

Remote Sensing Satellites and Presidential Decision Directive-23

The policy for remote sensing satellites exhibited a similar trajectory during the Clinton administration. The contribution of remote sensing to the effectiveness of U.S. forces in the Persian Gulf created global interest in acquiring such satellites. The Bush administration had begun a review of the question, prompted by legislative changes and by concerns over the effect of declining Defense acquisitions on U.S. satellite manufacturers. The review would not be completed, however, until 1994 by the Clinton administration, which announced the new policy in Presidential Decision Directive-23.

Presidential Decision Directive-23 (PDD-23) governs the export of remote sensing equipment, satellites, and services. It was an effort by the intelligence community, the Defense Department, and the Department of State in 1991 to come to grips with the effect of the Persian Gulf War on demand for remote sensing and the end of Cold War expenditures for government satellite systems. The Gulf War excited foreign demand for space remote sensing capabilities at the same time that U.S. government demand for remote sensing satellites was declining drastically. Congressional pressure to better manage imagery requirements and to support industry also shaped PDD-23 (the Land Remote Sensing Policy Act of 1992, for example, supported the development of private systems and authorized the Commerce Department to license private sector parties to operate private remote sensing space systems).

PDD-23 attempted to manage the imaging satellite market to align foreign use of remote sensing satellites with U.S. national interests and to use foreign demand to maintain a robust U.S. satellite industrial capability. PDD-23 had three objectives: to help maintain the U.S. remote sensing satellite industrial base through foreign sales; to obtain a dominant presence in foreign remote sensing satellite programs and the global remote sensing market; and to provide the United States with a measure of shutter control (i.e., deciding what could and could not be imaged) for domestically operated commercial remote sensing satellites.

Although the review of remote sensing policies began in the Bush administration, it concluded in the Clinton administration, and the change in administrations led to an important change in emphasis in administering the policy. PDD-23 called for the United States to explore creating a new regime (similar to the MTCR) to prevent or slow the “proliferation” of remote sensing capabilities. The nonproliferation element was originally seen as a minor part of the policy, put in at State’s insistence despite intelligence community concerns. Under the Clinton administration, however, it became a central focus, with the Department of State dutifully going from capital to capital to urge other nations to resist the temptation of remote sensing and to join with the United States in governing the spread of this dangerous technology. Although the United States learned early in the process that creating a new multilateral regime was unlikely, State did undertake a series of bilateral discussions, negotiations, and agreements with other countries on remote sensing.

State made some progress in securing bilateral agreements, but these tactical advances do not add up to strategic success. Foreign access to remote sensing continues to “proliferate.” Further, the bilateral agreements did not advance a key element of PDD-23, the displacement of foreign space imagery service providers. Emphasizing “nonproliferation” at the expense of participation may have actually reduced U.S. control of the global imagery market.

U.S. entreaties for agreements were often accompanied by offers of access to U.S. space remote sensing imagery or equipment. PDD-23 had originally envisioned the provision of U.S. imagery, components, and even “turnkey” satellite systems as a way for the United States to control the spread of remote sensing, by ensuring U.S. involvement in foreign programs (which means that the United States would understand foreign capabilities and operations), and access to foreign-collected data. At the extreme, provision of high-quality U.S. remote sensing satellites would, the United States hoped, deter other nations from building an independent industrial capability to make their own remote sensing satellites.

This policy was not without risk, but in 1992, the United States saw it as the best way to manage an irreversible trend. A fundamental assumption of PDD-23 was that remote sensing capabilities were going to spread, whether the United States liked it or not, and that U.S. participation in this spread, though it could increase its pace, would give the United States a measure of control it would otherwise lack.

PDD-23 was a major departure for U.S. policy in that it allowed the Departments of State and Defense to approve applications to export sensitive components, subsystems, and information concerning remote sensing space capabilities. Previously, the policy had been to automatically reject any request. However, in practice the elements of State and the Intelligence Community responsible for implementing the policy were exceptionally risk-averse. Many members of the permanent staff had not been convinced of the inevitability of the spread of remote sensing and clung to the previous policy of denying all requests for satellites and sensitive equipment. This innate resistance flourished in the attitude of caution and reluctance that often permeated the early days of the Clinton Administration’s dealing in military force and intelligence matters.

PDD-23 also permitted the transfer of jurisdiction of low-resolution remote sensing satellites—20 or 30 meters or more—from State’s munitions list to the Commerce Department.¹ These satellites, which are used for weather prediction, have little intelligence utility. U.S. intelligence satellites have a resolution size of less than 1 meter. However, State resisted the transfer for four years until the 1998 China satellite imbroglio made the matter moot. It is unlikely that there would have been much of a commercial market for such satellites even if they had been transferred to Commerce as many other countries can either build imaging satellites of this quality or have access to 30-meter imagery from non-U.S. sources.

Nor has the United States actually transferred any turnkey systems to another country. For some more sophisticated potential recipients such as Germany, the conditions that the

United States would have attached to the transfer made it unpalatable. Other nations, such as France or Japan, clearly intended to build their own systems despite U.S. offers of turnkey systems better than what they could build themselves. However, for most potential customers, systems cost was also a major factor in their decision not to acquire satellites. At the most basic level, senior defense and intelligence officials of customer nations hoped to be able to independently obtain the quality of classified imagery and analysis they were occasionally shown by their U.S. embassy briefers. Learning that this required not only an expensive satellite, but also an expensive and permanent operations and analytical establishment to process the satellite's product discourages many potential remote sensing satellite buyers.

PDD-23 also had to contend with competitions from France's SPOT and HELIOS programs. The French offered access to imagery, partial ownership, and even tasking authority as a competitor to U.S. systems. These options were cheaper than purchasing and operating a turnkey system and could be perceived or portrayed as having less political baggage (PDD-23 gave the United States the authority to limit imaging of certain allies as part of an approval). Foreign competitors were inadvertently aided by PDD-23's requirement that only turnkey systems with performance and imagery quality equal to what was available on the world marketplace could be exported. The effect was to limit U.S. firms to offering turnkey systems no better than SPOT or HELIOS. The combination of reticence, cost, and foreign competition meant that PDD-23 did not do much to preserve U.S. remote sensing satellites industrial capabilities.

Although the export provisions of PDD-23 were ineffective, the policy applying to the operation of privately owned U.S. remote sensing systems was more successful. PDD-23 allowed the licensing of U.S. firms, using the authority given the Secretary of Commerce, in the Land Remote Sensing Policy Act of 1992, to operate private remote sensing space systems. Licenses include restrictions allowing U.S. government oversight of private remote sensing, reflecting a fear that potential opponents of the United States or its friends would use the new service for hostile purposes. These restrictions included keeping records of customer requests, using encryption for data transmissions, allowing the U.S. access to imagery, and "shutter control," where, if requested by the secretaries of state or defense, the collection of imagery could be limited or "turned off."

The Commerce Department strenuously opposed shutter control at first. Commerce shared the commercial service providers' concerns that U.S. companies would be handicapped in competing in the commercial remote sensing market if their customers knew that the U.S. government had the ability to prevent companies from imaging certain areas. In practice, however, this does not seem to have occurred. Economic factors such as the price and the availability of imagery from aircraft have been more important in shaping (and limiting) the commercial remote sensing market, so that potential shutter restrictions appear not to have affected sales of imagery services. That said, at least some of the appeal of foreign commercial imagery products for purchasers outside of the United States is that it is free of U.S. political control.

In retrospect, shutter controls may be the policy's most important aspect. PDD-23 has

guided the licensing of the remote sensing services by U.S. companies. Although the legal authority² to regulate the sale of commercial remote sensing products and services lies with the Commerce Department (which gave the secretary of commerce the authority to license private sector providers of space remote sensing services), PDD-23 extended the legislation's requirement that any approval be consistent with national security.

Increasing the role of State and Defense in overseeing and licensing remote sensing operators was very beneficial. However, agencies inadvertently did real damage to U.S. competitiveness in attempting to develop rules for licensing. The most harmful of these rules restricted U.S. firms to offering remote sensing imagery that was no better than what was available from foreign sources. At a single stroke, U.S. service providers lost their technological advantages over foreign competitors. The result was to transfer a larger share of the remote sensing market to foreign operators.

Israel is a good illustration of the limits of shutter control. Israeli concerns over PDD-23 was one of the factors that led State and Defense to seek greater oversight over the Commerce licensing process (other nations also expressed concern, and one of the reasons for Commerce resistance was an initial fear that U.S. firms would be bound by a series of restrictive covenants covering larger portions of the globe). The National Defense Authorization Act of 1997 specifically limited the ability of U.S. firms to provide imagery of Israel at any better resolution than what was available from commercial sources in other countries. However, Israel troops discovered that Palestinian forces had obtained overhead imagery of Israel, ironically from Israeli commercial sources.³

PDD-23 has had mixed success. Although it has allowed the United States to manage the provision of commercial remote sensing by U.S. companies, it has not stemmed the "proliferation" of remote sensing satellites outside the United States, it has not seen any turnkey systems exported, and the state of U.S. commercial imaging companies remains parlous. The key issues for any review of PDD-23 are to end the emphasis on nonproliferation and to emphasize sales of U.S. turnkey systems and services as the best way to reduce the risk to U.S. national security.

End Notes

¹ Resolution refers to the sharpness of the image taken by the satellite. For digital pictures, resolution refers to the size of an object represented by one “pixel” in the photo; 20-meter resolution, for example, means that a 20-meter object would appear as a one-pixel dot in the satellite photo.

² The Land Remote Sensing Policy Act of 1992, Section 5621.

³ Reuven Shapira, “We Are on the Palestinians’ Map,” *Maariv* (Tel Aviv), Musaf le’Shabat, May 18, 2001.