



12 MAR 1982

TO: Members of the Cabinet Council on Commerce and Trade

FROM: Malcolm Baldrige *MB*
Chairman, Cabinet Council on Commerce and Trade

SUBJECT: Transmittal of Issue Papers on Land Remote Sensing and Weather Satellites

The Working Group has developed the additional material on Landsat requested at the December 16, 1981, CCCT meeting, and prepared the issue paper on commercializing the civil weather satellites for your consideration. The paper on Landsat (Paper I) provides additional information on benefits, required private sector investment, and the magnitude of an enhanced Federal commitment for continuing U.S. civil land remote sensing technology. Paper II examines whether the Administration should consider transferring simultaneously the civil weather and land remote sensing satellite systems to the private sector.

Four decisions by the Cabinet Council are needed:

1. Is the continuation of civil land remote sensing from space in the national interest?
2. If (1) is answered affirmatively, what level of financial commitment should be made to civil land remote sensing?
3. Should commercialization of weather satellites be considered at this time?
4. In order to implement the decisions, the CCCT should direct the Department of Commerce to (a) seek appropriate legislation and (b) begin the competitive selection process.

LANDSAT: With respect to U.S. civil land remote sensing, the CCCT must determine if continuation of civil land remote sensing from space is in the national interest. Unquantifiable, but tangible, benefits in the form of improvements in the balance of payments and efficiencies in the U.S. renewable and non-renewable resources industries are projected; these have not been adequately demonstrated to date. To make these benefits capturable by the private sector as an inducement to invest, basic changes would have to be made in U.S. international policies. These changes could impact negatively national security satellite systems and international relations to such an extent that the changes are considered by many to be unacceptable.

Continuing the U.S. civil capabilities provides intangible benefits considered by many to be of great value. Landsat, the current civil program, provides information, either by itself or in conjunction with other classified and unclassified data sources, that is of significant value in the Administration's development of national and international policies. Such continuation has its costs. Most Working Group members believe that, because of the present small market for data, and the inability of the satellite owner to capture the benefits from derived information, the private sector will be unable to finance the large investments required after the end of service from the present government satellites. Significant Federal participation will be required especially in the initial years when large capital investments must be made. This raises issues of increased Federal budgets at a time when the Administration is trying to reduce budget deficits. Federal participation also brings Federal intervention in a program that some feel should be a totally private enterprise in which the market place dictates decisions.

WEATHER SATELLITES: With respect to the simultaneous commercialization of civil land and weather satellites to the private sector, most Working Group members believe that the linkage between the two remote sensing systems is not necessary, and is indeed unwise from political and policy perspectives. Decisions on commercializing either system should be made on their separate policy and financial merits, they feel.

Within the Working Group, there are divergent views on commercializing the entire civil weather satellite program. Some see no insurmountable policy barriers and urge prompt analyses (OMB Circular A-76) to determine relative costs. Some suggest in-depth analyses of national security and international policy issues, followed by A-76 studies if warranted. Still others, convinced that these policy issues and complex program linkages are very significant, oppose further considering commercialization of the civil weather satellite systems at this time. They favor examining other alternatives to reduce the Federal costs for weather satellite data, and the commercialization of portions of the civil systems when it is cost effective to do so without raising serious policy concerns.

The accompanying papers summarize the views of the Working Group on these issues. The short summary papers are each supported by longer papers providing additional analytical detail.

Attachments

I.

CABINET COUNCIL INFORMATION MEMORANDUM

- I. Subject: Private Sector Transfer of the LANDSAT Activities
- II. Originator: Working Group of Cabinet Council on Commerce and Trade
- III. Date: March 1, 1982
- IV. Issue: Additional information on LANDSAT benefits, costs, and financing requested by the Cabinet Council on December 16, 1981

Introduction

On December 16, 1981, the Cabinet Council on Commerce and Trade (CCCT), requested additional information on benefits, required private sector investment, and the magnitude of an enhanced Federal commitment for continuing U.S. satellite land remote sensing technology. Working Group advice was also solicited on methods of budgeting an enhanced Federal commitment, if such a commitment is made. This analysis provides the requested information and also addresses other matters pertinent to the commercialization process.

Benefits of Satellite Remote Sensing

It is not now possible to quantify the benefits from this U.S. space technology. Three benefit studies conducted over the past ten years by reputable firms have projected benefits ranging from as little as \$130 million to as much as \$10 billion per year starting as early as 1985. Contractor assumptions on technological maturity, and the way in which the market would respond to new or improved information have opened each of these studies to debate. However, the studies indicate that national economic benefits of continuing and improving land remote sensing from space exist.

Many segments of the U.S. economy stand to capture these benefits, but mechanisms do not exist for them to accrue to the satellite operator. The United States policy of public non-discriminatory access to civil land remote sensing data precludes the private sector from treating the data as proprietary and thereby exploiting the derived information as a means of financing a satellite system. Therefore it appears that the only way to assure continued U.S. civil land remote sensing is to continue some Federal support of a commercial program. By this action, we will not only assure the non-capturable tangible benefits, but also reap intangible benefits.

Among the most significant intangible benefits are:

- o Improved information derivable from Landsat data analysis largely in conjunction with other data sources increases the President's flexibility in strategic deliberations and establishing foreign policy. (See attached classified Annex for additional information.)
- o U.S. policies which have muted efforts in the United Nations to restrict civil satellite remote sensing can be continued to the benefit of U.S. civil and national security activities in space.

- o The U.S. government and industry will avoid depending on foreign owned satellite systems as a source of important data. U.S. users will not be bound by agreements on the prior consent of the sensed nations that foreign satellite operators may negotiate. Areas of U.S. interest will not be identified through data purchases from foreign owned satellite systems.

Private Sector Investment and The Federal Contribution Needed

The amount of the required private sector investment cannot yet be determined because of a lack of specific proposals.* Capital costs will vary depending on a number of technical and marketing decisions and strategies, and on the data distribution policies to be followed. In NOAA's judgment, a reasonable estimate of the required investment is between \$600 and \$900 million. Depending on what proposals might be made by the private sector, annual Federal support of between \$40M and \$100M will probably be required to encourage this level of investment. An enhanced commitment would have budget implications, probably starting in FY 1984 or 1985, and extending for five or ten years thereafter. New budget authority will be required for the agency having the responsibility to negotiate with the private sector.

THE URGENT NEED FOR ACTION IF CONTINUITY IS TO BE MAINTAINED

If both the Landsat D and D' satellites perform as hoped, U.S. land remote sensing capabilities will continue through about mid-1988. However, continuity of service through 1987 is a goal, not a certainty. Without prompt action, continuity of U.S. civil services will probably be interrupted after 1987, because of the time needed for legislation, selection of owner/operator and launching new satellites. At best, it is unlikely that commercial services from a new series of satellites could be available before 1988 or 1989.

To assure continuity of U.S. civil data services and retain U.S. leadership in this civil space technology, there are two actions that should be taken:

1. The Department of Commerce (DOC) should submit required legislation to the Congress as soon as possible. While Congressional action proceeds, the DOC should begin the competitive selection process.
2. The government should immediately start fabrication of a follow-on satellite which either could be launched upon failure of Landsat D' or transferred to the private sector along with the other Landsat assets. Initial procurements cannot be deferred until FY 1984, thus requiring a supplemental appropriation of between \$15M and \$25M in FY 1983.

*Communications from the COMSAT Corporation contain no detailed information on the land remote sensing program.

CABINET COUNCIL DECISIONS/CONCURRENCES

Regardless of whether or not continuation of U.S. civil land remote sensing beyond the presently approved Landsat satellites is agreed to, the Cabinet Council should concur that the Secretary of Commerce should proceed to transfer the Landsat program to the private sector as soon as possible and initiate necessary legislation to accomplish the following: supervision and regulation of private sector activities consistent with the Administration policies and applicable laws; representation of the interests of the Federal users in negotiations with the private owner/operator for data services to meet common data needs; and management of the Landsat program until it is transferred to the private sector. It should concur that during the process described above, issues that cannot be resolved by the interagency Program Board on Civil Operational Land Remote Sensing from Space will be submitted to the Cabinet Council for resolution.

The Cabinet Council should determine if the continuation of U.S. civil land remote sensing from space beyond the lifetime of Landsat D and D' is in the national interest, and should be provided by future commercial services.

If these decisions are made affirmatively, the CCCT must determine the level of funding required to assure this commitment by selecting one of the two options discussed in the December 14, 1981 Decision Memorandum:

- Option 1 - The Federal commitment would be limited to data purchases on the order of \$15 to \$20 million per year from the budgets of the user agencies. In the future agencies could allocate additional resources within overall budgetary allowances.
- Option 2 - The Federal commitment would include the above Federal data purchase plus other forms of direct support to encourage investment. Support could include transfer of the Landsat assets, "free" government services, subsidy payments, loan guarantees, or other financial arrangements.

The Departments of Agriculture, Interior, Defense, State, and Commerce and the Director of Central Intelligence recommend an enhanced Federal commitment. They do not believe that the minimum level commitment is sufficient to create a viable land remote sensing program in the U.S. private sector.

The Office of Management and Budget, the Office of Science and Technology Policy and the National Security Council staff recommend the minimum Federal commitment specified in Option 1. They believe that the real market value of Landsat can best be determined by free market forces (i.e., by the private sector's willingness to make the required investments in a commercial venture without a Federal subsidy).