Nineteen sixty four, the fiftieth anniversary of the completion of the Panama Canal, was anything but golden. What was to have been a year of celebration opened instead with four days of anti-U.S. violence across Panama, worldwide coverage of which featured U.S. soldiers firing on citizens of their host country. Panama’s president, fed up with the delays over treaty reform and eyeing an uphill election campaign for his conservative party, broke diplomatic ties and refused to resume them without an agreement to abrogate the 1903 accord that granted the northern colossus perpetual control over the waterway and its surrounding zone.

While the new U.S. president was not about to bullied, he knew the status quo could not endure. Lyndon B. Johnson had assumed office following the tragic assassination of Kennedy on November 22, 1963. That morning, Plowshare and State Department officials had met to discuss how the nuclear sea-level canal proposal could remain viable in the context of the Limited Nuclear Test Ban Treaty, signed by Kennedy a month earlier. The January Flag Riots, as they became known, led Johnson to resume secret discussions over the political benefits of building a nuclear canal on the cheap in either Panama or another nation. He sought to defuse Panamanian demands for treaty reform until after the November 1964 U.S. presidential election. Johnson had to tread a fine line between managing dissent among frustrated Panamanians and the demands of anticommunist U.S. interests to take a hard line against the small yet strategic nation.

The sea-level canal provided the ideal venue for doing so, and Johnson masterfully used the proposal to contain both foreign and domestic opposition during the pivotal year following the Flag Riots. However, it is not necessary to depict the nuclear seaway as a “peculiar futuristic fantasy” whose “fictitiousness” allowed him and his opponents to make of it what they wanted. Such language overlooks the important work that went into the feasibility studies—work of both a political and scientific nature—by people who took the existing canal’s obsolescence, and the technoscientific innovation of peaceful nuclear explosives,
very seriously. Part II will address the feasibility investigations in detail, and this final chapter of part I addresses the hidden political groundwork for the law creating the multimillion-dollar Atlantic-Pacific Interoceanic Canal Study Commission and for the historic presidential announcement in December 1964 regarding the renegotiation of the 1903 Hay–Bunau-Varilla Treaty.

Permeating these two developments was an intriguing degree of what could be called technological anti-imperialism. Weapons and other tools have enabled their possessors to control other territories throughout history, and during and following the Spanish-Cuban-American War, the United States used its technological superiority to build a tropical empire across the Caribbean Sea and Pacific Ocean—often under the guise of civilizing island peoples. Yet rarely have powerful nations used technology as a vehicle or pretext for decolonization, which makes the Johnson administration’s deployment of the sea-level canal proposal all the more remarkable.

Johnson harnessed the disparate economic, military, and political forces favoring a modern new waterway to nudge forward the cause of Panamanian sovereignty over the Panama Canal Zone. A streamlined ship channel of 1,000 feet wide and 250 feet deep would not only accommodate the world’s largest vessels and decrease transit times, it would also preclude the need for an adjacent enclave populated in perpetuity by foreign canal operators and defenders. Johnson’s two predecessors, Eisenhower and Kennedy, had also viewed the sea-level canal proposal as a means of dismantling the problematic Canal Zone, but Johnson worked to get the feasibility studies going in a much timelier manner.

That is not to say that Johnson did not employ delay tactics, nor that his vision of a colony-free canal lacked bias. The idea that a simplified seaway would enable its owners to dispense with highly skilled personnel recapitulated the patronizing presumption that few if any Panamanians could be trusted or trained to operate complex infrastructure, one of the many points of contention between the two nations. Moreover, the administration sought to reduce Panamanian leverage over the treaty negotiations by calling for the investigation of sea-level canal routes in other countries besides Panama.

Despite its important anticolonialist components, the seaway proposal undermined principles of equity and sovereignty in other ways. Johnson did not seek to withdraw all U.S. personnel from Panama, due to the region’s increasing postwar role in hemispheric surveillance, military staging, and jungle guerilla-warfare training—developments exposed by the Flag Riots. New diplomatic arrangements would be needed to bring Panama’s U.S. bases in line with the leasehold agreements established for hundreds of other overseas facilities run
by the Pentagon during the Cold War. Accordingly, the Johnson treaty negotiators sought separate pacts governing the proposed new seaway and the existing military bases.

Finally, the progressive goal of recognizing Panama’s full sovereignty over its lands via a new sea-level canal treaty must be considered in the context of contemporaneous foreign policy initiatives that exuded technological arrogance. Johnson officials funded a secret experimental program to control the weather in India and Pakistan for food production and drought mitigation. Much more famously and disastrously, the administration escalated the anticommunist war in Vietnam despite intelligence assessments that superior firepower could not overcome the enemy’s resolve. Johnson also expanded his predecessor’s program of chemical herbicidal warfare.

These cases demonstrate how Johnson embraced science and technology as diplomatic instruments to control and reengineer the physical environment and less technologically advanced nations. It is no mere coincidence that the major architects of the Vietnam War—Secretary of Defense Robert McNamara, National Security Advisor McGeorge Bundy, and his successor Walt Rostow—also championed the nuclear Central American canal. The Johnson administration’s advocacy of the nuclear seaway contributes to scholarship on the foreign policy roles played by science and technology during the Cold War, especially with respect to large-scale environmental transformations.

A Tale of Two Treaties

Throughout 1963, while the U.S. Congress debated the terms of the Limited Nuclear Test Ban Treaty, anti-Yankee tensions intensified in Panama. Facing anger from young Panamanians, the oligarchic Chiari renewed his public demands for a new treaty, but the U.S. government would commit only to constructing new flagpoles in the Zone to fly the Panamanian standard alongside the U.S. one. That and other symbolic concessions infuriated conservative members of Congress; as their spokesman Representative Dan Flood contended, Panamanian flagpoles in the Canal Zone signified yet another stage of “the long-range Soviet program for conquest of the Caribbean.” He was referring to the Cuban Missile Crisis, the thirteen-day standoff in October 1962 that almost led to a nuclear war between the United States and the Soviet Union. The Soviets had deployed ballistic missiles to Cuba following the failed 1961 U.S. plan to overthrow Fidel Castro, the leader of the communist Cuban Revolution. Although the Soviet and U.S. leaders negotiated a resolution, for almost two decades
afterward the crisis fueled Flood’s campaign to maintain U.S. control of the Panama Canal Zone.

In response to Flood’s resolution to bar the flying of any flag in the Zone other than the Stars and Stripes, the syndicated columnists Rowland Evans and Robert Novak penned an editorial titled “Ugly Americans.” If anti-U.S. sentiment ever reached the point of threatening the canal, the authors argued, the real culprit would be not Communist agitators but rather the U.S. policy makers who perpetuated “big city imperialism” and paid Panama a “chickenfeed” annuity from the annual canal tolls (less than $2 million out of $60 million in revenue). They also targeted imperious Zonians who acted as “badwill ambassadors” and “one of Washington’s most effective lobbies by playing on justifiable congressional fears about this vital waterway’s security.”10 However, as events would soon make clear, most Americans took great pride in U.S. ownership of the canal and zone.11

In early 1964, the governor of the Canal Zone, Robert Fleming, ordered that the number of sites flying U.S. flags be limited, and that wherever the U.S. flag was flown, the Panamanian standard must accompany it. Because Balboa High School, which was located in a part of the Zone near Panama City, had only one flagpole, its leaders took down the banner to avoid violating the order. Encouraged by their parents, several Zonian teenagers raised a makeshift replacement on the night of January 7–8, 1964. Word spread, and outraged Panamanian students marched into the Zone on the ninth to raise their own flag, a bloodstained relic of a 1947 riot. A fight broke out, during which the flag was ripped. Radio broadcasts of the incident sparked uprisings in Panama City and Colón. In the violence that consumed the country on the ninth, tenth, eleventh, and twelfth, when the Guardia Nacional finally resumed control, twenty-one Panamanians and four U.S. soldiers died. President Lyndon B. Johnson was caught off guard by the violence and Chiari’s suspension of diplomatic relations, the first foreign relations emergency of his new administration.12

The Flag Riots cast an embarrassing light on U.S. imperialism in Panama. As an editorial in the glossy Life magazine stated, “As owner and operator of the Canal Company, the U.S. government has blindly allowed the Canal Zone to turn into a pretty fair imitation of a colony, complete with a colonial mentality. In the Zone, discrimination against Panamanians has existed since the beginning, backed up by wage differentials, special privileges for Americans and all the paraphernalia of extra-territoriality.”13 Many such privileges had nothing to do with the canal, including access to U.S.-operated businesses that kept prices low for Zonians and undercut Panamanian entrepreneurship.14 More than 36,000 Americans lived in the Zone in 1964, including 9,750 active duty military
personnel, 11,800 military family members, 3,905 civilian employees of the armed forces and their families, and 10,700 Panama Canal Company and Zone government employees and their families. The PCC also employed 5,000 Panamanians, and the U.S. military employed about 10,000 Panamanian citizens.15

Similar critiques appeared in domestic and international media, and Panama’s National Bar Association asked the International Commission of Jurists, a non-governmental organization based in Geneva, Switzerland, to investigate whether U.S. actions in Panama from January 9 to January 12 violated the United Nations Universal Declaration of Human Rights.16 However, while Johnson officials worked to contain the damage, 56 percent of Americans demanded that their government make no concessions to Panama.17

The day after the riots ended, Johnson met with several high-level officials including Secretary of State Dean Rusk, Secretary of Defense Robert McNamara, and Assistant Secretary of State for Inter-American Affairs Thomas C. Mann to discuss solutions to the diplomatic impasse. Mann, a controversial diplomat whom Johnson had appointed the month before, argued for using the threat of building a sea-level canal in Colombia or Nicaragua as a means of leverage with Panama so as to develop a new treaty acceptable to the U.S. Senate. Johnson and officials from the State and Defense Departments and Atomic Energy Commission agreed, but the Limited Nuclear Test Ban Treaty of 1963 posed a daunting obstacle. By prohibiting cross-border releases of radioactive debris, the treaty diluted the threat to Panama of building a nuclear canal in another country.18

Another strong Johnson administration advocate of using the nuclear canal option to manage both domestic opposition and Panamanian demands regarding the renegotiation of the 1903 treaty was Deputy Secretary of Defense Cyrus Vance, who in his former role as secretary of the army had held the distinction of being the Panama Canal’s sole shareholder.19 Vance warned the president on February 10 that both hard-right and moderate Republicans might seize the opportunity to their advantage in the lead up to the November election: “[Barry] Goldwater, [Nelson] Rockefeller and others may well raise the cry that in negotiating the Test Ban Treaty, the Democratic Administration precluded the sea level canal solution to the Panamanian problem, or at least precluded the more desirable method of construction.” To contain the damage, he suggested advance surveying work could begin while negotiators obtained a test ban treaty exemption for peaceful nuclear excavation in smaller countries. Vance urged Johnson to support a bill that had been pending in the House for over a year to provide $17 million for the PCC and Army Corps of Engineers to survey two remote Darién routes, one in Panama and the other in Colombia, to determine the
optimal site and method of construction. Otherwise, if further delays ensued, “the political opposition may well push for the site surveys themselves. They then enjoy the best of all worlds. They can criticize our handling of the Test Ban Treaty and claim credit for initiating the only constructive program to solve the Panamanian problem.” Although Vance’s concerns about getting scooped did not materialize, the ensuing 1964 Republican platform did call for studying the feasibility of a sea-level isthmian canal with nuclear methods.

The Flag Riots stimulated bipartisan congressional support for nuclear canal excavation, and thus the AEC pressed the White House for permission to resume relevant work at the Nevada Test Site. It had been nineteen months since the first and last excavation experiment, Project Sedan, although other Plowshare detonations oriented toward device development had taken place there in the meantime. In contrast to the hundred-kiloton Sedan device that left an enormous crater on the desert floor, the next proposed excavation test, Project Sulky, involved a blast of only ninety-two tons. But concerns that the explosion might still vent enough radionuclides to be detected in Canada or Mexico sparked an internal debate about the risks of violating the test ban treaty. The administration decided in February 1964 to postpone the project until the following winter. The intervening months would provide more time to continue developing less-contaminating explosives and thereby improve the prospects of nondetection, time to ensure the most advantageous wind and weather conditions, and time to address the potential for amending the Limited Nuclear Test Ban Treaty. By then, the grazing season and presidential election would have also passed, thereby reducing the test’s literal and figurative fallout.

The long-delayed congressional bills for sea-level canal feasibility studies got a new round of hearings in March 1964. Cabinet officials framed the nuclear seaway as the solution to long-standing problems encompassing the technological, economic, and political realms. Vance reiterated the postwar history of calls for canal modernization, and explained “the current difficulties” between the two nations as a function of the lock waterway’s complexity and concomitant need of a large U.S. labor force. As Mann elaborated, “I understand that the present canal . . . has some 14,000 employees, and a sea level canal would only require some 600, and presumably only a fraction of that number would need to be there [twenty-four hours a day, seven days a week].” Further testimony established that the six hundred people need not be U.S. nationals and that fewer military personnel would be needed to defend a canal lacking “the complex lock situation that you have now.” Subsequent hearings considered the question of who to appoint to the commission responsible for determining the feasibility of nuclear excavation.
The tense suspension of diplomatic relations between Panama and the United States ended on April 3 with a joint declaration to work toward “the prompt elimination of the causes of conflict between the two countries.” The same day, Johnson appointed lawyer Robert B. Anderson, a Texas Republican who had served as secretary of the navy and secretary of the treasury under President Eisenhower, to direct the team in charge of the talks. Anderson had come highly recommended by Mann to serve as the “tough guy” in charge of the “hard negotiating” with the Panamanians (though Mann later called the recommendation one of the “great mistakes” of his life). Johnson also liked to appoint Republicans to controversial posts to deflect heat from himself. The Panamanian officials with whom Johnson administration officials had conferred did not want a career diplomat heading the team, and Anderson attributed his acceptability to the goodwill he had established among Panama’s ruling elite by leading the 1959 effort to organize the Inter-American Development Bank. Looking back in the late 1970s, Anderson noted Johnson’s dedication to restoring diplomatic relations with Panama but also his unrealistic assumption that the treaty negotiations could be completed within two to three months—a far cry from the two-and-a-half years over which they stretched. Anderson also recalled that in their initial discussion, Johnson expressed concern about how the Panama Canal related to one of his signature initiatives, the space program, for which some of the enormous rocket parts had to be transported via barge from California to the Florida launch site.

Anderson agreed to serve as the special representative for U.S.-Panama relations in exchange for access to the president and permission to remain based in Manhattan, and Johnson established two new entities to formulate and execute U.S. policy in Panama, one in Washington and the other in Panama. The Washington-based Panama Review Group met on April 7 to discuss Anderson’s negotiating strategy and unilateral actions that could be taken without congressional approval “in order to blunt interim Panamanian pressures, and hold the line until early 1965 when both Panamanian and United States elections would be behind us.” Stephen Ailes, who had recently replaced Vance as the secretary of the army, emphasized the need to “dispel our colonialistic image.” He called for securing an agreement for new canal site surveys in Panama, countering Panamanian concerns that a second waterway would ruin their economy, and otherwise deflecting attention from the “‘perpetuity’ problem and other highly charged issues” raised by the existing Canal Zone establishment: “We have to make a really penetrating study. Panama’s demands on basic issues should be countered by tying them into the sea level canal rights we will want.”
The other attendees agreed that framing the upcoming treaty negotiations in the context of a new sea-level canal would help distract from the “present situation,” while recognizing the need to negotiate separate military base rights.\textsuperscript{29} The Philippines offered a precedent for such an arrangement, since the U.S. retained naval and air facilities there after recognizing the country’s independence in 1946. Moreover, the U.S. had negotiated postwar military base agreements with nations around the world, most of which involved leases rather than the permanent status granted by the Hay–Bunau-Varilla Treaty.\textsuperscript{30}

In June 1964, the Swiss-based International Commission of Jurists reported its findings regarding the question of whether the U.S. response to the Flag Riots constituted human rights abuses. The jurists concluded that Canal Zone police and U.S. Army personnel used disturbingly excessive force at some points, but that the use of force per se was justified to quell the riots. While they did not violate human rights, Canal Zone authorities and police “could have handled the situation [at Balboa High School] with greater foresight,” and henceforth the United States should “take effective steps to make possible a reorientation and change in the outlook and thinking of the people living in the Canal Zone.”\textsuperscript{31} U.S. officials had already agreed among themselves that “visible evidence of progress” in U.S.-Panama relations was needed prior to the Panamanian Independence Day holiday of November 3, “or else there will be trouble.”\textsuperscript{32} Others had amplified the long-standing progressive argument that the United States could afford to relinquish many of its “peripheral privileges” in the Zone without harming its maritime and security operations.\textsuperscript{33}

One antiquated perk that attracted attention was the 25 percent tropical hardship differential paid to U.S. citizen employees in the Canal Zone. The salary boost had been deemed necessary to attract northern whites in the early 1900s, when malaria and yellow fever posed dangerous threats to foreigners lacking immunity. But sanitary engineering, chemical pesticides, air conditioning, and other technological advances had long since reduced the hazards of tropical living. The large allowance had the unintended consequence of creating what Ailes called “a second and third generation of U.S. workers in the Zone, who quite naturally resist any move designed to increase Panamanian employment in better paying jobs.” While privately criticizing U.S. canal employees “who regard jobs in the Zone as matters of right,” Ailes stated that his proposed reduction in the hardship differential to 15 percent of base pay should be framed as a cost-saving matter “completely divorced from our negotiations with Panama.”\textsuperscript{34}

By August 1964, the Canal Zone government had implemented several measures designed to improve relations with Panama. The changes included
installing dual flagpoles at all Zone schools, increasing wages for Panamanian employees, hiring Panamanians for the Canal Zone police force, reducing the number of jobs reserved for U.S. citizens, desegregating swimming pools and government housing, nominating a Panamanian to serve on the PCC board of directors, providing scholarships for Panamanians to attend the Canal Zone College, and proposing the hardship pay decrease. In addition, the fiftieth anniversary of the opening of the waterway transpired with “quiet and restrained ceremonies which were not offensive to Panama,” as the secretary of defense assured the president.³⁵

On the other hand, the Zone leadership overlooked other requested changes, such as having ships transiting the canal fly the Panamanian flag (in addition to the U.S. one and the flag of registry), making Spanish an official language, and using the host country’s postage stamps. These and other points of contention generated anxious discussions among Johnson officials months later, as the one-year anniversary of the Flag Riots approached and threatened to unleash anti-American demonstrations “of even more serious proportions.”³⁶

Experiment No. 1

U.S. officials hoped the concessions would lessen Panamanian ire while they negotiated long-term plans for a new, zoneless seaway.³⁷ In the August 1964 memorandum assuring the president of the beneficial changes in the Zone and the subdued golden-anniversary commemorations, Secretary of Defense McNamara concluded, “The best prospect for a major improvement in U.S.-Panamanian relations is that offered by the sea level canal project.” Echoing the rationales made by Vance, Mann, Ailes, and others, he explained that an agreement for a new seaway in Panama “would put to rest many of the emotional issues which now plague our relations. It would also clear the air of many of the uncertainties with respect to United States policy which are the source of most of the unrest among the U.S. citizens in the Zone.”³⁸ McNamara’s coded language spoke to the discomfort felt by senior U.S. officials about the disruptive behavior of both extremist Panamanians and Zonians. A new treaty for a simplified waterway requiring far fewer U.S. employees—who would be required to leave by a fixed date, even if it were far in the future—held the key for improving relations with Panama over both the short and long terms. Toward that end, a new feasibility study authorization bill that had emerged from the March hearings (S. 2701) had passed the Senate and was scheduled for an upcoming House vote.³⁹
The hearings had relied on old data regarding the feasibility of nuclear excavation, as did all the news coverage following the Flag Riots of the possibility of an “atom-dug” canal. But the administration’s efforts to buy time prior to the November presidential election had another payoff in the form of a new technical assessment of the nuclear-excavated canal, the first since 1960. The joint report by the PCC, the Nuclear Cratering Group of the Army Corps of Engineers, and AEC discussed the latest experiments with chemical and thermonuclear explosives and concluded that “major progress has been made in development of ‘cleaner’ nuclear explosives applicable to excavation.”

The report, titled *Isthmian Canal Studies—1964*, focused on the two routes deemed most promising for PNEs. Route 17, the Sasardi-Morti passage through eastern Panama’s Darién region, called for detonating 29.4 nuclear explosive devices with an aggregate yield of 166.4 megatons, to be fired in fourteen separate detonations. While the average yield per detonation would be approximately 10 megatons, cutting through the 1,100-foot-high Continental Divide would require an explosion of some 35 megatons. By comparison, the most powerful nuclear device ever tested by the United States, the 1954 Castle Bravo blast that released radioactive fallout over a hundred-mile swath of the Pacific Ocean, yielded 15 megatons.

The other proposed nuclear path between the seas crossed Colombia’s portion of the Darién isthmus via the Atrato and Truando Rivers. Designated Route 25, it closely paralleled the route that had intrigued the elderly Humboldt in the 1850s. Plowsharing the mountainous terrain would require an awe-inspiring degree of explosive power: 262 nuclear devices with an aggregate yield of 270.9 megatons, to be fired in twenty-one separate detonations.

Each of the proposed projects would require evacuating thirty thousand people due to the “main hazards from radioactivity, air blast, ground shock, throw-out, and dust” and resettling them “in adjacent frontier areas.” As for the cost, emplacement drilling, explosive charges, and other direct expenses of nuclear excavation would require approximately $307 million for the Panama route and $315 million for the Colombia one. To improve the economic and safety estimates, the army engineers and Plowshare scientists called for the accumulation and analysis of much more data pertaining to the topography, geology, meteorology, hydrology, coastal hydrography, seismology, ecology, demography, and economic resources of the two regions.

The congressional bill authorizing the group that would be responsible for overseeing the formidable research program, the Atlantic-Pacific Interoceanic Canal Study Commission, passed both houses in September 1964. The
chairman of the hearings, Senator Warren G. Magnuson, and others avowed that the legislation was “not a product of the Panama crisis.” Rather, the Flag Riots had expedited long-standing calls for action regarding the obsolescing canal.43 Although defenders of the 1903 treaty argued that there was no such thing as an invulnerable waterway, Magnuson and other Plowshare proponents insisted that “a canal built in such a manner would be almost defense proof, because any bomb landing on such a canal might make it an even better one if the bomb should blow enough dirt out.”44

Magnuson, the chair of the powerful Senate commerce committee, was enthusiastic about PNEs (fig. 3.1). His home state of Washington was the site of the Hanford facility that produced the plutonium for the nation’s nuclear weapons. At the March 1964 hearing, he had asked Seaborg the leading question, “So the urgency of this sea level canal could act almost as a laboratory, experiment No. 1, for opening a whole new vista for the use of nuclear power?”45 Magnuson also emphasized the Soviet goal of geoengineering the Bering Strait to improve navigation and warm up Siberia: “This isn’t too farfetched at all…. They have been talking about this for a long time, hoping that new nuclear technology can be put to some good uses. And Russian engineers have talked on many occasions about building harbors along the northern route to the Siberian coast by the use of nuclear explosives.”46

In their quest to authorize a commission to investigate the nuclear seaway, Magnuson and like-minded members of both houses of Congress outmaneuvered their colleagues who opposed any changes to the 1903 treaty.47 Representative Flood did succeed in ensuring that neither cabinet members nor civil servants would oversee the feasibility studies. However, the final bill authorized the president to appoint five private citizens without congressional consent.48 Public Law 88-609 passed on September 22, just over a month before the presidential election, and eleven days before the end of the 1964 session, which had featured the historic debates over the Civil Rights Act and the Gulf of Tonkin Resolution that deepened U.S. military engagement in Vietnam. Getting the nuclear seaway commission through required intensive lobbying on the part of cabinet officials; as a staff member of the National Security Council later explained to National Security Advisor McGeorge Bundy, “We put considerable heat on the Congress to approve the legislation on an interoceanic canal commission during the waning hours of the last session.”49

Johnson won the election on November 3 in a landslide, a victory that provided breathing space and political capital regarding domestic opposition. That day also happened to be the Panamanian holiday commemorating the 1903
revolution against Colombia, but it did not unleash the new wave of anti-Yankee violence U.S. officials had feared earlier in the year. Chiari’s oligarchic Liberal Party, now headed by his cousin Marco Robles, had won the May election, one in which U.S. officials turned a blind eye to evidence of fraud. In the weeks prior to the U.S. presidential election, Robles reversed Chiari’s course of stoking anti-U.S. sentiment.\textsuperscript{50}

Yet that was no guarantee that the upcoming one-year anniversary of the Flag Riots would pass without another international incident. Accordingly, Johnson’s Panama-based policy review committee met days later to develop guidelines for the treaty renegotiations. The group deemed the top priority “a broad agreement for the possible construction and operation of a sea-level canal in Panama, a canal whose technical simplicity would permit us to forgo the rights of perpetuity and jurisdiction which we have hitherto enjoyed on the Isthmus and which have served to cloud the fundamental friendship between our two nations.” The negotiators’ next goals were to secure agreements for military base rights and interim changes to the existing canal operations that would provide more substantive benefits to Panama as well as “symbolic shows of sovereignty.”\textsuperscript{51}
The impending anniversary of the January 9 violence weighed on Johnson’s mind when he called Mann later in November regarding the progress that had been made since the April resumption of diplomatic ties. As the phone transcriber noted, “Mr. Mann told the President that the thing that is going to help us the most is to get out in front with a lot of publicity on this new canal.” By focusing on the benefits of a more efficient seaway, “we can get this whole thing in perspective, we can tell everyone here and in Panama and the whole world that the present canal is limited and that we are going to build a new one and therefore we are dealing with a wasting asset.” Mann assured the president he was almost done drafting a new sea-level canal treaty for Ambassador Anderson to present to the Panamanian negotiators, which helps explain why Johnson thought the matter could be wrapped up in a few months.

Indeed by December 1, Mann, working with State and Defense Department personnel, had developed the broad framework for three new treaties. The sea-level canal accord would give the U.S. the right to conduct the needed surveys and to construct the new waterway, but not to operate and maintain it; that would be the job of an international commission, and sovereignty over the seaway would be held by the country (or countries) through which it passed. The second treaty addressed U.S. military base rights in Panama, and the third one outlined the interim governance of the existing canal, over which the U.S. would relinquish control on a fixed future date: two years after the opening of the sea-level channel.

Abrogating the Hay–Bunau-Varilla Treaty in such a way, explained Bundy, would secure U.S. canal rights for the time being while undercutting anti-Americanism on the isthmus. In his words, it would “remove those emotional issues (sovereignty, etc.) which provide grist for agitators in Panama.” Bundy’s patronizing language mirrored that of other U.S. officials, even those sympathetic to the Panamanian cause, who deemed Panamanian nationalists as “emotional.” Of course, many Americans were equally passionate about retaining U.S. control over the Canal Zone.

Bundy urged the president to make a strong statement later in December regarding the sea-level canal treaty negotiations. If worded just right, a historic policy change in U.S.-Panama relations “would permit us to seize the initiative and dampen current efforts by anti-American elements in Panama to stage large anti-American demonstrations on January 9.” To hammer out the language, the cabinet would meet the next day at the White House. Secretary of State Rusk made one significant caveat—that the possibility of nuclear excavation not be mentioned.
Following further deliberations, President Johnson made his surprise announcement to the world on December 18, 1964. That was how journalists described it, but it was no surprise to former presidents Harry Truman and Dwight Eisenhower and other VIPs whose approval Johnson had secured in advance. As the *New York Times* and many other newspapers reported on their front pages the next day, the United States would “plan in earnest” to replace the aging lock-based Panama Canal with a streamlined sea-level waterway and to renegotiate the 1903 treaty. Johnson outlined the technological, economic, military, and political reasons for changing course, arguing, “Such a canal will be more modern, more economical, and will be far easier to defend. It will be free of complex, costly, vulnerable locks and seaways. It will serve the future as the Panama Canal we know has served the past and the present.” Thanks to the $17 million Congress had authorized to study four possible routes—two in Panama, one in Colombia, and one through Nicaragua that might also include part of Costa Rica—the United States would be well-equipped to modernize maritime transportation. He ended the speech on a forward-looking, anti-imperialist note: “The age before us is an age of larger, faster ships. It is an age of friendly partnership among the nations concerned with the traffic between the oceans. This new age requires new arrangements.”

The strategy could not have worked better. Despite having made no reference to PNEs, U.S. news coverage highlighted the flashy concept of a Panatomic Canal, which deflected attention from the unpopular idea of relinquishing U.S. sovereignty over the Canal Zone. In Panama, the announcement elicited “chagrin” among nationalists, as the *New York Times* reported. Mann likewise soon reported to Bundy that the president’s statement had thrown the Communists off balance. As for the upcoming Flag Riots events, the Canal Zone and Panamanian governments had agreed to lower the flags of the two nations to half-mast, and President Robles had assured the U.S. ambassador that no trouble would be tolerated.

On January 9, 1965, a huge contingent of Panamanian national guardsmen lined the boulevard separating the Canal Zone from Panama City, and approximately two thousand young Panamanians marched to the gravesite of the first student killed a year earlier. Later on, after demonstrators raised banners and chanted against both the U.S. and Robles governments, guardsmen deployed tear gas grenades against a group of about two hundred. Otherwise the day that would eventually be commemorated as Día de los Mártires (Martyrs’ Day) passed with neither fatalities nor negative publicity, just as Johnson had hoped.
Conclusion

The Flag Riots helped transform the nuclear seaway idea from a U.S. presidential delaying tactic into a serious diplomatic instrument for resolving the persistent tensions caused by the 1903 treaty between the United States and Panama. The sea-level canal’s economic, defense, and political rationales each proved insufficient to justify the project. But the unprecedented scale of anti-U.S. violence in January 1964 accentuated the value for U.S. decision makers of merging the three factors. Contemporaneous technical advances in PNEs further strengthened the case for committing significant scientific and diplomatic attention to the several possible routes the megaproject might take.

Ernest Graves, one of the Army Corps engineers who worked with the Plowshare physicists at Livermore on the canal study report, later acknowledged the sea-level canal as a technological solution to a multitude of problems: “We were going to build a sea-level canal which didn’t require a big American community, and it was going to have unlimited capacity so that we would never have to worry any more about whether there was enough water [during droughts] or how long it took to lock a ship through. All that would go away.” But the nuclear seaway was no ordinary technological fix. An immense amount of scientific, engineering, and diplomatic groundwork remained before the problems produced by the 1903 treaty could ever go away.

It is true that, like his predecessors, President Johnson used the nuclear seaway idea to his advantage. However, framing the proposal as a cynical ploy or high-modernist boondoggle limits our understanding of how it functioned as a complex, qualified instrument of technological anti-imperialism. While it did serve to buy time and distract angry stakeholders, that does not mean the proposal was fictitious. Whether or not he believed it would ever come to fruition, Johnson’s advocacy of the nuclear canal set in motion a process that would have important, unpredictable side effects pertaining to politics, science, technology, and the environment.

Nor was the proposal particularly peculiar. In fact, the nuclear seaway resembled other Johnson administration initiatives to mobilize science and technology for diplomatic ends in the so-called Third World, from weather modification in India and Pakistan to herbicidal warfare in Vietnam. Moreover, the Panatomic Canal embodied the broader Cold War ethos of faith in science and technology that “encouraged bold environmental interventions” to reshape and optimize the landscape for human use. But while a sea-level canal would facilitate the
abolishment of the colonialistic Canal Zone, how the costs and benefits of blasting a new waterway with thermonuclear bombs could be adequately assessed, let alone distributed equally, remained one of the many critical questions facing the proposal’s proponents.