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Errors and Omissions in *One Point Safe*¹

by

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Considerable publicity has been given to three recent works involving Andrew and Leslie Cockburn: their book, *One Point Safe*, a movie *The Peacemaker*, and a *60 Minutes* piece produced by Ms. Cockburn that aired on September 14th. The centerpiece of the *60 Minutes* segment was an interview with General Alexander Lebed, a former Russian National Security Council secretary, who claimed that 100 or more suitcase-sized atomic demolition munitions could not be accounted for. While *The Peacemaker* is pure Hollywood, the book jacket's subtitle calls *One Point Safe*, "A True Story," though this is not repeated on the title page. Also on the jacket is a gold medallion, with an advertisement for the movie: "The Story That Inspired *The Peacemaker* Now a Major Motion Picture from Dream Works Pictures". All in all, a formidable example of synergistic promotion.

What concerns us here is the book, and the degree to which it is "A True Story." To its credit the book contains some new and interesting, albeit undocumented information related to several nuclear material smuggling cases. But, unfortunately, it also contains technical errors and historical inaccuracies, many of which we have enumerated below. In fact, the errors in the book are so numerous that they call into question the accuracy of those parts of the book that appear to convey significant new information. One comes away from reading the book with the impression that it was inspired by the movie treatment, rather than the other way around.

Technical Errors

- p. 21 "The proper technical term for it was the "enhanced radiation" weapon, so called because it produced less destructive blast but vastly more lethal radiation than a traditional bomb."

The enhanced radiation warhead does not produce "vastly more lethal radiation than a traditional bomb." It produces more lethal neutron radiation for a given fission, or total, yield. It is a low yield warhead—on the order of one kiloton to reduce the effects of blast—while at the same time being designed to maximize the lethal effects of high energy neutrons. Indeed, only at such low yields will the lethal (to the human body) radius of

¹ Andrew and Leslie Cockburn, *One Point Safe* (New York: Anchor Books, 1997).

ionizing neutron radiation exceed the lethal radius of the prompt thermal and airblast effects on vehicles and structures.

- p. 24 “Finally, he [Jerry Dzakowic] crowded into trailers carefully positioned a few miles from ground zero.

The trailers containing diagnostic recording equipment were normally a few hundred yards – not miles - from ground zero. See Figure 2.17 in *Nuclear Weapons Databook*, Volume II, p. 48. Control Point-1 was a permanent facility in Area 6 from which tests were detonated. CP-1 was some 35 miles from tests conducted in Areas 19 and 20.

- p. 25 “In 1985 . . . By now the fundamental principles . . . they explored interesting ways to produce explosions, . . . or ‘nuclear backpacks’ that could be carried by just one soldier.”

Nuclear backpacks, called “Special Atomic Demolition Munitions” (SADM)s, in American parlance, were developed in the period 1960-63, not in the mid 1980’s. Five larger version ADMs were developed from the mid-1950’s to the mid-1960s.

- p. 30 “The silver-colored ‘pit’ that goes into a bomb is hot to the touch from the radiation simmering within.”

A three kilogram pit would emit about 7-9 watts of thermal power, which would make the pit warm, but not hot.

- p. 30 “when two spheres momentarily slipped together.”

This criticality accident on May 21, 1946 involved two *hemispheres*, not two spheres. A screwdriver used to hold up one of the hemispheres slipped.

- p. 45 Referring to Minatom Minister Mikhailov, he “moved into the minister’s office, the size of a ballroom”

Having been there, we can attest to the fact that his office is no bigger than that of most U.S. cabinet officers, and certainly not the size of a ballroom.

- p. 60 “The generation . . . no longer had to ask themselves why they had brought children into a world stockpiled with nearly 100,000 nuclear weapons.”

Give or take 30,000 – the global nuclear warhead inventory actually peaked at an estimated 70,000 in 1986.

- p. 91 “. . . Czech police confiscated 2.72 kilograms of highly enriched U-235, 87.7 percent enriched, from the back seat of a car in Prague. It was the largest confirmed seizure of near bomb-grade material to date.”

This should read “2.72 kilograms of uranium, 87.7 enriched in the isotope U-235.” This material already *was* “bomb-grade” material -- for example, the Hiroshima bomb was made of 80% enriched material.

- pp. 91-92 “The highly enriched uranium had been smuggled out of Obninsk, a secret city eighty miles southwest of Moscow. Obninsk was home to research reactors, bomb assembly plants,”

As a center of nuclear power reactor research, Obninsk is not a secret city—foreign nuclear scientists have long known about it and been able to visit there—and there are no “bomb assembly plants” in Obninsk.

- p.98 “Wherever and however the [plutonium] dust might be ingested, breathed in, licked by mistake, it was the world’s most potent killer.

Plutonium is not the world’s most toxic substance—for example, many neurotoxins are far more toxic—and it makes a big difference whether plutonium is inhaled, ingested, or merely touched. Plutonium is not readily absorbed through the gut, and therefore its toxicity via ingestion is considerably less than when it is inhaled. A more reasonable statement would be that “plutonium is possibly the world’s most dangerous substance, taking into account both its toxicity and its weapon-usable quality.”

- p. 130 “When von Hippel walked into the Mayak nuclear storage facility, he saw the urgency of the problem. Spread out before him were 12,000 stainless steel containers packed with plutonium . . . Here was all of their civilian plutonium, and an estimated 150 tons of weapons plutonium. It was piling up.”

There is something amiss with these numbers. Some 30 metric tons of separated civil plutonium (fuel- and reactor-grade) are stored at Mayak. The weapon-grade plutonium associated with pit production at Chelyabinsk-65 is at a separate facility several miles away. “150 tons of weapons plutonium”—virtually their entire inventory of weapon-grade, or some 75% of the total Russian plutonium inventory — is most certainly *not* stored in the building von Hippel visited at Mayak, and most certainly is not at Chelyabinsk-65. This undocumented assertion contradicts other undocumented assertions of the authors, including “tons of plutonium” at Chelyabinsk-65 (p. 259), and that 23,000 plutonium pits are stored in two “sheds” at Tomsk (featured on the book’s back cover). Assuming a *minimum* average value of 3 kilograms per pit, this additional 69+ metric tons at Tomsk would put the total Russian stockpile of stored weapon plutonium at 219+ metric tons, even before counting another 70+ metric tons in stockpile

weapons! The total Russian weapon-grade plutonium inventory, deployed and stored is estimated by NRDC to be on the order of 170 metric tons. Others have estimated the weapon-grade inventory to be as low as 140 metric tons, which is still well above the declared U.S. inventory of 85 tonnes.

p.146 “Uranium 235 is a fissionable material, . . .”

It is true that U-235 is a fissionable material, but so is U-238. In the present context, it should have read “Uranium 235 is a *fissile* material, . . .” that is, a material that can be fissioned by low energy neutrons.

p. 147 “When nuclear scientists talk about “critical mass” they mean enough fissionable material together in one lump (or mass) so that the neutrons being emitted by the material will reliably intercept the nucleus of another atom and split it, knocking off more neutrons, which will in turn knock off other neutrons. Each time that happens, energy is released. If the process continues at sufficient speed the result is a chain reaction and a nuclear reaction ensues.”

This is a rather botched set of definitions. It is “fissile,” not “fissionable” material; the neutrons are not “knocked off; and speed has nothing to do with whether a chain reaction occurs; whether or not there is an explosion is a function of the period and rate of the chain reaction.

p. 147 “Too much U-235 dumped in a can and they might be lighting up Kazakhstan.”

This section is full of hyperbole. The cans do not hold enough to “light up Kazakstan,” which in any event would not be the result of a criticality excursion—potentially lethal radiation doses to personnel within a few meters, and possibly melting of the HEU fuel slugs, but not a nuclear explosion. There is a difference between about one critical mass assembled slowly during a criticality event and the rapidly assembled “supercritical mass” required to sustain an explosive chain reaction.

p. 149 how to get a “hood” from Oak Ridge . . .” should more accurately read, “how to get a glovebox from Oak Ridge . . .”

p. 149 “Scrounging around, he found a supply of plastic thick enough to shield whoever was on the other side from alpha rays.”

The range of 4.378 MeV alpha particles, emitted by the radioactive decay of U-235, is about one inch in air. They won’t penetrate skin, and almost any thickness of plastic will stop the alphas.

- p. 182 “Twelve days before a truck bomb packed with two tons of homemade explosives had blown apart the Murrah Federal Building in Oklahoma City. And killed 168 people.”

The Oklahoma bomb was thought to be between 2.4 and 5 tons.

- p. 203 “The Iraqi nuclear weapons program was so sophisticated that details of their warhead designs developed on the eve of the Gulf War were highly classified.”

Iraq only had one “design,” but Jaffar and company were working on a number of concepts. Under DOE classification rules, except for *Little Boy* and *Fat Man*, any “design” is Restricted Data and is therefore classified. Thus, the classification was a consequence of long standing policy, and not the sophistication of the details of the design or concepts.

- p. 203 “It [the Osirak reactor] was a small, elegant 40-megawatt research reactor.”

What is “elegant” about this reactor?

- p. 203 “. . . Israeli F-16s thundered over Bagdad and demolished the Osirak reactor with 2,000 bombs.”

It was a big raid but not quite that big. Each of the eight Israeli F-16s carried a pair of Mk 84 2,000 pound bombs. With precise accuracy fifteen of the sixteen slammed through the reactor’s dome and continued into the facility. With delayed fuses, fourteen of the fifteen bombs exploded deep within the installation.

- p. 230 “Every branch of the [Soviet] military had nuclear weapons, 55,000 of them at their peak—”

The Soviet arsenal is estimated to have peaked at 45,000 warheads.

- p. 236 “. . . to launch almost five thousand thermonuclear missiles that are still, today, on constant alert and ready to fire at the first sign of attack.”

Russia has roughly 5,000-6,000 *warheads* on about 1200 missiles. But even if one is counting warheads and not missiles, the 5,000-6000 figure for weapons on alert is still excessive, because it includes SLBM warheads, only a fraction of which are on alert.

- p. 250-251 “The artillery shells, shorter range missile warheads, small nuclear bombs, land mines, torpedo warheads and atomic demolition devices—‘chemodan’ or ‘suitcases’—are light enough to be lifted by just one man.

“In 1996, for a brief period, General Alexander Lebed was Secretary of Boris Yeltsin’s National Security Council. As such he had unrestricted access to Russia’s darkest defense secrets. He knew that there were supposed to be one-hundred and thirty two nuclear suitcases [special atomic demolition munitions] in the stockpile . . . Eighty-four were missing.

...

“Eighty four nuclear weapons, already neatly packaged in suitcases. No one knows where they are. No one knows how to stop them.”

Basic journalistic ethics would dictate that such provocative and alarming statements either be corroborated, or the absence of corroboration noted, and opposing views fairly represented. The Cockburns do none of these things. As for relevant opposing views, for example, on September 25, 1997, Lieutenant General Igor Volynkin, Chief of the Defense Ministry’s Twelfth Main Directorate, stated at a Moscow press conference:

“As for the statements by public personalities about the production of portable nuclear warheads in the shape of [a] suitcase and the loss of nuclear warheads. . . one should not meddle into the problem of nuclear safety unless you know it from the inside . . . The people who provide such information are far removed from production and from the system of nuclear technical support. Nuclear suitcases, and I say that with full responsibility, were never produced and are not produced. . . . Perhaps people confuse the notions of nuclear suitcase and nuclear mines. But this was not secret. Yes, nuclear mines existed and they still exist. . . .and we are destroying them. . . . Nuclear mines are something very different from nuclear suitcases. . . . You cannot carry a nuclear mine in your hands. You will need vehicles to transport one. But nuclear mines, of course, are more compact than a nuclear munition for the strategic forces or for tactical missiles. . . All the artillery shells and mines have been removed from the armed services a 100 percent. They are all in the units of the 12th Main Directorate. So there are no nuclear shells and mines in the forces. They are stored in our facilities which are more reliable and better protected. . . . They [nuclear mines] can only be transported by truck, specially equipped trucks. You and I together would not be able to lift a nuclear mine.”

p. 259 “They already knew that Chelyabinsk 65 had tons of plutonium and tens of tons of highly enriched uranium 235 on hand.”

Chelyabinsk-65 had *tens* of tons of plutonium. There were 25-30 tons of stored plutonium from processing spent fuel from VVER-440, naval and breeder reactors. In addition, Chelyabinsk-65 surely had tens of tons of weapon-grade plutonium at the plutonium and HEU component fabrication site at Tatysh, part of Chelyabinsk-65.

Historical Inaccuracies

- p. 21 “In the mid-1970s the Livermore physicists came up with an elegant variation on the traditional thermonuclear weapon. The proper technical term for it was the ‘enhanced radiation’ weapon, . . .”

The concept of enhanced radiation, or “neutron” warhead was invented by Sam Cohen at Livermore in the late-1950s, not in the 1970s. In 1968 Los Alamos, not Livermore, was assigned to develop an enhanced radiation warhead the Sprint antiballistic missile. This warhead, the W66, was fielded in 1974 as part of the limited ABM system.

In 1975 Livermore was assigned the task of developing a battlefield ER warhead for the 8-inch artillery fired atomic projectile (AFAP). Soon after Livermore also began work on an ER version of the Lance missile warhead.

- p. 23 “Ever since 1961, all tests had been carried out underground.”

Actually, atmospheric testing continued well into 1962. The last above-ground test was Shot Tightrope (part of Operation Fishbowl), a high altitude test launched from Johnston Island on November 4, 1962.

- p. 25 “In 1985, for example, Soviet leader, Mikhail Gorbachev, announced that he was suspending testing. The United States paid no attention and after eighteen months the Russian explosions resumed.”

This passage ignores the huge political debate over nuclear weapons policy that went on in the U.S., the path breaking NRDC/Soviet Academy of Sciences Test Ban Verification Initiative to verify the moratorium, and House passage of a One-Kiloton Threshold Test Ban provision three years in a row – FY 1987-89.

Russia resumed testing after nineteen months; the moratorium lasted from July 25, 1985 to February 26, 1987.

- p. 27 Referring to the joint U.S./USSR effort to verify the yield of nuclear tests (U.S. CORRTEx experiments), “but despite the enthusiasm of arms controllers hailing this token of cold-war thaw, . . .”

Virtually the entire arms control community outside the government – and much of it inside the government -- was *anything but* enthusiastic, viewing the whole CORRTEx episode as a technically spurious and calculated diversion designed to fend off both Gorbachev’s and Congressional enthusiasm for comprehensive test ban negotiations. Indeed, Frank Gaffney and others have admitted that this was the central purpose of the CORRTEx gambit.

- p. 43 “The first American tests in the Nevada desert and the skies over Japan demonstrated just how small a quantity is required to unleash unmatched destructive power.”

The first American test was Trinity in southeastern New Mexico, and the devices exploded over Japan contained far more than the minimum quantities required “to unleash unmatched destructive power.” Tests in Nevada did not begin until 1951. Tests in the interim period were conducted in the South Pacific.

- p. 50 “Bush had pulled most U.S. tactical nuclear weapons out of Europe.”

They were also removed from South Korea and from naval surface ships.

p. 50 “Nevada shook to its last test in 1991.”

The last U.S. underground nuclear weapons test explosion took place on September 23, 1992, not in 1991.

p. 124 “Von Hippel saw the Kurchatov Institute as the tip of the iceberg. Baku and the disintegration of the Soviet Union focused people on warheads. How bad the nuclear materials situation was dawned on people later.”

This is nonsense. NRDC and others in the U.S. and Russian arms control communities had been writing about this for years. NRDC and the Federation of American Scientists (led at the time by Prof. Von Hippel) had jointly sponsored some half-dozen international arms control workshops on warhead and fissile material control issues that included senior officials from the Soviet/Russian Foreign Ministry, MINATOM, the Twelfth Main Directorate, DOE, ACDA, State, and the DOE laboratories. Long before Jessica Stern and her mentor in Z Division had briefed their “findings” in Washington, the Congress had enacted (December 1991) the Nunn-Lugar assistance program, the very premise of which was to assist Russia in transporting, consolidating, storing, and dismantling its huge excess stockpile of nuclear weapons, and the Senate Foreign Relations Committee had approved a resolution of ratification for the START I Treaty (July 1992) with a condition, the so-called “Biden Condition” (subsequently approved by the full Senate), *directing the President to seek reciprocal monitoring arrangements for warheads and fissile materials in connection with START II*. And well before Jessica Stern “landed at the White House Gate” (September 94), DOE and MINATOM had issued a joint statement (March 16, 1994) declaring their intention “to conclude an agreement on the means of confirming the plutonium and highly-enriched uranium inventories from nuclear disarmament. These inspections will be an important step in the process of establishing a world-wide control regime for fissile materials.” The DOE “lab-to-lab program” to upgrade fissile material security and safeguards was initiated April 19, 1994. The trip to Kurchatov Institute by von Hippel and Tarantino was in September 1994 and was a consequence of actions that had been initiated at least five months earlier.

pp. 133-134

and p. 256

“Since the days when Frank von Hippel had visited the nuclear processing plant at Mayak in the secret city of Chelyabinsk 65, the Russians had become more willing to accept American help in upgrading security. Thanks to the efforts of Ken Luongo, Ken Fairfax and others, the efforts had gone into high gear, spearheaded by scientists from the American weapons laboratory at Los Alamos.”

This is revisionist history. No mention is made of the role of the earlier collaborations with the Soviet/Russian weapon labs by NRDC and FAS and subsequently by Los Alamos; or of the role played by NRDC and Siegfried Hecker, Director of Los Alamos National Laboratory, in convincing DOE Under Secretary Charles Curtis to launch the lab-to-lab program.

The significant Los Alamos contribution under the direction of Steve Younger, which made the lab-to-lab program a success, is only mentioned in passing at page 256.

- p. 161 “...a group of executives from ...Babcock and Wilcox... journeyed to Kazakhstan and made a discovery that sent shock waves through the CIA and the White House...It was the remains of a very secret Soviet space program, more ambitious and more dangerous than anything ever seriously attempted by NASA. The Russians had been building a nuclear rocket. This was fuel, two hundred kilos of it—bomb-grade uranium 235.”

First, the phrase “bomb-grade uranium 235” is redundant. U-235 *is* a fissile weapons usable isotope of uranium. “Bomb-grade” refers to the fraction of total uranium comprised of the U-235 isotope. Second, the United States *did* have a nuclear rocket program, from 1958 until early 1965. Under Projects Orion and Helios, General Atomic Corp. and the Livermore Laboratory studied spacecraft powered by low-yield nuclear explosives. According to the forthcoming Brookings study, *Atomic Audit*, the U.S. also spent some \$780 million (in FY 97 dollars) on unsuccessful development of the PLUTO nuclear-powered cruise missile. From 1946-61, the U.S. spent \$6.5 billion on the development of a nuclear-powered bomber. (See also “Loose Ends” below)

- p. 164 “Two months before . . . Mikhailov and Amrollahi had signed a contract to complete construction of Block No. 1 at the Bushehr nuclear power plant. . . . What Fairfax now had in his hand was a ‘protocol’ to that agreement, signed on the same day, outlining related aspects of the contract. . . . Buried in the middle of Section Six, Subparagraph Four, was a reference to the “signing of a contract for the construction of a centrifuge plant for the enrichment of uranium.”

The authors leave the impression that Ministers Mikhailov and Amrollahi had secretly agreed on a contract for the construction of an enrichment plant. Here is what the “secret” protocol actually contained on that score:

“The sides will commission their competent organizations to prepare and sign [inter alia] —within a six month period of time, a contract for the construction of a uranium mineshaft in Iran, *after which negotiations will be conducted* on the signing of a contract for the construction of a centrifuge plant...”

The book then goes on to allege that an agreement in the protocol to “examine the issue of cooperation on the construction of a desalination plant in Iran” was really a “sinister” cover for a project to construct a plutonium breeder reactor in Iran, on the tenuous grounds that a Russian built desalination plant on the Caspian Sea in Kazakhstan is powered by a fast breeder reactor.

Of course, a desalination plant need not be nuclear-powered, and a nuclear-powered desalination plant need not be a fast breeder reactor. In fact, during an interview with Frank von Hippel on April 24, 1995, Mikhailov specifically noted that the UAE as well as Iran had expressed an interest in nuclear desalination plants, and that any such plants exported to the Middle East would be light-water, not sodium-cooled reactors, i.e., not fast breeders.

Minatom does more than a billion dollars worth of international commercial nuclear business annually, mainly supplying uranium and enrichment services. It is most unlikely that Mikhailov would jeopardize this business, including the HEU deal, in an attempt *secretly* to sell the Iranians a centrifuge plant. A far more likely explanation is that Mikhailov is telling the truth: he says he agreed in principle to discuss the possibility of such a sale *in the future* as a sweetener to induce the Iranians to sign the Bushehr contract and follow-on contracts for Unit 2 at the same site and 2 VVER-440 nuclear power plants. Given American resistance to *these* sales, Mikhailov lost nothing by “giving up” the centrifuge plant in order to gain international and U.S. assent to the reactor sales. Indeed, it is likely that the Iranians were a party to this strategy from the outset.

After all, under existing international arrangements, Iran is still a member in good-standing of the NPT and is not *legally* barred from acquiring a centrifuge plant under safeguards if such a plant is needed to support its “peaceful” nuclear program. Iran has even announced its willingness to submit to special inspections of the type now called for under the IAEA’s 95 + 2 safeguards enhancement program. However, as a member of the Nuclear Suppliers Group, Russia would be barred in any case from actually exporting enrichment and reprocessing technologies to countries of proliferation concern, or when the export of such a technology is not technically or economically indicated by the scale and sophistication of a country’s peaceful nuclear program. Since both these conditions apply to Iran, the likelihood of a Russian centrifuge plant actually being constructed in Iran is extremely low. At the same time, however, Minatom was irked by its exclusion from commercial participation in KEDO, the U.S. inspired organization assembled to carry out construction of two U.S./South Korean light water reactors in North Korea, a party of the NPT *not* in good standing. Needless to say, the Cockburns let neither these complexities, nor the broader contradictions inherent in current global arrangements for peaceful use of atomic energy, stand in the way of their wild man Mikhailov/nuclear terrorism motif.

- p. 168. “In the summer of 1993 he [Fairfax] was ordered to Moscow...a man of rare intellectual energy, ever ready and able to penetrate to the heart of a subject that interests him, whether it be gourmet cooking...or...the unknown country of Minatom. ...No one knew how, for example, how to get hold of the director of Tomsk-7, all-powerful in his own far-off secret Siberian city and the custodian of 23,000 plutonium nuclear weapons pits. Certainly no one had ever been there and met the man or his counterparts in such equally

inaccessible places as Krasnoyarsk 26 and Sverdlovsk 45...Fairfax set out to unwrap the enigma.”

Actually, on May 6, 1993, Minister Mikhailov invited then Energy Secretary Hazel O’Leary to send a contingent of DOE experts to Russia to visit, in particular, Tomsk-7, the site of a nuclear waste tank explosion on April 6, 1993. Seven DOE experts visited Minatom’s Moscow offices and Tomsk from June 19-29, 1993, and held meetings with the entire Tomsk senior management team, including the director, Gennadiy Khandorin. Their report, published by DOE in September 1993, provided the address and phone, fax, and telex numbers for the Siberian Chemical Combine in Tomsk-7, and identified the names and positions of 25 Tomsk-7 senior scientists and engineers. In 1994, the “Siberian Group of Chemical Enterprises” published its own promotional guide to its technical products, capabilities, and services, and again included contact information. In 1995, MINATOM published its own “Who’s Who in Nuclear Power Engineering and Industry of Russia,” a 518 page directory with information on 1399 nuclear experts from 74 Minatom facilities. The “enigma” was unwrapping itself, largely for commercial reasons, with or without the efforts of Mr. Fairfax.

- p. 168 “A few intrepid explorers had managed to get glimpses of this unknown country. Frank von Hippel had managed to get to Mayak—Chelyabinsk 65—back in 1989.”

On this particular trip the intrepid Frank von Hippel was actually a member of a large delegation organized by NRDC which also included six scientists, three Congressmen and two reporters! NRDC and the Soviet Academy of Sciences had just completed the Black Sea Experiment in July 1989, in which a Soviet nuclear warhead on board the cruiser *Slava* was used by teams of U.S. and Soviet scientists to investigate the utility of radiation detectors to determine the presence or absence of nuclear warheads on surface ships. Had the Cockburn’s bothered to investigate this trip and other joint work between U.S. and Soviet scientists during the period 1986-1993, they might have learned the significance of this work to the subject at hand.

- p. 172 “More covertly, he gave orders to start work on a nuclear weapons program. Thousands of young Iranian physicists were sent to study in the United States and Europe.”

This is surely an exaggeration. Perhaps hundreds were sent as a consequence of the bomb program.

- p. 187 “Back in the early 1980s he [John Holdren] had been a leading figure in the campaign against the U.S. breeder reactor on the Clinch River in Tennessee . . .”

John Holdren made significant contributions to the campaign against the Clinch River Breeder Reactor, but to identify him as a leading figure in the campaign is a stretch.

- p. 248 This is the first mention of the “Cooperative Threat Reduction Program” [Nunn-Lugar] even though it was initiated *almost three years* before Jessica Stern arrived for her brief sojourn at the White House. This is a devastating omission for a book purporting to tell the “true story” of the U.S. government’s halting attempts to grapple with the threat of “loose nukes” in Russia and the other successor states of the former Soviet Union.

Pure Undocumented Hype/Purple Prose

Inside the book’s jacket cover

“But the Soviet nuclear arsenal—thousands of warheads and hundreds of tons of plutonium—continues to sit virtually unguarded.”

This assessment is preposterous. The current problem in Russia is not an absence of guards for the nuclear arsenal, but the lack of robust technical systems for nuclear material control, accounting, and security that would either prevent or promptly reveal -- and therefore deter -- insider threats to nuclear warheads, components, and fissile materials. A less immediate and predictable threat is posed by possible socio-economic breakdown in Russia as a whole, leading to partial or complete disintegration of control over the security forces guarding the weapons and their possible seizure by “rogue elements.” Over the longer term, neither of these threats are unique to Russia. One can envision similar circumstances arising in, for example, China or Pakistan.

- p. 40 Referring to General Burns, “He swiftly arranged to ship a Russian nuclear railcar to the ultra-high-security Sandia National Laboratory in Albuquerque, New Mexico.”

...

“The Russians were suitably grateful.”

- p. 41 “The Russian warheads did not meet that standard [one-point safe]. They could blow and go nuclear at the drop of a hat.”

- p. 54 “The outer provinces of the newborn Russian Federation were in a state of swirling political chaos.”

- p. 92 “...newly independent Belarus, an impoverished wasteland badly irradiated by the Chernobyl accident. No-entry zones, where abandoned villages were too “hot” for human habitation, were now a thieves den for Belarussian criminals. The post-nuclear world of mutants and criminals was reality in Belarus.”

- p.101 “They were both cleared ‘blue’ to talk about the darkest nuclear secrets.”

- p. 153 “Kazakhstan was sinking into hunger and desperation. Millions of acres of farmland were eroding into desert.”

p. 192 “His [John Holdren’s] delivery was powerful, “like a laser-guided bomb,” thought by one of those present, “directed straight into the President’s brain.”

p. 251 “Despite what she [Jessica Stern] had achieved, her tour as a visiting Council on Foreign Relations Fellow was up.”

What exactly did she achieve, other than Presidential Decision Directive 41, leading to the appointment of Ken Fairfax in 1995 to “the newly created job” in NSC’s Nonproliferation Directorate “trying to plug the leaks in Minatom’s nuclear storehouse,” a posting he left a year later.

p. 253 “Ken Fairfax, who had taken over her job when she departed, had left the White House after a brilliant tour . . .”

What was “brilliant” about his tour? What did he achieve?

p. 254 “John Immele, a brilliant weapon scientist.”

Again, what has Dr. Immele done, said, or written on any subject that justifies the description “brilliant.” Are we to presume that all weapons scientists are brilliant by nature?

Loose Ends

p. 84 “On July 19 [1994] the Turkish national police arrested seven Turks and claimed to have seized twelve kilograms, thirty pounds, of weapons-grade uranium.”

Well, was it or wasn’t it. Twelve kg of 90% U-235 is a weapon-quantity of HEU material outside of the Soviet Union – no small matter to be left hanging!

p.161 “How much more of this stuff [two hundred kilos of “bomb-grade” uranium fuel at Semipalatinsk] was going to turn up... Whatever the trouble and expense, no one wanted the other team [e.g. the Iranians] to get there first.”

Well, what happened to all this dangerous HEU at the former Semipalatinsk test site in Kazakhstan? Was it rescued by the U.S.? Returned to Russia? Smuggled to Iran? We are never told!

Viktor Mikhailov slandered (by anonymous hearsay)

- p. 26 “an ebullient physicist with a penchant for hard liquor and attractive women”
- p. 44 “he walked with a conscious swagger. His eyes held you as though you might be something edible. He was a hunter. Everyone else was his prey.”
- p. 45 “Western visitors soon spotted his new \$30,000 Rolex watch.”
- p. 46 “He had called the atomic tyrant’s [Mikhailov’s] bluff.
- p. 167 “It had been three years since General Bill Burns faced down Victor Mikhailov in his office...and forced the boss of the Russian nuclear complex to accept his terms.”
- Hardly. It required two more years of tough negotiating before mutually agreeable USEC-MINATOM commercial contracts for the purchase of diluted Russian HEU became a reality. Mikhailov was not “forced” into anything.
- p. 171 “Mikhailov was operating as an independent power, with his own foreign policy.”
- p. 248 “Unlike the obstreperous Minatom boss, Victor Mikhailov, prone to getting drunk and making passes at lady interpreters in the middle of meetings...”

Sources and Methods

Historical and technical material is not specifically footnoted, even when it is not derived from anonymous sources. Only the most paltry summary accounting of sources is given, on a chapter-by-chapter basis, making it virtually impossible to match sensational, controversial or questionable information with its erstwhile sources. The authors provide no evidence of having applied any procedure for corroborating or cross-checking sources of information before using it, often without qualification or caveat, in the book.

We would have been happy to review all or part of the manuscript before it went to press, but were never asked. Unfortunately, the book was not subject to a very rigorous fact checking, and numerous errors and omissions have resulted.

Typographical Errors

- p. 45 should read “desk” instead of “deck”
- p. 49 should read “director” or “directorate” instead of “directory”

p. 246 should read “up to a hundred hours” instead of “up a hundred hours”

Error in the Identity of Organizations

p. 7 “Twelfth Department” should be “Twelfth Main Directorate.”

p. 156 “International Atomic Energy Authority” should be “International Atomic Energy Agency.”

p. 276 “Boolean environmental group” should be “Bellona Foundation.”

p. 280 “National Resources Defense Council” should be “Natural Resources Defense Council.”