

1980

Set and Drift

Richmond M. Lloyd

Lawrence J. Korb

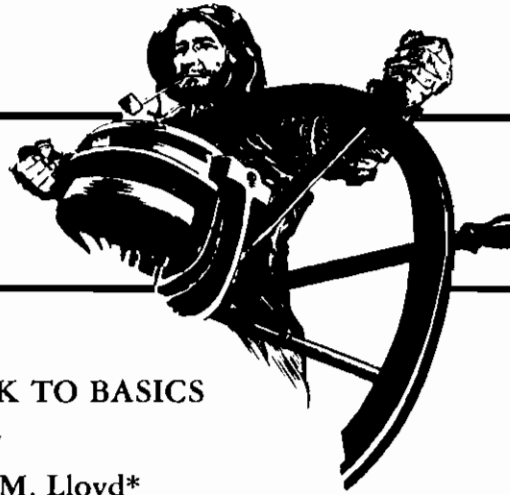
Follow this and additional works at: <https://digital-commons.usnwc.edu/nwc-review>

Recommended Citation

Lloyd, Richmond M. and Korb, Lawrence J. (1980) "Set and Drift," *Naval War College Review*: Vol. 33 : No. 3 , Article 7.
Available at: <https://digital-commons.usnwc.edu/nwc-review/vol33/iss3/7>

This Additional Writing is brought to you for free and open access by the Journals at U.S. Naval War College Digital Commons. It has been accepted for inclusion in Naval War College Review by an authorized editor of U.S. Naval War College Digital Commons. For more information, please contact repository.inquiries@usnwc.edu.

SET AND DRIFT



ENERGY: BACK TO BASICS

by

Richmond M. Lloyd*

Introduction. The American people first felt the effects of the energy crisis in 1973 when OPEC curtailed oil shipments to the United States and raised the price of a barrel of oil from \$2.59 to \$11.65. Federal price controls and allocation schemes were put into operation as a temporary measure, and President Ford called on the nation to embark on Project Independence.

In 1979, oil shipments were cut again, this time as a result of the political upheaval in Iran. Long gas lines and odd/even rationing reappeared. Federal controls were still in place. President Carter once again called on the nation to move toward independence.

The total petroleum product supplied to the United States in 1973 was 17.3 million barrels per day of which 6.3 million barrels per day were imported. During 1974 and 1975, imports fell slightly such that U.S. dependence on imported petroleum held at about 37 percent. However, by 1976 imports were again on the rise. In 1978 they reached 8.2 million barrels per day or 44 percent of the daily supply of 18.8 million barrels.¹

The 7-year long debate over a national energy policy has appeared

confused and even chaotic at times. There have been the perennial hunts for scapegoats, an illusive search for quick solutions, and cries for massive government intervention and crash programs reminiscent of the 1960s. Even the very existence of an energy crisis has been questioned. Finally, throughout, there has been an overall sense of national frustration.

It is time that the nation turn back to basics. There are four major factors that must be considered:

- National Security
- Efficiency
- Equity
- Environment

A fundamental shift in the balance among these four factors is required in order to establish a comprehensive energy policy. This shift is occurring, though very slowly. It affects the essence of American values and institutions and that partly explains why the debate has been so long and tortuous. Each of the four factors will be considered in turn.

National Security. The energy shortage is a major threat to the national security of the United States and its allies, and yet, its effect on national security policy and military forces is just beginning to be felt. This is

94 NAVAL WAR COLLEGE REVIEW

because of competing influences as well as the long time required from the perception of a threat to the development of a national security policy and the forces to carry out that policy.

President Johnson's attempt to build simultaneously "The Great Society" and fight the Vietnam war had several serious consequences for national defense that are still being felt today. First, it created expectations for social programs and a corresponding growth in government agencies and budgets. Second, it caused inflation with which every President since has unsuccessfully attempted to deal by holding down government expenditures. These, coupled with antidefense feelings and sense of isolationism after Vietnam, have made defense expenditures the obvious targets for budget cuts.

Initially, defense budget cuts were achieved by reducing active forces from wartime to peacetime levels, realigning support functions and the base structure, and retiring obsolete equipment. The latter was done with full expectation that such equipment would be replaced quickly once inflation was under control. However, by the mid-1970s it was quite clear that the war on inflation had not been won. In addition, the Department of Defense also was experiencing rising costs for both manpower and weapons. Thus the modernization of the nation's military forces continued to be postponed.

In contrast, Soviet military expenditures have exceeded those of the United States by an increasing margin since 1971. Although cumulative defense expenditures for the period 1967-1977 were about equal for both countries, the trends of these expenditures were in opposite directions. U.S. outlays declined in real terms while Soviet expenditures averaged a 3 percent growth per year. By 1977 Soviet expenditures exceeded those of the United States by 40 percent

when measured in dollars and 25 percent when measured in rubles.² This buildup was first rationalized as a need on the part of the Soviets to achieve parity. More recently, policymakers have begun to view these expenditures as exceeding any rational need for self-defense.

Upon taking office, the Carter administration was faced with military forces inadequate to deal with the three defense planning cases: strategic nuclear forces required modernization in all three legs of the triad; general-purpose and tactical nuclear forces for NATO were significantly outnumbered; and forces for the "½" war suffered from a lack of attention. The Administration's policy, as articulated early on in Presidential Review Memorandum 10, was to give funding priority to the first two areas. This left little for "other" contingencies, even with the projected 3 percent real growth for defense. This has had its greatest effect on modernization plans for the Navy and Marine Corps. It has taken the holding of hostages in Tehran to push the rapid deployment force beyond the conceptual stage.

In order to maintain a secure source of energy, the United States has relied more on means other than a military presence. The United States has attempted to negotiate peace in the Middle East, has depended on Saudi Arabia with her vast oil reserves to provide pricing discipline over OPEC and, through arms sales, has sought to provide a regional security for the oilfields. Arms sales have had the advantage that energy dollars were at least being recycled through the U.S. economy while also providing security forces for the source of supply.

The events of 1979 clearly have changed the nature of the threat. The breakdown of relations between the United States and Iran means more than troublesome price rises or minor temporary shortages. The United

States should not narrowly view this situation just in terms of the 700,000 barrels per day that the United States no longer imports from Iran or the 3.5 million barrels per day that her allies still rely on from Iran. The more important aspect is the increased political and military instability that has resulted.

Iranian military forces, which at one time could be viewed as a source of security for the oilfields and an added deterrent to Soviet adventurism, are now neutralized at best, and potentially, an added source of concern. At a minimum, there is a major shift in the balance of military power in the region which the Soviet Union could use to its advantage. The Soviet invasion and occupation of Afghanistan adds weight to that shift. Politically the region is now much more unstable than before. The real possibility exists for this political instability to spread over a much larger portion of the oil supply. While the United States does not depend entirely on oil from the Middle East and Persian Gulf, its NATO allies and Japan approach total reliance on these sources. The solidarity and commitment of the NATO alliance will be tested further throughout the 1980s.

Thus, significant pressures are mounting for the United States to provide a greater military presence in the region. Unfortunately, the modernization of strategic nuclear and NATO forces is far from complete and the initial need for this effort has not changed. The old strategy of postponing force planning for "other" contingencies while strategic nuclear and NATO forces are modernized no longer applies. Pressure will continue to mount for an increase in the defense budget beyond the 3 percent increase earmarked for NATO.

At the same time, military forces cannot do it all. There is a real need for the United States to reduce its dependence on foreign oil. This will

involve significantly higher energy costs to the nation. The United States in the 1980s will have to fund simultaneously a higher defense budget and the transition to an alternative energy base. There is the real danger that these two needs will be viewed in competition, with one being traded for the other.

Efficiency and Equity. The national debate on energy policy has focused more on issues of efficiency (cost) and equity (who pays). This has involved a thorough and often intense reexamination of the basic economic roles of government, especially the extent to which the government should intervene in the free market.

The U.S. economic system relies on the concept of a free and competitive market. The laws of supply and demand are allowed to operate with prices moving freely in order to bring supply and demand into balance. It is generally agreed that the government will not intervene in the market unless the market deviates significantly from the competitive case such as when there is a monopoly. A monopoly will produce less output, charge a higher price, and earn a larger profit than would occur if an industry were competitive.

The classic means for a government to intervene in the face of a monopoly are antitrust laws and regulation of the industry. Antitrust laws are used to prevent monopolies from coming into existence or to break them up when they do occur. Regulation is used when it makes sense for society to allow a monopoly to exist. This is the rather rare case when a single large firm has significantly lower costs owing to economies of scale. Such claims are made for electric, gas, and telephone utilities because of the high cost of duplicating their distribution systems. Regulation is performed mainly by the government setting the pricing structure for the utility and monitoring

96 NAVAL WAR COLLEGE REVIEW

the quantity and quality of output. If done correctly, prices and profits are lowered, and output is increased, closer to competitive levels.

Unfortunately these classic methods do not apply to the current situation. The simple reason for this is that there does not exist an international body with the legal jurisdiction and power to apply these tools to the OPEC cartel. Initial U.S. reaction to OPEC has emphasized what appeared to be possible; price controls were instituted to hold down the price of oil. However, price ceilings could be imposed only on domestic supplies of oil and gas. While this held down the average price paid by U.S. consumers, it had the unintentional effect of further subsidizing OPEC's monopoly profits by allowing OPEC to charge even higher prices.

Without access to the classic means of controlling a monopoly, consuming nations have only one major defense left. They can only attempt to reduce their demand for imported oil. In the free market system this means that the price of oil and gas must be allowed to rise. This provides the appropriate incentives for conservation and development of alternative sources of supply, both of which are needed to reduce oil imports. It also means that the cost of energy to the nation must inevitably rise. Price ceilings are in direct conflict with this long-term trend.

A case can be made for the temporary imposition of price controls based on equity arguments. This formed a major part of the initial justification for price controls in 1973. It is argued that the consumer's demand for oil is relatively insensitive to price rises in the short run. The same is also claimed to be true for the supply of domestic oil and alternative forms of energy. Thus, allowing the price to rise rapidly would impose severe costs to the consumer, transfer wealth from the consumer to

domestic suppliers of oil and gas, and would not significantly reduce the nation's dependence on foreign oil.

Price ceilings are not, however, without their side effects. They have long been recognized as a quick way to instant shortages. Prices held artificially low cause demand to exceed supply. When price is not allowed to allocate the limited supply, some other form of allocation is necessary such as first-come first-served, government imposed rationing schemes, and black markets. Low prices also give a false sense of security. Thus, U.S. consumers have gone through periods when they even questioned the existence of an energy crisis. It took a repeat in 1979 of the long gas lines to remind the nation that availability is also crucial. The nation was paying a hidden but very high price in terms of disruption to the economy.

The decade of the 1970s provides a clear example of what can go wrong with temporary price controls; once installed they are difficult to remove. The deregulation of natural gas, which formed a major part of the Natural Gas Policy Act of 1978, is a prime example. Prior to the act, interstate gas was controlled while intrastate gas was not. This meant that over time the interstate pipelines began to have shortages while a virtual glut occurred within the producing states. These imbalances culminated in the natural gas shortages of 1977 with their disruption to industry.

Although natural gas is now on its way to decontrol, it is clear that this will be a long process. In order to decontrol prices, 17 different categories of natural gas were created, each with its own decontrol schedule. While interstate prices now are allowed to rise slowly, price controls were imposed on intrastate natural gas to avoid an imbalance between the two systems. To some this appears to be a step backward. The law has been described

as confusing, an administrative burden, and extremely slow in implementing decontrol. It is estimated by the Department of Energy that 60 percent of natural gas sales will still be under some form of price control by 1987.³

Another major difficulty is that the nation has been caught up in a continuous debate over equity issues. The long congressional debates over the specific form of gasoline rationing to be used in a time of national emergency is one example. Another is the decontrol of oil prices, which has been linked specifically to a "windfall profits" tax. This debate has focused primarily on the transfer of wealth that would occur from consumers to U.S. oil producers when prices are decontrolled. With such large prizes at stake, the intensity of the debate has been understandable. A second aspect of this issue has been whether the oil companies or the government would better channel these profits to the development of alternative sources of energy. Time will tell whether more or less will go to the solving of energy problems as these new "windfall revenues" are recycled through the government.

While the nation has concentrated its attention on equity issues the process of efficiently moving to an alternative energy base has been stalled. Price controls and government allocations are administered through a bureaucratic process that never can be responsive to the dynamic changes of the marketplace. As shortages and inequities inevitably occur, there is a tendency for the bureaucracy to make more and more detailed allocation decisions. This draws the government away from broad policy guidance into the details of the marketplace, where it is least competent to operate. Finally, the uncertainty and risks created by government intervention reinforce a "wait and see" strategy for both consumers and producers. Tax credits

for solar equipment were delayed 18 months after they were proposed while Congress worked out the details of the National Energy Act of 1977. This affected the upward sales trend of the solar energy industry as consumers waited to see if the proposals became law.⁴

As the nation enters the 1980s, it is important that greater reliance be placed on the efficiency of the marketplace. Although the decontrol process is slow, it is a major and positive step in the right direction. Equity issues should no longer dominate the debate. There are risks, however, that as the costs of energy increase, a renewed concern over who pays will arise. It is extremely important that the pricing system not be used to resolve these equity issues. The government should use instead the more effective and traditional methods of resolving equity issues based on taxes and transfer payments. As an example, social security and welfare payments can be used to channel assistance to the specific groups most affected and least capable of adjusting to higher energy costs.

Environment. The final factor that must be considered is the environment. It is here that a basic economic rationale exists for government intervention. Economists have long recognized that a breakdown in the free market system occurs when the price of an economic activity does not reflect its total costs to society. Activities that affect the environment give rise to this situation. An example is a power plant that is considering using coal instead of oil for its boiler. As viewed by the plant, the total costs of each alternative would include the costs of the fuel, boiler modification, and maintenance. However, the firm would not consider the pollution costs imposed on its neighbors as it does not incur these costs. Such costs are called external or spillover costs.

98 NAVAL WAR COLLEGE REVIEW

The government has two principal means to insure that consumers and industry take environmental costs into account. Taxes can be imposed to modify the price of the economic activity to reflect environmental costs. Return deposit charges on beverage cans and bottles which have been instituted by some states are an example. Although preferable, it is not always possible to modify effectively the pricing system. Governments have tended to rely more on the second method which is to impose environmental quality standards. Under either method, the cost of the economic activity is raised.

Of course, the purpose of government intervention is to achieve an acceptable balance between higher economic costs and lower environmental costs. Clearly, this is not an easy task, especially given the difficulty of measuring these costs, and the tendency for both environmentalists and industrialists to ignore completely the costs of concern to the other. Given the bureaucratic/political nature of the process, it is only natural that delays occur in the licensing of economic activities with environmental effects. This was of relatively minor concern to the United States during the 1960s and early 1970s. The effect on the nation's wealth in relative terms was perceived as minor and time was not considered crucial.

As the cost of energy rises, pressures will mount to rethink the balance between economic and environmental costs. It should be clear to the nation by now that there are no cheap

alternatives to oil nor are there alternatives without significant environmental effects and risks. Those that ignore either cost are equally wrong. Most importantly, delays of the kind previously experienced no longer can be tolerated. A new spillover cost has increased in importance; the security of the nation is threatened by continued dependence on imported oil. Thus, environmental issues no longer involve a simple two-way tradeoff between economic and environmental costs. The energy mobilization board proposed by the President to insure that projects are not excessively delayed is a recognition of this fact.

Summary. A comprehensive national policy on energy requires a fundamental shift in the balance among the four factors: national security; efficiency; equity; and environment. The nation's security requires not only a continuation of the modernization of strategic nuclear and NATO forces, but also increased funding for the modernization of forces for "other" contingencies. To complement this effort, the nation also must efficiently move to an alternative energy base with inevitably higher costs. Efficiency and equity issues should be decoupled. The "invisible hand" of the marketplace should be allowed to function without massive government intervention. Equity issues should be treated instead through taxation and transfer payments. Environmental costs are not to be ignored, but indecision is no longer acceptable.

NOTES

1. U.S. Department of Energy, *Monthly Energy Review* (Washington: November 1979), p. 16-17.
2. Central Intelligence Agency, National Foreign Assessment Center, *A Dollar Cost Comparison of Soviet and U.S. Defense Expenditures, 1967-1977* (Washington: January 1978), p. 4.
3. Alexander Stuart, "A Bad Start on Gas Deregulation," *Fortune*, 12 February 1979, p. 87.
4. Charles G. Burck, "Solar Comes Out of the Shadows," *Fortune*, 24 September 1979, p. 75.

THE QUESTION OF DEPLOYING U.S. THEATER NUCLEAR WEAPONS IN EUROPE

by

Lawrence J. Korb*

Although the SALT II agreement was presented to the Senate in 1979, strategic nuclear weapons were not the only nuclear weapons receiving attention during the past year. In fact, there was at least equal time given to the subject of deploying about 600 American-made long-range Theater Nuclear Forces (TNF) or weapons on the European continent. Indeed, many people contended that the TNF issue was more critical than SALT II. As one analyst noted: "At stake are not merely a few hundred extra missiles in Europe...the outcome is going to dramatically affect both the security of the West and the entire future of relations with the Soviet Union."¹

The issue of stationing long-range American theater nuclear weapons on European soil is not a new one. During the late 1950s, American intermediate-range ballistic missiles (IRBM), *Thor* and *Jupiter*, were emplaced in Britain, Turkey, and Italy with the consent of their governments. These weapons had sufficient range to cover many major targets in the Soviet Union. But by the mid-1960s, when the U.S.S.R. was fully targeted by the U.S. strategic triad, those weapons were considered superfluous and withdrawn.

However, it is important to note that even though, since the mid-1960s, no long-range American theater nuclear weapons remained deployed in Europe, the United States has maintained there a stockpile of approximately 7,000 nuclear warheads that could be fired from about 1,000 ground launchers. As

indicated in Table 1, these are basically low-yield, short-range weapons, useful only on the battlefield. The *Pershing I* missile with a range of up to 400 miles and a yield of up to 400 KT is the most capable system. However, the vast majority of the delivery systems have ranges below 10 miles while most of the weapons possess sub-KT yields. In addition, this force was augmented by some 400 nuclear-capable F-4 tactical aircraft deployed to Europe, and A6 and A7s onboard the two aircraft carriers operating in the Mediterranean; 150 F-111s stationed in England and 400 *Poseidon* warheads assigned to SACEUR for use against Warsaw Pact military installations. Finally, the British had their own force of 56 *Vulcan* bombers and 4 *Polaris* submarines with 64 nuclear missiles.²

Up through 1977 it was considered that the battlefield nuclear weapons, augmented by the American and British aircraft and submarines, which had the capability to strike some parts of the U.S.S.R., were enough to provide a precarious balance against the tactical nuclear threat posed to Europe by the Warsaw Pact.

As indicated in Table 2, Warsaw Pact ground-launched nuclear systems, up through the mid-1970s, consisted of some 1,500 battlefield weapons with ranges of up to 500 miles and yields of up to 100 KT, and some 600 fixed site SS-4 and SS-5 intermediate-range missiles, that is, theater nuclear weapons, with ranges that exceeded 2,000 miles and yields in the megatonnage range. Like the NATO forces, these ground-launched nuclear systems were augmented by about 750

*Professor of Management, Naval War College

100 NAVAL WAR COLLEGE REVIEW

bombers with ranges of up to 400 miles and approximately 1,000 nuclear-armed tactical aircraft with ranges of up to 2,500 miles.

What changed the situation in 1977 was the introduction of two new advanced weapon systems, the SS-20 IRBM system and the *Backfire* bomber. The SS-20 has a range of 4,000 miles, carries three 150 KT weapons, is highly accurate, mobile, and reloadable. It is thus capable of destroying military and civilian targets anywhere in Europe from its staging areas in the Soviet Union and is practically invulnerable to counterattacks by NATO forces. The TU-26 *Backfire* bomber has a range of 5,500 miles and a top speed of MACH 2.5 and can carry 20,000 lbs. of air-to-surface missiles or free fall bombs. In the view of many European leaders, the introduction of these two systems, coupled with the conventional imbalance in Europe between NATO and the Warsaw Pact and the loss of strategic superiority by the United States created a dangerously destabilizing situation for Western Europe. (The present conventional balance is displayed in Table 3.)

The first European leader to voice his concern publicly about this situation was Chancellor Helmut Schmidt of West Germany. In a lecture delivered in London on 28 October 1977, the West German leader said,

SALT...neutralizes their (Soviet and U.S.) strategic nuclear capabilities. In Europe this magnifies the significance of the disparities between East and West in nuclear tactical and conventional weapons.... We must maintain the balance of the full range of deterrence strategy. The alliance must, therefore, be ready to make available the means to support its present strategy... and to prevent any development that could undermine the basis of this strategy.³

Although cloaked in diplomatic niceties, it was clear that the Chancellor was calling for an increase in Europe's theater nuclear capabilities. In addition Schmidt was also trying to lay the groundwork for eventually including these weapons in the SALT process.

The Schmidt speech galvanized the Carter administration into action. In June 1978, the President issued Presidential Research Memorandum (PRM) 38 to study the issue. As a result of this study, a Presidential Decision (PD) on the subject was issued in the late spring of 1979. The PD concluded that the United States would produce two new intermediate-range missiles for deployment in Europe.⁴ They would be the *Tomahawk* ground-launched cruise missile (GLCM) and the *Pershing II* extended-range ballistic missile. The *Tomahawk* is a small, highly accurate, subsonic weapon with a range of 1,500 miles and a unit cost of \$2.6 million. Although it is normally deployed in a hardened shelter, it can be moved around and fired from almost any field. The *Pershing II* is a supersonic, highly accurate, mobile weapon system with a range of 1,000 miles and a unit cost of about \$15 million.

In the fall of 1978 the United States then asked the NATO nations to establish an *ad hoc* High Level Planning Group to consider the issue. This group, which was composed of civilian and military officials from each NATO nation, was tasked with developing a plan that all parties could agree on before it went to individual governments for approval, thus avoiding a repetition of the "neutron bomb" fiasco.⁵ In October 1979, the group approved a plan to deploy 572 theater nuclear weapons in Europe. Of these, 108 would be *Pershing IIs*, while the remaining 464 would be GLCMs. The 108 *Pershings* would all be deployed in West Germany. This would place all of Western Russia up to the Ukrainian city of Kiev within their

1,000 nautical mile range. The GLCMs will be deployed to several countries: 160 will be placed in Britain, 112 in Italy, 96 in West Germany and 48 each in Belgium and Holland. On 12 December 1979 the Foreign and Defense Ministers approved the plan with one exception—the Dutch will not decide whether to accept or reject the proposed stationing of 48 GLCMs until December 1981. The decision of the Netherlands will depend upon progress in arms control negotiations with the U.S.S.R.⁶

The NATO decision means that the United States can begin deploying these weapons to Europe by 1983, and have complete deployment of all 572 weapons by 1988. The total cost of developing, procuring, and installing these systems will be \$6 billion. The United States will contribute about \$5.7 billion while the allies will contribute the remaining \$300 million. As with all U.S. nuclear weapons assigned to NATO, these weapons will remain in the positive control of the United States, that is, they cannot be fired without the permission of the President of the United States.

Despite the approval of the NATO ministers, several arguments have been advanced against deploying these weapons in Europe. Opponents to long-range TNF usually cite six factors to support their position.⁷ First, the strategic rationale for the weapons rests on a very thin thread of logic. If theater nuclear warheads placed in Europe, but controlled by the United States, explode inside the U.S.S.R., the Soviets would consider it a strategic attack by the United States and launch a counterattack against the United States. Second, deployment of the SS-20 represents nothing fundamentally new. While it is a more refined weapon than the SS-4 and SS-5, the SS-20 does not change the fact that Europe has been a general target for Soviet missiles for over two decades. In fact, emplacing

TNF will make Europe more of a target. Third, strategic parity between the United States and the U.S.S.R. existed long before 1977. According to McGeorge Bundy, the assistant for national security affairs to President Kennedy, both Kennedy and Secretary of Defense Robert McNamara recognized that in practice strategic parity existed from the early 1960s, that is, since that time neither side could hope to get a first strike capability.⁸ Fourth, if the United States refuses to retaliate with its ICBMs against an SS-20 attack on Europe, the British and French could employ their own several hundred nuclear weapons on submarines, aircraft, and IRBMs against the Soviets. Fifth, the 400 *Polaris* warheads and more than 1,000 nuclear bombs on U.S. aircraft in or near Europe are sufficient to deter attacks by TNF of the U.S.S.R. Sixth, placing the *Tomahawk* and *Pershing* on European soil would signal a new level in the arms war between the superpowers. As evidence of this contention, many point to the speech of Soviet President Brezhnev on 6 October 1979. In this speech the Soviet leader warned that European acceptance of TNF would change the strategic situation on the continent and would undermine future arms control negotiations. Brezhnev accompanied his warning with an offer to withdraw 20,000 Soviet troops and several hundred tanks from East Germany and to discuss the possibilities of limiting TNF.⁹ About 6 weeks later, on 23 November 1979, Soviet Foreign Minister Andrei Gromyko said that stationing the new weapons in Europe would violate SALT II, destroy future arms control negotiations, and start a new spiral in the arms race.¹⁰

Proponents of TNF in Europe essentially embrace the rationale put forward by Chancellor Schmidt in October 1977.¹¹ NATO forces must have the capability to deter war at all levels—from the conventional to the

102 NAVAL WAR COLLEGE REVIEW

strategic nuclear, linked by TNF. Simultaneously, these forces must be prepared to defend or fight at all levels if deterrence fails. The imbalance in long-range TNF that has existed since the mid-1970s adversely affects both deterrence and defense. Moreover, without the 572 *Pershings* and GLCMs, the gap will grow wider. As indicated in Table 4, at the present time the Soviets have 900 delivery vehicles deployed within striking range of Western Europe, while the West has only 226 systems capable of reaching the Soviet Union. (Included among the Soviet total are 60 SS-20s and 40 *Backfire* bombers.) This gives them a 4 to 1 advantage over the NATO nations in warheads and a 3 to 1 lead in EMT. By the middle of the decade, the Soviets will increase the number of delivery vehicles to 1,300 by adding another 250 SS-20s and 100 *Backfires*. Even with the tactical deployment of *Pershing II* and *Tomahawk*, the comparative Soviet advantage in warheads and EMT will increase while the Soviets will gain a 2:1 advantage in hard target kill capability. A decade from now, if all the 572 TNFs are in place, the situation will remain similar to 1985 because the American TNFs will be offset by another 250 SS-20s and *Backfires*. Without the *Pershing* and GLCM, the Soviets would have an overwhelming advantage.

Possession of such an advantage could lead the Soviets to believe that they have a sanctuary. They might assume that if they attack Western Europe with their own TNF, the West could respond only by unleashing its strategic nuclear forces and therefore would not respond. Such a belief could be destabilizing.

Proponents of TNF disagree with the Soviet contention that placing *Pershing* and GLCM will escalate the arms race and undermine future arms control. They point out that the Soviets acted first and that the last thing we need to do is to let the Soviets decide what weapons we deploy in order to deter the threat the Russians created. Moreover, history has shown that negotiations with the Soviets always are more successful when one negotiates from a position of strength. If NATO has not decided to go forward with TNF what would there be to negotiate? Finally, the Soviets unleashed the same propaganda barrage in 1957 when the alliance was considering placing *Jupiter* and *Thor* missiles in Europe and in 1977 when the allies were considering giving the neutron bomb (enhanced radiation weapon) to its forces.

Considering both sides of the issue, the decision of the NATO Foreign and Defense Ministers seems prudent. As indicated in Table 3, the NATO nations have allowed the Soviets substantial advantages in conventional forces. At the present time, the Warsaw Pact has 155,000 or 13 percent more ground troops; 16,200 or 147 percent more tanks; 2,495 or 76 percent more tactical aircraft; and 7,800 or 126 percent more artillery pieces. In an era of strategic parity, or as some have argued Soviet superiority, it would not seem wise to allow the Soviets an overwhelming advantage in TNF as well. Moreover, if the Soviets should agree to meaningful arms negotiations on TNF or MBFR, *Pershing* and GLCM deployment on the European continent can be slowed or cancelled.

NOTES

1. Fred Kaplan, "Warring Over New Missiles for NATO," *The New York Times Magazine*, 9 December 1979, p. 46.
 2. For a complete analysis of these forces see: Justin Galen, "Can NATO Meet Its Toughest Test? Strategic and Theater Nuclear Forces for the 1980's", *Armed Forces Journal*, November 1979, p. 52.
 3. Quoted in Robert Ball, "A Decision That Will Shape NATO's Future," *Fortune*, 17 December 1979, p. 4.
 4. For a complete list of the PRMs and PDs see my "National Security Organization and Process in the Carter Administration," in *Defense Policy and the Presidency*, edited by Sam Sarkesian (Boulder, Colo.: Westview Press, 1979), pp. 120-122.
 5. In early 1980 the Pentagon launched a new study on the neutron bomb. The study was ordered by Secretary Brown after Senator Sam Nunn (D-Ga.) argued that the Soviets had not shown the restraint demanded by President Carter when he deferred production in 1978.
 6. Cyrus Vance, "Strengthening NATO's Defense," *Current Policy No. 122*, 12 December 1979 summarizes the process and outcome of the negotiations.
 7. These are summarized succinctly by Kaplan, pp. 50-51. See also Leonard Downie, "Denmark Reevaluating Commitments to NATO Defense," *Washington Post*, 5 November 1979, p. 20.
 8. Cited in Kaplan, p. 51.
 9. Brezhnev's statement is quoted in Charles Corddry, "The Brezhnev Offer: To Whose Benefit?" *Baltimore Sun*, 14 October 1979, p. 15.
 10. Michael Getler, "Gromyko Escalates Pressure Against NATO Arms Plan," *Washington Post*, 24 November 1979, p. 12.
 11. For an excellent summary of the reasons for TNF, see the interview with Bernard Rogers in *U.S. News & World Report*, 17 December 1979, p. 53.
-

104 NAVAL WAR COLLEGE REVIEW

**TABLE 1—U.S. BATTLEFIELD NUCLEAR SYSTEMS
(GROUND-LAUNCHED) IN 1977**

Category	Code Name	Number Deployed	Warhead	Range (Miles)	Guidance
Short-range ballistic missile	Sergeant	20	low KT	2-80	inertial
	Lance	80	1-100 KT	2-70	inertial
	Pershing 1	180	60-400 KT	400	inertial
	Honest John	140	20 KT or less	20	unguided
Artillery	M-110 203mm	200	low-or sub-KT	10	
	M-109 155mm	300	low-or sub-KT	018	

Variable yield warheads are available.

Source: Stewart W.B. Menaul, "The Shifting Theater Nuclear Balance in Europe," *Strategic Review*, Fall 1978, p. 41.

**TABLE 2—SOVIET-WARSAW PACT THEATER NUCLEAR SYSTEMS
(GROUND-LAUNCHED) IN THE MID-1970's**

Category	Code Name	Number Deployed	Warhead	Range (Miles)	Guidance
Short-range battlefield missile	FROG-2—7	500	low-KT nuclear, HE or chemical	4-40	unguided
Short-range ballistic missile	Scud-A		low-yield nuclear, possibly sub-KT or HE	50	radio command
	Scud-B	750	nuclear 40-100 KT	175	simplified inertial
Medium-range ballistic missile	Scaleboard		nuclear high-KT variable yield or HE	500	inertial
	Shaddock	100	nuclear high-KT	300	simplified inertial
Long-range cruise missile	M/IRBM				
	Sandal (SS-4)	500	nuclear MT	1,200	inertial
Artillery	Skean (SS-5)	100	nuclear MT	2,300	inertial
	M-55 203 mm	probably 150	low KT	16	

Source: Stewart W.B. Menaul, "The Shifting Theater Nuclear Balance in Europe," *Strategic Review*, Fall 1978, p. 38.

TABLE 3—BALANCE OF FORCES IN EUROPE IN 1980

Category	NATO	Warsaw Pact	Warsaw Pact Advantage AMT	%
Ground Troop	1,176,000	1,331,000	155,000	13
Tanks	11,000	27,200	16,200	147
Tactical Aircraft	3,300	5,795	2,495	76
Artillery Pieces	6,200	14,000	7,800	126

Source: Derived from International Institute for Strategic Studies, *The Military Balance 1979-80* (London: 1979), pp. 3-30, 108-113.

TABLE 4—LONG RANGE THEATER NUCLEAR BALANCE FY 1980-90

Category	1980		1985		1990	
	NATO	Warsaw Pact	NATO	Warsaw Pact	NATO	Warsaw Pact
Vehicles ^A						
Delivery	226	900	435	1250	740	1500
Warheads	500	2100	775	3250	925	3880
EMT	1:3	3:1	1:4	4:1	1:4	4:1
Hard Target						
Kill Potential	1:1	1:1	1:2	2:1	1:2	2:1

^AIncludes only land-based missiles and aircraft based in Europe.

Sources: U.S. Dept. of Defense, *Annual Report—Department of Defense, Fiscal Year 1981* (Washington: 1980), pp. 93, 145-149; International Institute for Strategic Studies, *The Military Balance 1979-80* (London: 1979), pp. 114-119; and Justin Galen, "Can NATO Meet Its Toughest Test?", *Armed Forces Journal*, November 1979, p. 52.