memorandum for the Record, dated March 9, 1972.

These are still the key documents in the NUMEC case and still remain secret. Some information leaked out, and there was a brief flurry of interest in the press. CBS News reporter Mike Wallace even asked Israeli Prime Minister Menachem Begin about it in a *60 Minutes* interview (and, of course, got nowhere). The matter of Israelis stealing bomb material from the United States was an awkward one in the middle of the "peace process" and dribbled away. That was also the fate of the information about the 1979 Israeli nuclear explosion seen in the ocean off South Africa.²⁸ The FBI continued to conduct interviews of former NUMEC employees, gathering some interesting information, but it all led nowhere.

WHAT DOES IT MEAN?

Sometimes violators get away with it, even when detected, as all sorts of real world – bureaucratic, political, and international – considerations intrude on the notion that, with only more and better intelligence and evaluation, we can develop a system of safeguards and response that will deter violations of agreements and laws that protect against proliferation.

That is true, for example, if for the United States to respond vigorously to a violation would upset other international plans, as was the case in India. Immediately after the 1974 Indian bomb test, Henry Kissinger cabled the State Department from abroad with instructions not to issue a strong response, as it would interfere with his plans for dealing with Indian Prime Minister Indira Gandhi.²⁹ From this, it was a short step for the State Department staff to conclude that it would not do to accuse India of violating a contract with the United States.

It also helps a violator if he is seen as vital to carrying out a core U.S. policy. That was the case with Pakistan in the 1980s, when Pakistan's assistance was seen by the United States as crucial to defeating the Soviets in Afghanistan. (And today, if a close and useful ally, say, such as Saudi Arabia, acted suspiciously, would we react as we do against Iran?) The case of North Korea illustrates that you can thwart enforcement in the wake of an NPT violation, anyhow for a number of years, if you can make a credible enough threat against the major countries involved.

The Israeli situation is special. No other country can match the grip Israel has on U.S. domestic politics

or its ability to sway Congress. (The successful lobbying of the Indian American Council in connection with the 2008 U.S.-India nuclear agreement demonstrates that India is learning fast how to mobilize its U.S. diaspora.)

To bring U.S. policy on Israeli nuclear weapons up to date, it is clear that the United States is not remotely ready to confront any possible Israeli wrongdoing in connection with its nuclear weapons. Our government is not even ready to confront the fact of Israel's nuclear weapons, even though every school child knows Israel has them. When newly elected President Barack Obama was asked at his first TV news conference in 2009 whether he knew of any nuclear weapon states in the Middle East, he said he did not want to speculate.³⁰

The official U.S. position on nonproliferation as it relates to Israel remains that the subject should not ever be discussed: At the IAEA Board of Governors Meeting in March 2013, under the heading, "Israeli Nuclear Capabilities and the Helsinki Conference on Establishing a Middle East WMD-Free Zone," Ambassador Joseph Macmanus, the permanent U.S. Representative to the IAEA, stated:

The United States regrets that the issue of Israeli nuclear capabilities has once again been brought before the Board. Unlike other Member States whose nuclear activities are included on this Board's agenda, Israel has broken no agreements under the purview of the Agency.³¹

The operative phrase is, of course, "under the purview of the Agency," which makes a fine distinction that keeps the statement just within the truth. But it also makes it difficult for the United States to be taken seriously by the international community when we

charge other, less friendly countries with violations of the NPT.

Some of the events I described are decades old, but human nature has not changed. It suggests security of nuclear materials useful for bombs—against national appropriation or theft—is not entirely as advertised. More safeguards and intelligence and protection are not necessarily the whole solution. There remains the crucial element identified in the previously cited IAEA factsheet on proliferation: the “will of the international community . . . to take action.” As we have seen, given the realities of world politics mixed with domestic considerations, that “will to take action” cannot be taken for granted, and neither can the effective functioning of the entire international nonproliferation apparatus both within and outside the NPT.

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1. *The Structure and Content of Agreements Between the Agency and States Required in Connection with the Treaty on the Nonproliferation of Nuclear Weapons*, IAEA Information Circular (INFCIRC) 153, Vienna, Austria: International Atomic Energy Agency (IAEA), June 1972, para. 28.

2. *IAEA Safeguards: Stemming the Spread of Nuclear Weapons*, FS Series 1/02/E, Vienna, Austria: IAEA, available from www.iaea.org/Publications/Factsheets/English/S1_Safeguards.pdf.

3. “Remarks by President Barack Obama,” Hradcany Square, Prague, Czech Republic, Washington, DC: The White House, Office of the Press Secretary, April 9, 2009, available from www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered.

4. North Korea is in an ambiguous category. It announced its withdrawal from the treaty in 2003. But because it did so while it was in violation of the treaty, it would be more consistent to regard it as a member in noncompliance.

5. Victor Gilinsky and Roger Mattson, "Revisiting the NUMEC Affair," *The Bulletin of the Atomic Scientists*, March-April 2010. I draw mainly on this article for the history of the NUMEC episode.

6. See Leonard Weiss, "The Vela Event of 1979 (Or the Israeli Nuclear Test of 1979)," Presentation at the conference, "The Historical Dimensions of the South Africa's Nuclear Weapons Program," Pretoria, South Africa: December 10, 2012, available from iis-db.stanford.edu/events/7484/Weiss_vela_presentation_12.10.12.pdf.

7. See "Agreement between the United States Atomic Energy Commission of the President of India," Washington, DC: Nuclear Control Institute, March 16, 1956, available from www.nci.org/a/1956_d20.htm.

8. See "Agreed Framework of 21 October 1994 Between the United States of America and the Democratic People's Republic of Korea," INFCIRC 457, Vienna, Austria: IAEA, November 2, 1994, available from www.iaea.org/Publications/Documents/Infcircs/Others/infcirc457.pdf.

9. Ironically, the plutonium production capacity of the proposed two LWRs to replace North Korea's indigenous ones was considerably greater than that of all the indigenous reactors North Korea planned to build.

10. Or appeared to. There is some dispute over the correct translation of what they said.

11. The government's response to the possibility of a major violation of U.S. security and law recalls the reaction of the Bishop of Worcester's wife upon hearing that man descended from the apes: "My dear, let us hope that is not true, but if it is, let us pray that it will not become generally known."

12. Seymour Hersh, *The Samson Option*, New York: Random House, 1993. I find the chapter on the Apollo case strange and at odds with the rest of Hersh's book, which is a tough-minded exposé of Israel's nuclear weapons program, and also at odds with Hersh's usual investigatory approach.

13. Wikipedia has the following entry:

Lekem, (also pronounced 'Lakam') an acronym for ha-Lishka le-Kishrei Mada (Hebrew: until Relations), Bureau of Scientific Relations), was an Israeli intelligence agency headed by spy-master Benjamin Blumberg (1957-81), and by spy-master Rafi Eitan (1981-86). It collected scientific and technical intelligence abroad from both open and covert sources, particularly for Israel's nuclear program.

See, "Lekem," Wikipedia, last modified December 26, 2013, available from en.wikipedia.org/wiki/Lekem. The Office was originally set up to provide security for Dimona. Among other things, it organized the successful deception of American official "visitors" who, in line with a U.S.-Israeli agreement, were supposed to check on whether the reactor was part of a weapons program. Blumberg expanded into intelligence, putting his attachés in Israeli embassies and then into procurement, including "stunningly innovative missions to acquire materials for Israel's secret weapon." Dan Raviv and Yossi Melman, *Spies Against Armageddon*, Sea Cliff, NY: Levant Books, 2012, p. 147.

14. See Wolf Blitzer, *Territory of Lies*, New York: Harper & Row, 1989.

15. The AEC inventory results are in a report written by S.T.C. McDowell, Assistant Director for Control, AEC Division of Nuclear Materials Management, "Report of Survey: Control Over Enriched Uranium, Nuclear Materials & Equipment Corp., Apollo, PA, Division of Nuclear Materials Management," Nuclear Materials Management Survey Number DNMM-53, April 6, 1966. The report can be found in the Benjamin Loeb papers, Washington, DC: Library of Congress. Loeb assisted former AEC Chairman Seaborg in writing his biographical accounts.

16. Taken from the Gilinsky-Mattson *Bulletin* article. The information on the names of the Israeli quartet comes from AEC and FBI documents in the Benjamin Loeb papers. Identifying all four was another matter.

17. Plutonium 238 power sources are used in pacemakers, for example. The Israeli visitors were supposedly interested in power sources for use in security fences for Israeli water systems.

18. In a June 2010 Foreign Policy Association blog, columnist William Sweet described the evidence on this as:

darkly hilarious – for example, reports of visits to the NUMEC plant by the likes of the top Mossad agent who had managed the kidnapping of Eichmann in Argentina, now pretending that he was a mere member of a trade delegation, as U.S. officials looked the other way. He also said he believed the 2010 Bulletin article by Mattson and Galinsky proved the case for Israeli theft ‘beyond any reasonable doubt.’

See William Sweet, “What’s History and What’s Not,” Foreign Policy Blogs Network, June 4, 2010, available from foreignpolicyblogs.com/2010/06/04/whats-history-and-whats-not/.

19. Shalom discusses his tenure at Shabak, including the episode that led to his departure, in the recent Israeli movie, *The Gatekeepers*, directed by Dror Moreh, 2012, Sony Pictures Classics, DVD.

20. In *ibid.*, columnist William Sweet: “In the March-April issue of *The Bulletin of the Atomic Scientists*, Victor Gilinsky and Roger J. Mattson prove the assertion beyond any reasonable doubt, I believe, . . .”

21. The April 2, 1968, Helms letter is in the Gerald Ford Presidential Library. In a covering note, Helms wrote, “Since the subject matter of this letter is so sensitive for obvious reasons, I would appreciate if you would return it to me when you have taken whatever action you feel appropriate.” The CIA has repeatedly refused to declassify the letter, which might say more about the CIA’s discovery in Israel of traces of HEU with a Portsmouth signature. In January 1978, Duckett wrote to Chairman Morris Udall of the House Interior Committee to confirm that the CIA’s suspicions in 1968 led to the letter from Helms to Clark. See John J. Fi-

alka, "CIA Heads' Suspicions on A-Matter Reported," *Washington Star*, January 18, 1979. (Taken from Footnote 19 of the Gilinsky-Mattson Bulletin article.)

22. Memorandum, Henry Kissinger to Richard Nixon, July 19, 1969.

23. Richard Nixon, *RN: The Memoirs of Richard Nixon*, New York, Grosset and Dunlap, 1975.

24. Justice Department Memorandum, Attorney General Edward Levi to President Gerald Ford, April 22, 1976, available from www.fordlibrarymuseum.gov/library/document/0067/1563110.pdf.

25. *Ibid.*

26. The title was spelled with two ls.

27. Memorandum, John Marsh to Jack Watson, February 8, 1977.

28. In some ways, this event, which the White House tried to pass off as the result of tiny particles hitting the satellite detector in a way that made it think it saw an explosion, is even more important than the NUMEC event. It was likely part of a series of Israeli tests of thermonuclear designs. I have not included it in this account because it does not fall within activities that were claimed to be peaceful. See Leonard Weiss, "Israel's 1979 Nuclear Test and U.S. Cover-Up," *Middle East Policy*, Vol. 18, No. 4, 2011, available from www.mepc.org/journal/middle-east-policy-archives/israel-s-1979-nuclear-test-and-us-cover.

29. Harold Bengelsdorf, conversation with author.

30. Helen Thomas, "Transcript of Interview by Paul Jay," *The Real News*, July 13, 2010, available from therealnews.com/t2/index.php?option=com_content&task=view&id=31&Itemid=74&jumival=4900.

31. See Ambassador Joseph Macmanus, "Statement at IAEA Board of Governors Meeting, Agenda Item 8, Any Other Business," Vienna, Austria: IAEA, March 4-8, 2013, available from vienna.usmission.gov/120306wmd.html.