

COMMITTEE ON SCIENCE AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C. 20515

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June 13, 1985

JOINT HEARING

SUBCOMMITTEE ON NATURAL RESOURCES,
AGRICULTURE RESEARCH AND ENVIRONMENT
and
SUBCOMMITTEE ON SPACE SCIENCE AND
APPLICATIONS

LANDSAT COMMERCIALIZATION
2:00 p.m., 2318 Rayburn HOB

WITNESS LIST

Anthony J. Calio, Deputy Administrator
National Oceanic and Atmospheric
Administration

C. P. Williams, President
Earth Observation Satellite Company

Action	
Info	
Williams	✓
Landis	✓
Metz	✓
Byrnes	✓
Rohde	✓
Admin.	✓
DP&DB	✓
CSB	✓
TDRAB	✓
Pettinger	
Alaska	
Technicolor	
NOAA	
Bailey	✓

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cc:
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COMMITTEE ON SCIENCE AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES

June 10, 1985

0 LANDSAT LIAISON GROUP --- FOR YOUR INFORMATION --- FROM RAD BYERLY, 225-8102

MEMORANDUM

TO: MEMBERS, Subcommittee on Natural Resources, Agriculture
Research and Environment, and
MEMBERS, Subcommittee on Space Science and Applications

FROM: JAMES H. SCHEUER
BILL NELSON *BN*

SUBJECT: Joint Hearing on Landsat Commercialization
Thursday, June 13, 2-4 p.m., 2318 Rayburn

1. It appears that agreement has finally been reached on the Landsat Commercialization process, pursuant to the Land Remote-Sensing Commercialization Act of 1984 (P.L. 98-365) which we passed last Congress.

The Administration has submitted a supplemental budget request to fund the agreement reached between the Department of Commerce and the EOSAT corporation. This agreement is said to provide that EOSAT will give reasonable assurance of data continuity for at least six years as called for in the Act.

The hearing will examine: (i) whether the agreement meets the letter and the spirit of P.L. 98-365; and (ii) whether it is a good deal for the taxpayer.

2. Supplemental background material will be forthcoming.
3. A briefing for Legislative Assistants is scheduled for Wednesday, June 12, 2-4 p.m., in Room 2325.

JS/Bld

DISTRIBUTION: Full Committee

STATEMENT OF

CHARLES P. WILLIAMS

PRESIDENT AND CHIEF OPERATING OFFICER

EARTH OBSERVATION SATELLITE COMPANY

13 JUNE 1985

BEFORE THE

SUBCOMMITTEE ON NATURAL RESOURCES, AGRICULTURE

RESEARCH AND ENVIRONMENT

and the

SUBCOMMITTEE ON SPACE SCIENCE AND APPLICATIONS

of the

COMMITTEE ON SCIENCE AND TECHNOLOGY

U. S. HOUSE OF REPRESENTATIVES

Mr. Chairman and Members of the Subcommittee,

My name is C. P. Williams. I am President of Earth Observation Satellite Company, also known as "EOSAT".

I am pleased to be here today to testify on behalf of EOSAT and the Remote Sensing Industry. My statement deals with the Land Remote Sensing Commercialization effort by the Department of Commerce on behalf of the Administration. Public Law 98-365 was overwhelmingly passed by Congress in August of 1984 and delivered, we believe a mandate for commercialization and its resultant implementation.

There have been many presentations and briefings before Congress recently explicitly detailing Landsat and the proposed commercialization from both the Government and the industry points of view. Therefore, I will limit my remarks to the outline of the program and the pertinent issues, which we regard as: (1) the importance of immediate program implementation and (2) the potential erosion of U.S. leadership in Remote Sensing.

The Government procurement process for selection of a contractor and award of a contract for commercialization has been a long and very exhausting one. EOSAT along with its parent corporations, Hughes Aircraft and RCA, have expended a number of years and many millions of dollars in getting to this point in the selection process, and are firmly committed to the Administration's initiative.

We believe that the proposed contract represents a "best deal" for the U.S. Government and the U.S. Taxpayer and also a challenging opportunity for EOSAT. The proposed contract meets the "intent" of the RFP, Public Law 98-365 and the publicly stated initiatives of the Administration relative to Space Commercialization.

The plan for commercialization as proposed by EOSAT embodies:

- o A ten (10) year program.
- o Operation of the Landsat 5 System.
- o Development, construction, test and launch support of two new satellites, each with a five (5) year design life.
- o Development of a new ground system capability. *in OK?*
- o Operation of the Landsat 6 and 7 systems.
- o Upgrading of Thematic Mapper Instruments to include a 15 meter panchromatic band and improve the competitiveness of U.S. instrumentation.
- o Development and implementation of an international marketing and sales organization dedicated to Remote Sensing.

The resources required to address and implement this program are complex and comprehensive. They require investment commitments, broad technical expertise and demonstrable background in sensor technology, spacecraft design, software design, ground system operational experience, and knowledge of market development on an international scale.

EOSAT's team has been structured specifically to address the Commercialization Initiative and accomplish these considerable tasks. Hughes Aircraft Corporation's Santa Barbara Research Center is the sensor manufacturer and one EOSAT partner, and the other partner, RCA Corporation's Astro-Electronics Division, is the spacecraft designer and builder. Besides these two principal partners of EOSAT, we will utilize Computer Science Corporation and Earth Satellite Corporation to complete the skill and experience inventory essential to credibility and commercial success.

There is little question that the ultimate success of this enterprise is critically coupled to the efficiency with which the market for data sales is developed and the continuity of that data to the end-item users. Toward that end EOSAT has planned an aggressive long-range marketing plan with a commitment of human and financial resources.

We believe that with the background and proven experience of our major subcontractors in hardware, operations, marketing, and instrument development we can manage the risks normal to this type of new venture, and create a commercially viable industry which is not dependent upon continued Government support or financing.

Despite the unplanned delays in implementing this program, time is still a crucial factor due to the approaching launch dates of the heavily subsidized Japanese and French systems. The first of these will be an October 1985 launch of the French "SPOT IMAGE" system following an intensive two (2) year marketing buildup.

We believe it is critically important that the United States retain World Leadership in Remote Sensing and related technology, and not become dependent upon Foreign satellite systems for research and exploration data. To this end the U.S. System must be implemented within this fiscal year.

The EOSAT team has provided and will continue to provide 100% support to the Administration's Commercialization and Transition team. We, along with our team members, are dedicated to maintaining U.S. leadership in remote sensing.

This concludes my prepared statement.

Thank you for your attention.

STATEMENT OF
ANTHONY J. CALIO
DEPUTY ADMINISTRATOR
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

BEFORE THE
SUBCOMMITTEE ON NATURAL RESOURCES, AGRICULTURE
RESEARCH AND ENVIRONMENT
AND
SUBCOMMITTEE ON SPACE SCIENCE AND APPLICATIONS
COMMITTEE ON SCIENCE AND TECHNOLOGY
HOUSE OF REPRESENTATIVES

JUNE 13, 1985

Mr. Chairman and Members of the Subcommittees:

I am pleased to be here to discuss the Administration's proposal for transferring the National Oceanic and Atmospheric Administration's (NOAA) Landsat Satellites to the private sector. I appreciate the opportunity this hearing gives us to set out for public review the Administration's proposed contract with the Earth Observation Satellite Company (EOSAT), the arguments for the proposal, and the excellent arrangement we have been able to obtain for the American taxpayers.

The best way to begin is to briefly explain how we got to this point and then to explain the draft contracts.

In February, 1983, President Reagan signed a decision memorandum authorizing a formal Landsat commercialization effort. Secretary Baldrige then established the Source Evaluation Board for Civil Space Remote Sensing (SEB/CSRS) empowered to issue a formal Request for Proposals (RFP), evaluate proposals submitted, and report their findings to him.

The primary goal of the competitive process was "to establish a commercial U.S. civil operational land-observing satellite program..." to "...begin operation after the present Government Landsat system. This is being done to maintain U.S. leadership in remote sensing from space and to foster the economic benefits of such data for the private and public good..." (RFP, page i). In meeting this goal, one firm condition is that the commercial program meet Government policy requirements; principally National Security and international considerations.

The Government was also seeking costs lower than those projected for the continuation of a Government-managed and operated land observing satellite system. This includes periodic replacement of the space system as failures occur, replacement or augmentation of ground equipment as wearout occurs, or to improve products in response to market demands.

The Source Evaluation Board included representatives from the Departments of Agriculture, Defense, Interior, State, and Commerce, and the National Aeronautics and Space Administration (NASA). Additional staff and logistical support were provided by NOAA, NASA, the National Bureau of Standards, and the Departments of Defense, State and Interior.

A schedule was established leading to presentation of the Board's findings and recommendations to Secretary Baldrige in May 1984. The major steps included: (1) development of the RFP and establishment of qualification criteria and evaluation factors for the proposals; (2) circulation of a draft RFP to interested persons and/or organizations for comment; (3) review of the RFP by appropriate Executive Branch and Congressional officials; (4) issuance of the final RFP; (5) receipt of proposals; (6) interim evaluation and determination of proposals within the competitive range; (7) clarification of offers within the competitive range through oral and written response to questions; and (8) final evaluation, scoring, and a report of findings.

The RFP provided that no proposal could be considered if it were not acceptable with respect to:

- National Security;
- Foreign policy;
- Understanding the Government requirements
in the RFP; and
- Particular stipulations of the RFP.

In addition, the RFP stated the evaluation factors which included costs as "...of equal importance to all other factors combined." (RFP, page XI-1). The RFP further stated "Cost to the Government will be a major factor in review of the proposals. Therefore, it is the Government's desire that the offeror be prepared to develop and operate follow-on systems without Government subsidies. However, to facilitate rapid commercialization, an offeror may elect to include in his proposal mechanisms for short-term Government financial assistance..."It is the Government's intention that...the private operator assumes the major financial risk over the longer term." (RFP, page III-5).

Seven proposals were received by the official closing date for the RFP, March 19, 1984. The offerors were:

- (1) Eastman Kodak Co., Rochester, NY;
- (2) Earth Observation Satellite Co., Arlington, VA;
- (3) Geospectra Corp., Ann Arbor, MI;
- (4) Miltope Corp., Melville, NY;
- (5) Milton A. Schulz, Williston, ND;
- (6) Space Access Corp., Marina Del Rey, CA; and
- (7) Space America Corp., Bethesda, MD

After initial evaluation, the Board found three proposals to be within the competitive range. These were:

- Earth Observation Satellite Company
- Eastman Kodak Company
- Space America

These offerors proposed programs with the necessary satellite(s), a ground system to control the satellite and to produce satellite-acquired data, and a marketing plan to sell that data. All addressed the major features of the RFP. All proposed to satisfy, at least minimally, the requirements for National Security and international considerations.

Each of the three proposed a program providing nominal continuity after the demise of Landsat-5. The likelihood of success in meeting the schedules contained in the proposals varied among the offerors and was taken into account in the evaluations and in the projected schedules used to compute likely costs to the Government.

Each of the proposed systems would continue to provide multispectral data functionally equivalent to the Multispectral Scanner data from Landsats 1-5 and, hence, compatible with existing Landsat data processing systems. In addition, each would provide some technological advance over present sensors and systems. These varied both in degree of advancement and the schedule on which they were proposed.

On May 29, 1984, the Secretary selected the proposals of Eastman Kodak and EOSAT as the best proposals and directed that negotiations start with both companies toward definition of firm contractual agreements. The two firms were notified of their selection for further negotiations, and initial meetings were held with each firm. Both firms were informed that their technical approaches were acceptable, but their financial proposals were unacceptable as submitted.

Revised proposals and the refined financial analyses all confirmed that expected Government liability over the life of the program would have an adverse effect on efforts to reduce the Federal Budget. Accordingly, after consultation within the Administration, the President concurred in a decision by the Office of Management and Budget Director Stockman and Secretary Baldrige that Government financial support for the establishment of the commercial system should be limited to: (1) the run-out of Government cost for operating Landsats 4 and 5; and (2) a maximum of \$250 million of new budget authority for the commercial follow-on system. Both offerors were notified of this decision on July 20, 1984, and were requested to revise their proposals accordingly. EOSAT reduced requested Federal financial support in a proposal revision that also included certain technical changes, but Eastman Kodak declined to revise its proposal to meet the Government's conditions. As a result, since August 1984 we have been negotiating with one company, EOSAT.

EOSAT is a joint-venture partnership formed by Hughes Aircraft Company (HAC) and RCA Corporation (RCA), in accordance with the provisions of the Uniform Partnership Law of the State of Delaware, for the expressed purpose of establishing a private sector U.S. operational land observation and data service program. HAC and RCA each have an equal interest in this joint venture.

In June 1984, Congress passed the "Land Remote Sensing Commercialization Act of 1984" which was signed on July 17 by the President, who said the Act was an outstanding example of cooperation between the Administration and Congress. In addition to providing a framework for the transfer to the private sector of both the current Landsat 4/5 system and the follow-on commercial system, the Act dealt with licensing, R&D roles of Federal agencies, data archiving and several other matters. The provisions of this Act, and the Administration funding limitation, caused EOSAT to revise their program but still meet the requirements of the RFP.

The provisions of Public Law 98-365, and the Administration funding limitation, caused EOSAT to revise their program but still meet the requirements of the RFP.

Their Commercial Land Remote Sensing Program provides for the construction, launch, and operation of additional Landsat satel-

lites; the development of a supporting ground system; and the sale and distribution of remotely sensed data to the world at large.

In September 1984, the Secretary submitted a report required by the Act to your Committee and to the Senate Committee on Commerce, Science and Transportation which described the proposed decision to enter into a contract with EOSAT subject to fund availability.

In the course of developing the request for necessary funds, certain of the financial arrangements were not considered by the Administration to be in keeping with the President's requirement that the contractor accept the majority of the financial risk over the long term. As a result of these discussions, an agreement was reached as described in the President's FY 1986 Budget. The agreement requires that the contract stipulate two spacecraft for a fixed price of \$250 million in new budget authority, which would result in data continuity from the new system for a period of at least six years.

In response to the Administration requirements, EOSAT agreed, by its March 1985 revised proposal, to meet the requirements of two spacecraft, at a fixed price of \$250 million, providing over six years of data continuity. We completed the analysis of the EOSAT proposal several weeks ago. The Administration transmitted to the Congress on May 24, 1985, a Supplemental appropriation request for FY 85 of \$75 million and a FY 86 request for \$50

million. On June 7, 1985 the Administration transmitted to Congress a draft legislative proposal authorizing appropriations of \$50 million for FY 1986, \$90 million for FY 87, \$54 million for FY 88, and \$26 million for FY 89. The total amount authorized includes \$45 million for launching two Landsat satellites. The Administration bill also authorizes an appropriation of \$30,604,000 for FY 86 for operation of the existing satellite system. Currently we are completing the negotiations with EOSAT towards reaching final agreement on a contract that would satisfy the requirements of both the Landsat Act and the Administration. We expect to complete those negotiations in the next two weeks, and be prepared to sign a contract and initiate work as soon as the Congress approves the 1985 Supplemental Appropriation request.

I will briefly review the major points of the agreement reached to date with EOSAT.

While the overall technical proposal remains the same as that described in the September 1984 Report to Congress, negotiations thereafter resulted in several changes to the technical proposal and related business arrangements to be included in the contract which improve the benefits that the American taxpayers are getting in this commercialization process. The latest EOSAT modified proposal is as follows:

- o Two satellites and a new ground station are to be provided by EOSAT for a fixed price of \$250M.

- o Satellite hardware will continue present capabilities with improvements:
 - the new satellites will contain Thematic Mappers substantially identical to Landsats 4 and 5,

 - a new black and white band with ground resolution improved from 30 to 15 meters will be added,

 - a new onboard processor will be provided to allow Thematic Mapper data to be aggregated at a larger scale, thus lowering data rates and giving synoptic coverage and new band options for agriculture,

 - additional thermal bands, at EOSAT's expense, are being considered for Landsat 7.

- o The new ground station will have substantially more data processing capability (50 scenes/day as opposed to the current 13/day) and be less labor intensive.

- o The program covers ten years. Government funding occurs in the first five years.

- o EOSAT will fund all capital costs over \$250M except for the two launches which will be funded by the Government and for which new budget authority of approximately \$45M is required. We are confident there is no situation in which the Administration would come to you for any additional funding for this contract beyond the \$250 million to EOSAT, the launch costs, and the cost to operate the 4/5 system for the duration of its lifetime. EOSAT will fund all other expenses beyond the budgeted Landsat 4 and 5 operational costs. This includes market development and administration, and data distribution for Landsats 4, 5, 6 and 7, as well as spacecraft and data processing functions for Landsats 6 and 7.

- o EOSAT would market all unenhanced Landsat data and be entitled to retain all revenues from data sales, including a pro-rata share of access fees and royalty fees paid by foreign ground stations under an existing Memorandum of Understanding with the government. If cumulative revenues fall below 65 percent of the projected revenues before the launch of Landsat 6 or 60 percent thereafter, EOSAT can terminate marketing at any time and can terminate operations four months after the launch of Landsat 6. However, EOSAT still will be committed to build, launch and check-out Landsats 6 and 7, and provide the ground station for a fixed price of \$250M.

It has been a long and sometimes difficult task to bring this process to its present state. We look forward to a completion of this commercialization in the near future.

This concludes my prepared statement. I would be glad to answer any questions you might have.

HON. BILL NELSON
OPENING STATEMENT

JOINT HEARING ON LANDSAT COMMERCIALIZATION

June 13, 1985

First, let me thank the Chairman of the Natural Resources, Agriculture Research and Environment Subcommittee for his statement, which succinctly lays out the basic issues.

Of course, we are aware of the fantastic potential for the benefit for all mankind offered by remote sensing from space.

There is potential for mineral exploration, construction planning, crop surveying, and -- for some parts of the world -- basic mapping. The list goes on and on.

For example, as far as I know, we have not used space remote sensing data at all to help control human disease, that is, disease that spreads through particular environmental routes such as irrigation ditches.

So, while we are aware of the great potential of land remote sensing, we are also uncomfortably aware that this potential has not been realized.

Our hope and expectation is that we will achieve more beneficial use of land remote-sensing data through commercial operation.

We want to use the profit incentive to stimulate both wider distribution of the data and more importantly, the generation of new applications for the data. New applications will mean new markets and new benefits.

The legislation we passed last year strikes a balance between the marketing drive of a commercial operation and the need to preserve the "public good" aspects of remote sensing.

For example, the legislation for the first time puts into law both the "open skies" concept and the very important concept of non-discriminatory data access. "Open skies" is the principle that we have the right to do remote sensing from space anywhere on the globe.

Non-discriminatory data access means that the data must be made available to all users and potential users on the same basis. This will prevent the commercial operator from engaging in abusive monopolistic practices.

I might say that we had testimony that non-discriminatory data access will not foreclose significant commercial opportunities. This is because the highly proprietary and commercially valuable thing is not the raw data which must be sold without discrimination but rather the information products made from the data. Such products are not covered by the legislation.

Today's hearing marks the beginning of a new space industry. We are happy to be present and part of this new beginning.

Mr. Chairman, thank you for this opportunity. This should be a very useful and interesting hearing.

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NEWS from:

COMMITTEE ON SCIENCE AND TECHNOLOGY

U.S. House of Representatives

Don Fuqua, *Chairman*

Manuel Lujan, Jr.
Ranking Republican Member

99-58

June 12, 1985

FOR IMMEDIATE RELEASE

LANDSAT COMMERCIALIZATION

Joint hearings on Landsat commercialization are to be held 2:00 p.m. Thursday, June 13, in 2318 Rayburn, Representatives James Scheuer (D-NY) and Bill Nelson (D-FL) announced today.

Scheuer is chairman of the Natural Resources, Agriculture Research and Environment Subcommittee and Nelson is Chairman of the Space Science and Applications Subcommittee, both part of the Committee on Science and Technology, chaired by Representative Don Fuqua (D-FL).

Representative Manuel Lujan, Jr. (R-NM) is Ranking Republican on the Full Committee, while Representative Robert Walker (R-PA) is Ranking on the Space Science and Applications Subcommittee, and Representative Claudine Schneider (R-RI) is Ranking Republican on the Natural Resources, Agriculture Research and Environment Subcommittee.

Last year, Congress passed the Land Remote-Sensing Commercialization Act of 1984 (PL 98-365) to guide the transfer of Landsat to the private sector. The Department of Commerce has negotiated a contract with the EOSAT corporation to operate the first commercial system.

The hearing will examine (i) whether the transfer conforms to the legislation; and (ii) whether the contract represents a "good deal" for the taxpayer.

Witnesses are:

Anthony J. Calio, Deputy Administrator
National Oceanic and Atmospheric Administration

C.P. Williams, President
Earth Observation Satellite Company (EOSAT)

Staff contacts: Rad Byerly, 202-225-7858
Bob Palmer, 202-226-6985
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Dan Steinway, 202-226-6993.

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