

June 8, 1984

## CONGRESSIONAL RECORD — SENATE

S 6853

## ADVISORY COMMITTEE

**SEC. 8. (a) ESTABLISHMENT.**—The Secretary shall establish a Manufacturing Science and Technology Enhancement Advisory Committee to advise the Secretary concerning the activities to be conducted under this Act. The Advisory Committee shall have representation from technology-sensitive industrial sectors, from labor, from the manufacturing research community, and from such other sectors as the Secretary considers appropriate. Such members shall be appointed by the Secretary for a term of 2 years, and shall receive no compensation. Any such member shall, in accordance with section 5703 of title 5, United States Code, be entitled to reimbursement for travel or transportation expenses incurred in the performance of responsibilities as a member of the Advisory Committee.

**(b) FUNCTIONS.**—The Advisory Committee shall—

(1) review the policies and selection criteria for grants made and cooperative agreements entered into under this Act;

(2) review the progress of the Secretary of Commerce in meeting all the requirements of this Act;

(3) assess the effectiveness of the activities funded pursuant to this Act; and

(4) submit to the Secretary, at least annually, evaluations and recommendations regarding activities carried out under this Act.

**(c) REPORT.**—The Advisory Committee shall submit to the Congress an annual report on its activities under this Act.

**(d) APPLICABILITY.**—The Advisory Committee shall be subject to the Federal Advisory Committee Act (5 U.S.C. App. 1 et seq.).

The amendment was agreed to.

The bill was ordered to be engrossed for a third reading, read the third time, and passed.

Mr. BAKER. Mr. President, I move to reconsider the vote by which the bill was passed.

Mr. BYRD. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

### LAND REMOTE SENSING SATELLITE COMMERCIALIZATION ACT OF 1984

The Senate proceeded to consider the bill (H.R. 5155) to establish a system to promote the use of land remote-sensing satellite data, and for other purposes, which had been reported from the Committee on Commerce, Science, and Transportation with an amendment to strike all after the enacting clause and insert: That this Act may be cited as the "Land Remote Sensing Satellite Commercialization Act of 1984".

#### TITLE I—DECLARATION OF FINDINGS AND PURPOSES

##### FINDINGS

**SEC. 101.** The Congress finds and declares that—

(1) the Federal Government's experimental Landsat system has established the United States as the world leader in land remote sensing satellite technology;

(2) the continuous collection of land remote sensing data from satellites is of major benefit in managing the Earth's natural resources;

(3) private sector involvement in space can provide sound bases for the future growth of space-based technologies;

(4) it is necessary to determine the extent to which it is appropriate and in the nation-

al interest for the private sector to assume responsibility for civil land remote sensing satellite system operation and data management;

(5) the existing civil land remote sensing system of the United States involves important international commitments;

(6) civil land remote sensing involves relevant national security concerns;

(7) it is in the national interest to promote the establishment of private land remote sensing ventures;

(8) private industry is best suited to develop markets for remote sensing data;

(9) it is doubtful that the private sector alone currently can develop a total land remote sensing system because of the high risk and large capital expenditure involved;

(10) cooperation between the Federal Government and private industry is necessary to manage effectively the existing Landsat system so as to ensure data continuity, to honor international and national security responsibilities, and to broaden the data market enough to support self-sufficient private ventures; and

(11) such cooperation should be structured to minimize the amount of support and regulation by the Federal Government, while assuring continuous availability to the Federal Government of land remote sensing data.

##### PURPOSES

**SEC. 102.** The purposes of this Act are to—

(1) guide the Federal Government in achieving proper involvement of the private sector by providing a framework for gradual commercialization of land remote sensing, allowing an increasing private role as the market for data expands, and assuring continuous data availability to the Federal Government;

(2) preserve the leading position of the United States in civil land remote sensing, preserve the national security, and honor the international obligations of the United States;

(3) reaffirm the right of all nations to sense the Earth's surface and acquire land remote sensing data, so long as such data are made available to all potential users on a nondiscriminatory basis; and

(4) minimize the duration and amount of further Federal investment necessary to assure data continuity while achieving commercialization of civil land remote sensing.

##### DEFINITIONS

**SEC. 103.** For purposes of this Act, the term—

(1) "Landsat system" means Landsat 4 and Landsat 5, and related ground equipment, systems and facilities;

(2) "nondiscriminatory basis" means without preference, bias, or any arrangement that favors any purchaser or class of purchasers over another, such that—

(A) data products are made available to all potential buyers at standard, published prices;

(B) all purchasers are given the same opportunities for access to data, such as timeliness of availability and terms of delivery; and

(C) special arrangements, other than any arrangement for exclusive access to data by any purchaser, such as volume discounts, gathering of data with certain characteristics requested by a purchaser, and maintenance of secrecy regarding any such arrangements, are permissible if the availability and prices of such services are published and uniformly available to all data purchasers;

(3) "Secretary" means the Secretary of Commerce;

(4) "unenhanced data" means digital or minimally processed signals collected from

civil land remote sensing satellites involving rectification of distortions, registration with respect to features of the Earth, and calibration of spectral response; the term does not include conclusions, manipulations, or calculations derived from such signals or combination of the signals with other data or information; and

(5) "United States private entity" means any citizen of the United States or any non-governmental entity or consortium of entities, the majority of whose assets is owned by citizens of the United States, the majority of whose personnel is comprised of citizens of the United States, and whose principal place of business is in the United States.

#### TITLE II—OPERATION AND DATA MARKETING OF LANDSAT SYSTEM

##### OPERATION

**SEC. 201. (a)** The Department of Commerce shall be responsible for—

(1) the orbit and data collection of Landsat 4, and disposition of Landsat 4 upon the termination of its useful operation, as determined and published by the Secretary;

(2) the orbit and data collection of Landsat 5, and disposition of Landsat 5 upon the termination of its useful operation, as determined and published by the Secretary;

(3) ground equipment and facilities which are used to operate the Landsat system; and

(4) provision of data to foreign ground stations under the terms of existing Memoranda of Understanding between the United States Government and nations that operate ground stations.

(b) The Department of Commerce may extend any such Memoranda of Understanding if such extension provides for their expiration upon the termination of the useful operation of the Landsat system.

(c) The provisions of this section shall not prohibit the Department of Commerce from continuing to contract for the operation of the Landsat system, so long as the United States Government retains—

(1) ownership of the system;

(2) ownership of the unenhanced data; and

(3) authority to make decisions concerning operation of the system.

##### MARKETING OF UNENHANCED DATA

**SEC. 202. (a)** In accordance with the requirements of this title, the Secretary shall, to the extent provided in advance by appropriation Acts, by means of a competitive process contract with a United States private entity for the marketing of unenhanced data collected by the Landsat system. Any such contract shall provide that—

(1) the contractor may set the prices of unenhanced data products, if the products are always available to all potential users on a nondiscriminatory basis;

(2) the contractor shall compensate the United States Government for the right to sell the data by payment of an initial fee, a percentage of data sales receipts, or some combination of such fee and receipts;

(3) the contractor shall pay to the United States Government the full purchase price of any unenhanced data that the contractor elects to utilize for purposes other than sale, in accordance with paragraph (4) of this subsection;

(4) the contractor shall not engage in any sale of processed data except in a manner consistent with applicable antitrust laws; and

(5) the Secretary has determined that such contract is likely to result in cost savings for the United States Government.

(b) Prior to entering into such a contract, the Secretary shall publish the requirements of subsection (a)(1) through (5) of this sec-

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tion, and the contract shall be subject to such requirements.

DATA CONTINUITY

SEC. 302. The Secretary shall evaluate proposals from United States private entities for a contract for the development and operation of a system capable of generating land remote sensing data, and marketing such unenhanced data for a period of 6 years. Such evaluation and any solicitation of proposals shall be conducted by means of a competitive process. Such proposals, at a minimum, shall specify—

- (1) the quantities and qualities of data expected from the system;
- (2) the projected date upon which operations could begin;
- (3) the number of satellites to be constructed and their expected lifetimes;
- (4) any need for Federal funding to develop the system;
- (5) any percentage of sales receipts offered to the Federal Government;
- (6) plans for expanding the market for land remote sensing data; and
- (7) the proposed relationship and procedures for meeting the national security and international obligations of the United States.

NOTIFICATION REGARDING AWARDING OF THE CONTRACT

SEC. 303. (a) The Secretary shall evaluate the proposals referred to in section 302 of this title and, to the extent provided in advance by appropriation Acts, may contract, in accordance with section 401 of this Act, with a United States private entity for the provision by such entity of the capability of generating land remote sensing data and marketing such unenhanced data for a period of 6 years. As part of such evaluation, the Secretary shall analyze the expected outcome of each proposal, in terms of—

- (1) the availability of such data upon the expected termination of the Landsat system;
- (2) the quantities and qualities of data to be generated by the recommended system;
- (3) the cost to the Federal Government of developing the recommended system;
- (4) the potential to expand the market for data;
- (5) any percentage of data sales offered to the Federal Government, in accordance with section 304 of this title;
- (6) the contractor's ability to advance remote sensing technology and maintain the technological leadership of the United States in remote sensing;
- (7) the commercial viability of the proposal;
- (8) the technical competence and financial condition of the contractor;
- (9) the proposed relationship and procedures for satisfying the national security and international obligations of the United States; and
- (10) such other factors, including the marketing of unenhanced data from the Landsat system, as the Secretary deems appropriate and relevant.

(b)(1) Any decision or proposed decision by the Secretary to enter into any such contract shall be transmitted to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science and Technology of the House of Representatives for their review. No such decision or proposed decision shall be implemented unless (A) a period of 30 days of continuous session of Congress has passed after the receipt by each such committee of such transmittal or (B) each such committee before the expiration of such period has, by vote of a majority of its members, agreed to transmit and has transmitted to the Secretary written notice to the effect that such committee has no objection to the decision or proposed decision. As part of such transmittal, the Secretary shall include the information specified in subsection (a)(1) through (5) of this section.

(2) For purposes of this section—  
(A) continuity of session is broken only by an adjournment sine die; and  
(B) days on which either House is not in session because of an adjournment of more than 5 days to a day certain are excluded in the computation of such period.

AWARDING OF THE CONTRACT

SEC. 203. (a) The Secretary shall award any such contract on the basis of—

- (1) the financial return to the United States Government, based on any initial fee offered for marketing rights and any percentage of data sales receipts offered to the United States Government;
- (2) the ability to expand the market for unenhanced land remote sensing data; and
- (3) such other factors as the Secretary considers appropriate.

(b) If, as a result of the competitive process required by section 202(a) of this title, the Secretary receives no proposal which the Secretary determines to be acceptable under the provisions of this title, the Secretary shall so certify and fully report such finding to the Congress. As soon as practicable but not later than 30 days after so certifying and reporting, the Secretary shall reopen the competitive process. The period for the subsequent competitive process shall not exceed 120 days. If, after such subsequent competitive process, the Secretary receives no proposal which the Secretary determines to be acceptable under the provisions of this title, the Secretary shall so certify and fully report such finding to the Congress. In the event that no acceptable proposal is received, the Secretary shall continue to market data from the Landsat system.

(c) Such contract may, in the discretion of the Secretary, be combined with the contract required by title III of this Act, pursuant to section 305(b) of this Act.

TITLE III—DATA CONTINUITY AFTER THE LANDSAT SYSTEM

PURPOSE

SEC. 301. It is the purpose of this title to—  
(1) provide for a transition from operation by the Federal Government to private, commercial operation of civil land remote sensing satellite systems;

(2) determine, with minimal risk during the proposed transition period, whether wholly private operation of land remote sensing is in the best interests of the United States;

(3) provide for the continuity of land remote sensing satellite data after the termination of the operation of the existing system, as described in title II of this Act; and

(4) assure development of a land remote sensing system that will result in cost savings for the United States Government.

tion specified in subsection (a) (1) through (6) of this section.

(2) For purposes of this section—

- (A) continuity of session is broken only by an adjournment sine die; and
- (B) days on which either House is not in session because of an adjournment of more than 5 days to a day certain are excluded in the computation of such period.

(c) If, as a result of the competitive process required by subsection (a) of this section, the Secretary receives no proposal which the Secretary determines to be acceptable under the provisions of this title, the Secretary shall so certify and fully report such finding to the Congress. As soon as practicable but not later than 30 days after so certifying and reporting, the Secretary shall reopen the competitive process. The period for the subsequent competitive process shall not exceed 180 days. If, after such subsequent competitive process, the Secretary receives no proposal which the Secretary determines to be acceptable under the provisions of this title, the Secretary shall so certify and fully report such finding to the Congress. Not earlier than 90 days after such certification and report, the Secretary may assure data continuity by procurement and operation by the Federal Government of the necessary systems, to the extent provided in advance by appropriation Acts.

MARKETING INCENTIVE

SEC. 304. In order to promote aggressive marketing of land remote sensing data, any contract entered into pursuant to this title may provide that the percentage of sales paid by the contractor to the Federal Government shall decrease according to stipulated increases in sales levels.

TERMS OF THE CONTRACT

SEC. 305. (a) Any contract entered into pursuant to this title—

- (1) shall provide that the contractor will offer to sell and deliver unenhanced land remote sensing data to all potential buyers on a nondiscriminatory basis;
- (2) shall provide that the contractor will engage in any sale of processed data only in a manner consistent with applicable anti-trust laws;
- (3) shall not provide a guarantee of purchases of data by the Federal Government from the contractor;
- (4) may provide that the contractor utilize, on a space-available basis, civilian Government satellites as platforms for a civil land remote sensing satellite system, if—

(A) the contractor immediately reimburses the Government for all related costs incurred with respect to such utilization, including a reasonable and proportionate share of fixed, spacecraft, data transmission, and launch costs; and

(B) such utilization would not interfere with or otherwise in any way compromise the intended civilian Government missions, as determined by the agency responsible for the civilian satellite; and

(5) may provide indirect and direct financial support by the United States Government, including loans and loan guarantees, payments pursuant to section 305 of the Federal Property and Administrative Services Act of 1949 (41 U.S.C. 255) for a portion of the capital costs required to provide the follow-on capability, and other financial considerations.

(b)(1) Without regard to whether any contract entered into under this title is combined with a contract under title II of this Act, the Secretary shall promptly determine whether the contract entered into under this title reasonably effectuates the purposes and policies of title II. Such determination shall

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be submitted to the President and the Congress, together with a full statement of the basis for such determination.

(2) If the Secretary determines that such contract does not reasonably effectuate the purposes and policies of title II of this Act, the Secretary shall promptly attempt to carry out the provisions of such title.

REPORT

SEC. 306. Within 2 years after the commencement of operations of any system with respect to which a contract has been entered into under this title, the Secretary shall report to the Congress on the progress and feasibility of the transition to total private financing, operation, and ownership of a land remote sensing satellite system, together with any legislative recommendations to accomplish such transition.

AUTHORIZATION OF APPROPRIATIONS

SEC. 307. There are authorized to be appropriated for purposes of this title not to exceed \$60,000,000 for fiscal year 1985. Such sums shall remain available until expended, but shall not become available until the time period specified in section 303(b)(1)(A) or (B), as appropriate, has expired.

TERMINATION OF AUTHORITY

SEC. 308. The authority granted by this title shall terminate 10 years after the date of enactment of this Act.

TITLE IV—PRIVATE LAND REMOTE SENSING SYSTEMS

GENERAL AUTHORITY

SEC. 401. (a) In consultation with other appropriate Federal agencies, the Secretary shall license qualified United States private entities to operate civil land remote sensing satellite systems for such period as the Secretary may specify and in accordance with the provisions of this title.

(b) No license shall be granted by the Secretary unless the Secretary determines in writing that the applicant will comply with the requirements of this Act, and will meet applicable international obligations and national security concerns of the United States.

CONDITIONS FOR OPERATION

SEC. 402. (a) No private sector party or consortium may operate any civil land remote sensing system which is subject to the jurisdiction or control of the United States without obtaining a license pursuant to section 401 of this title.

(b) Any license issued pursuant to this title shall specify, at a minimum, that the licensee shall—

- (1) make available data generated by the system to all potential users on a nondiscriminatory basis;
- (2) upon termination of its operations under the license, make disposition of any satellites in space in a manner satisfactory to the President;
- (3) promptly make available to the Secretary all data generated by the system, pursuant to title VI of this Act;
- (4) furnish the Secretary with complete orbit and data collection characteristics of the system, obtain advance approval of any intended deviation from such characteristics, and inform the Secretary immediately of any unintended deviation;
- (5) obtain advance approval from the Secretary of any agreement it intends to enter with a foreign nation, entity or consortium involving foreign nations or entities;
- (6) operate the system in a manner that is consistent with international law;
- (7) permit the inspection of its facilities and financial records;
- (8) surrender the license and terminate operations upon a finding by the Secretary that continued operations would be detrimental to the national interest; and

(9) not engage in any sale of processed data except in a manner consistent with applicable antitrust laws.

RESPONSIBILITIES OF THE SECRETARY

SEC. 403. The Secretary, in consultation with appropriate Federal agencies, shall be responsible for protection of national security interests and adherence to international obligations of the United States which are relevant to operation of private land remote sensing satellite systems, including—

- (1) responsibility for all land remote sensing activities of nongovernmental entities of the United States;
- (2) liability for damage caused by space objects under registration or license by the Federal Government; and
- (3) registration with appropriate international authorities of all objects launched into space by nongovernmental entities of the United States.

AUTHORITY OF THE SECRETARY

SEC. 404. In order to carry out the responsibilities specified in this title, the Secretary may—

- (1) inspect the facilities or financial records of any licensee under this title; and
- (2) provide, within the licenses or regulations issued, for penalties for noncompliance with the requirements of such licenses or regulations issued under section 405 of this title, including termination, modification or suspension of a license and civil penalties not to exceed \$10,000.

Each day of operation in violation of such licenses or regulations shall constitute a separate violation.

REGULATORY AUTHORITY OF THE SECRETARY

SEC. 405. The Secretary may issue regulations to carry out the provisions of this title. Such regulations shall be promulgated only after public notice and comment in accordance with the provisions of section 553 of title 5, United States Code.

AGENCY ACTIVITIES

SEC. 406. (a) A private sector party may apply for a license to operate a civil land remote sensing system which utilizes, on a space available basis, a civilian United States Government satellite or vehicle as a platform for such system. The Secretary, pursuant to the authorities of this title, may license such system if it meets all conditions of this title and—

(1) the system operator immediately reimburses the Government for all related costs incurred with respect to such utilization, including a reasonable and proportionate share of fixed, spacecraft, data transmission, and launch costs; and

(2) such utilization would not interfere with or otherwise in any way compromise intended civilian Government missions, as determined by the agency responsible for such civilian satellite.

(b) The Secretary may offer assistance to private sector parties in finding appropriate opportunities for such utilization.

(c) To the extent provided in advance by appropriation Acts, any Federal agency may enter into agreements for such utilization if such agreements are consistent with such agency's mission and statutory authority, and if such remote sensing system is licensed by the Secretary.

(d) The provisions of this title shall not apply to any activity carried out by the National Aeronautics and Space Administration pursuant to its authority under title IV of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2481 et seq.).

(e) Nothing in this section shall affect the authority of the Federal Communications Commission to assign radio frequencies pursuant to the Communications Act of 1934 (47 U.S.C. 151 et seq.).

TERMINATION

SEC. 407. The authority granted by this title shall terminate 20 years after the date of enactment of this Act if no private sector party or consortium has been licensed or continues in operation under the provisions of this title.

TITLE V—CONTINUED REMOTE SENSING RESEARCH AND DEVELOPMENT

FEDERAL RESEARCH AND DEVELOPMENT

SEC. 501. (a) In order to preserve the worldwide leadership of the United States in remote sensing technologies and applications, the Administrator of the National Aeronautics and Space Administration is—

- (1) directed to continue and to enhance remote sensing research and development activities, and is encouraged to conduct experimental remote sensing programs and to develop remote sensing technologies in support of its mission; and
- (2) authorized and encouraged to—

(A) conduct such research and development in cooperation with other public and private research entities, including private industry, universities, other Federal agencies, State and local governments, foreign governments and international organizations; and

(B) enter into arrangements (including joint ventures and cooperative agreements) which will foster cooperation and advance the state-of-the-art of remote sensing technologies.

(b) In order to preserve the worldwide leadership of the United States in remote sensing technologies and applications, the Secretary, the Secretary of the Interior and the Secretary of Agriculture—

(1) shall continue research in applications of remote sensing data, monitoring of the Earth and its environment, and the development of technologies for such monitoring; and

(2) are authorized and encouraged to—  
(A) conduct such research and development in cooperation with other public and private research entities, including private industry, universities, other Federal agencies, State and local governments, foreign governments and international organizations; and

(B) enter into arrangements (including joint ventures and cooperative agreements) which will foster cooperation, advance the applications of remote sensing, and enhance monitoring activities and technologies.

(c) In order to preserve the worldwide leadership of the United States in remote sensing technologies and applications, other Federal agencies are encouraged to conduct research and development programs in remote sensing if such programs are consistent with the authorized missions of such agencies.

USE OF EXPERIMENTAL DATA

SEC. 502. Data gathered in Federal experimental land remote sensing programs may be used in related research and development programs funded by the Federal Government, including applications programs, but not for commercial uses or in competition with private sector activities, except as permitted by section 503 of this title.

SALE OF EXPERIMENTAL DATA

SEC. 503. Data gathered in Federal experimental land remote sensing programs may, by means of a competitive process, be sold en bloc (consistent with national security interests and international obligations of the United States) to any United States entity which will market the data on a non-discriminatory basis.

## TITLE VI—GENERAL PROVISIONS

## NONDISCRIMINATORY AVAILABILITY OF DATA

SEC. 601. (a) Unenhanced land remote sensing satellite data generated by any system operator under the provisions of this Act shall be made available to all users on a nondiscriminatory basis, in accordance with the requirements of this Act.

(b) For purposes of this title, the term "system operator" means a contractor under title II or III or a licensee under title IV of this Act.

(c) Any system operator shall make publicly available the prices, policies, procedures and other terms and conditions (but not the names of buyers or their purchasers) upon which the operator will sell such data.

## ARCHIVING OF DATA

SEC. 602. (a) It is in the public interest for the United States Government to—

(1) maintain an archive of remote sensing satellite data for historical, scientific and technical purposes, including long-term global environmental monitoring;

(2) control the content and scope of the archive; and

(3) assure the quality and continuity of the archive.

(b) The Secretary shall provide for long term storage, maintenance and upgrading of a basic, global, land remote sensing data set (hereinafter referred to as the "basic data set") and shall follow reasonable archival practices to assure proper storage and preservation of the basic data set and timely access for parties requesting data. The basic data set which the Secretary assembles in the Government archive shall remain distinct from any inventory of data which a system operator may maintain for sales and for other purposes.

(c) In determining the initial content of, or in upgrading, the basic data set, the Secretary shall—

(1) use as a baseline the data currently archived;

(2) take into account future technical and scientific developments and needs;

(3) consult with and seek the advice of users and producers of remote sensing data and data products;

(4) consider the public's need for data which may be duplicative in terms of geographical coverage but which differ in terms of season, spectral bands, resolution, or other relevant factors;

(5) include, as the Secretary considers appropriate, unenhanced remote sensing data generated either by the Landsat system, pursuant to title III, or by licensees under title IV of this Act; and

(6) include, as the Secretary considers appropriate, data collected by foreign ground stations or by foreign remote sensing satellite systems.

(d) All original data (or copies of such data) shall, on request, be made promptly available to the Secretary by any system operator in a form suitable for processing for data storage, maintenance and access. The Secretary may (subject to the availability of appropriations) pay to such system operator reasonable costs for reproduction and transmittal of any such data.

(e) Any system operator shall have the exclusive right to sell all data that the operator provides to the United States remote sensing data archive for a period to be determined by the Secretary, but not to exceed 10 years from the date the data are sensed. In the case of data generated from the Landsat system prior to the implementation of the contract described in section 202(a) of this Act, any contractor selected pursuant to section 202 shall have the exclusive right to market such data on behalf of the United Government for the duration of such

contract. A system operator may relinquish the operator's exclusive right and consent to distribution from the archive before the period of exclusive right has expired by terminating the offer to sell particular data.

(f) After expiration of such exclusive right to sell, or after relinquishment of such right, the data provided to the United States remote sensing data archive shall be in the public domain and shall be made available to requesting parties by the Secretary at prices reflecting reasonable costs of reproduction and transmittal.

(g) In carrying out the functions of this section, the Secretary shall, to the extent practicable and as provided in advance by appropriation Acts, use existing Government facilities.

## NONREPRODUCTION

SEC. 603. Unenhanced land remote sensing data generated by any system operator under the provisions of this Act may be sold on the condition that such data shall not be reproduced and disseminated by the purchaser.

## REIMBURSEMENT FOR ASSISTANCE

SEC. 604. The Administrator of the National Aeronautics and Space Administration, the Secretary of Defense and the heads of other Federal agencies may provide assistance to operators of remote sensing systems under the provisions of this Act. Substantial assistance shall be reimbursed by the operator, except as otherwise provided by law.

## ACQUISITION OF EQUIPMENT

SEC. 605. The Secretary may, by means of a competitive process, allow a licensee under section 401 of this Act or any other private party to buy, lease, or otherwise acquire the use of equipment from the Landsat system, when such equipment is no longer needed for the operation of such system or for the sale of data from such system. Officials of other Federal civilian agencies are authorized and encouraged to cooperate with the Secretary in carrying out the provisions of this section.

## RADIO FREQUENCY ALLOCATION

SEC. 606. (a) Within 120 days after the date of enactment of this Act, the Federal Communications Commission shall determine the frequencies for use by United States Landsat and commercial land remote sensing satellite systems. In making such determination, the Federal Communications Commission shall seek the comments of the Secretary or the Secretary's designated representative.

(b) It is the intent of Congress that the Federal Communications Commission allocate to any licensee under title IV of this Act access to Government radio frequencies and other civil radio frequencies appropriate for land remote sensing within 120 days of the receipt of an application for such access. If final action has not occurred within 120 days of the receipt of such an application, the Federal Communications Commission shall inform the applicant of any pending issues and of actions required to resolve them.

(c) The Federal Communications Commission shall without prejudice permit the development and construction of any United States land remote sensing system (or component thereof) while any frequency determination is being made.

(d) Frequency allocations made pursuant to this section by the Federal Communications Commission shall be consistent with international obligations and with the public interest.

## CONSULTATION

SEC. 607. (a) The Secretary shall consult with the Secretary of Defense on all matters under this Act affecting national security.

The Secretary of Defense shall be responsible for identifying and notifying the Secretary of those national security concerns of the United States which are relevant to activities under this Act.

(b) The Secretary shall consult with the Secretary of State on all international matters arising under this Act. The Secretary of State shall be responsible for identifying and notifying the Secretary of those international obligations and commitments of the United States which are relevant to activities under this Act.

(c) Appropriate Federal agencies are authorized and encouraged to provide remote sensing technology and training to developing nations as components of programs of international aid.

(d) If, as a result of conditions imposed on a system operator based on national security or international obligations or policies, the Secretary (in consultation with the Secretary of Defense or the Secretary of State, as appropriate) determines that additional or development costs will be incurred by such system operator, the Secretary may require any agency requesting the imposition of such conditions to reimburse the system operator for such costs, excluding anticipated profits.

## AMENDMENT TO THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AUTHORIZATION ACT, 1983

SEC. 608. Subsection (a) of section 201 of the National Aeronautics and Space Administration Authorization Act, 1983 (Public Law 97-324; 96 Stat. 1601) is amended to read as follows:

"(a) The Secretary of Commerce is authorized to plan and provide for the management and operation of civil remote sensing satellite systems, which may include the Landsat 4 and 5 satellites and associated ground system equipment transferred from the National Aeronautics and Space Administration; to provide for user fees; and to plan for the transfer of the operation of civil remote sensing satellite systems to the private sector when in the national interest."

The amendment was agreed to.

Mr. GORTON. Mr. President, I rise today to urge passage of H.R. 5155, the Land Remote Sensing Satellite Commercialization Act. This bill would provide for a phased commercialization of Landsat, our Federal land remote sensing satellite system. The bill is designed to balance commercial interests with national security, foreign policy, and other concerns of the Federal Government related to land remote sensing.

I am very pleased that we have reached a consensus on this important issue. As I stated when I introduced this legislation as S. 2292 in February, legislation must be enacted this year to maintain hope of having a continuous U.S. land remote sensing capability and to thereby avoid an interruption in the flow of data. Since the House of Representatives has already passed a similar bill, I am confident that this legislation will lead to a timely transfer of land remote sensing capabilities to the private sector.

The concept of Landsat commercialization is a complex one, involving many issues. My colleagues will recall that the administration's original commercialization proposal included transfer to the private sector of weather satellites as well as Landsat. I intro-

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duced a resolution opposing the transfer of weather satellites, reflecting my view that weather satellite services are critically important to public safety and welfare, and thus are essential Government services. The resolution passed both the Senate and House, and the weather satellite proposal was eventually dropped.

Landsat applications are much more commercially oriented than those of weather satellites. For this reason, I feel that land remote sensing can, with appropriate guidelines, become a viable industry without threatening our national security or foreign policy imperatives. This legislation establishes specific guidelines for private remote sensing systems. National security interests will be protected. International obligations will be honored. Federal research and development will continue, so that our worldwide leadership in remote sensing will be preserved. The Government will continue to archive data for historical, scientific, and academic purposes.

All of these policies involve tradeoffs between commercial interests and Government concerns. I am very grateful for the assistance of my colleagues in shaping this legislation into its present form. In particular, I thank and congratulate my Commerce Committee colleagues, Senator HOLLINGS and Senator PRESSLER and their staffs, for working diligently to develop legislation agreeable to all concerned parties.

In conclusion, I would like to discuss the efforts of the Department of Commerce to effect a transition of Landsat from Government to private hands. The Secretary of Commerce is expected to announce in the near future a proposal to carry out the commercialization process. I am optimistic that the Secretary's proposal will be consistent with the requirements of this legislation, and will provide cost savings to the Government as opposed to keeping Landsat in Government hands.

I expect the Secretary's proposal to be followed by a formal request for funds to carry out the proposal. I hope that, if clear cost savings can be shown, the necessary funds will be quickly provided so that the transition can begin and a harmful gap in the flow of data can be avoided.

Finally, I would like to clarify that nothing in this bill is intended to authorize the enactment of new budget authority for fiscal year 1984.

Mr. PRESSLER. Mr. President, I rise today to join my distinguished colleagues from Washington—Senator GORTON—and from South Carolina—Senator HOLLINGS—in support of this legislation. I also want to thank them and their staffs for all of their hard work and cooperation in reaching an effective, workable compromise that is agreeable to all.

After the cooperation and leadership displayed by the Senator from Washington, I have agreed to support the

passage of this bill. However, I must say, as I have often said in the past, that I remain very skeptical about the potential outcome of this issue.

Do not misunderstand, Mr. President. This is good legislation. It sets realistic guidelines for the commercialization process of our Landsat system and contains numerous safeguards, such as requiring realistic cost-savings, nondiscriminatory availability of data, data continuity, a strong R&D and applications research program, an adequate training program, and many others. And I do believe that we may very well want to ultimately commercialize this system. But I remain skeptical that we are ready to do that today. Ten years from now may be a more realistic target, but I am willing, if the requirements and guidelines we set forth in this bill are followed, to give it a try because I do believe we are headed in the direction we should ultimately go.

But I want to make it clear that I will be following the implementation of this legislation very carefully. I do not want to see another repeat of the recent weather satellite fiasco that we worked so hard last year to resolve.

We have invested billions of taxpayer dollars in this program. It should not end up in the hands of a government-subsidized monopoly that will cost us more than we spend today. I also expect to see some clear R&D research application proposals and training program proposals before turning over the rest of the "car keys."

It is especially important that we maintain a strong R&D program and continue to explore new ways to utilize the invaluable scientific data from Landsat. As we continue to move closer toward a global information society, we should make certain that we make the best use of the tools we have available. As one expert said in a recent State Landsat hearing: "we have our hands on the most powerful source of (global) information that has been known to humankind." We must make certain that we develop this wealth of information to its fullest potential so we can reap its invaluable rewards today and in generations to come.

Although I am not convinced that this technology—which is still really in its infancy—is ready for commercialization, it is absolutely essential that we move forward with its development as soon as possible. Its potential value to the scientific, scholastic, and international communities by itself merits continuation of a strong U.S. land remote sensing program. It is essential that the United States maintain its worldwide leadership in this technology.

Thanks to the Senator from Washington and others, this committee will be maintaining a strong oversight role in this process in the months and years to come. I expect to use that to make sure our intent is carried out fully and that the Government re-

sponsibilities and activities retained by this legislation are adequately and enthusiastically pursued.

I am very proud of the important role that the EROS Data Center in my home State of South Dakota plays in this program. Obviously, I want to see its role continued and enhanced. But importantly, I want to make sure that we maintain our strong technological worldwide leadership in this area, and use its abundant applications in the best interests of our Nation's resources and security, and the scientific community as a whole.

Mr. President, given the need to address this issue in a timely manner, I urge my colleagues to support this important legislation.

Mr. HOLLINGS. Mr. President, I rise in support of the Land Remote Sensing Commercialization Act, H.R. 5155, and ask that my colleagues support this measure.

Mr. President, I compliment the Senator from Washington, the able chairman of the Science, Technology, and Space Subcommittee, for the excellent job he has done with this legislation. H.R. 5155, as reported by the Senate Commerce Committee, is a carefully crafted bill that balances the concerns of users and operators, safeguards national security and foreign policy concerns, promotes commercialization, and sustains important Federal research and development activities in land remote sensing.

Mr. President, I have been interested in the commercialization of land remote sensing for quite some time. As a matter of fact, I introduced the first land remote sensing legislation in the 98th Session of Congress, S. 1855, a bill that was cosponsored by my distinguished colleagues Senators FORD and RIEGLE. I am pleased, therefore, to see the Senate acting upon H.R. 5155 in a timely manner because enabling legislation is required before the Department of Commerce can award a land remote sensing commercialization contract.

Mr. President, for my fellow Members who are not aware of the status of the Department of Commerce request for proposals for transfer of the U.S. land remote sensing program to the private sector, let me give a brief status report.

The Department received seven bids pursuant to the request for proposals prior to the March 19, 1984, submission deadline. At present, three of those bids are still being assessed by the Department of Commerce, and the committee expects to be notified soon as to what course of action the Department intends to pursue in awarding a contract.

Mr. President, in assessing whether the existing Federal land remote sensing system should be commercialized, the committee was required to review and assess a variety of issues involving data continuity, foreign competition, nondiscriminatory availability of data,

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national security, international policy, appropriate regulation of private remote sensing activities, and determination of the long-term Federal role in remote sensing research and development and data archiving.

The final bill reported by the Senate Commerce Committee addresses each of these concerns in a responsible manner and creates a rational procedure and framework for phased transfer of the Federal land remote sensing system to the private sector.

In particular, I would like to indicate that the bill requires any operator of a land remote sensing system, subject to the jurisdiction and control of the United States, to provide for the nondiscriminatory availability of data.

Mr. President, the principle of nondiscriminatory availability of data is a fundamental component of U.S. foreign policy and is a key element of H.R. 5155. As noted in the committee report on page 28:

The Committee is aware that Landsat data have been sold to non-U.S. government users and data have been made available to all purchasers on a nondiscriminatory basis. Indeed, the data policy of the Landsat program can be considered to be a cornerstone of the U.S. "open skies" policy and of the use of space for peaceful purposes. By following this policy, the United States has been able to blunt criticism of other activities, such as operation of classified surveillance satellites. The policy has also demonstrated to the entire world U.S. adherence to the principle of the free flow of information.

The Committee so strongly supports this doctrine of nondiscriminatory access to data that it has given this concept a statutory basis. The Committee feels that this principle is fundamental to any remote sensing activity and that it is a key component of U.S. foreign policy interests.

During the Committee's Landsat hearing, the issue was raised that adherence to the principle of nondiscriminatory access to data was not in the best interest of a commercial entity since it would preclude a private operator from contracting to acquire specific scenes for the proprietary use of a sole purchaser. The Committee is sensitive to this issue and realizes that "land remote sensing for hire" could have a potential marketplace and that site-specific scenes could have significant value. The Committee feels, however, that the benefits from such a commercial enterprise pale in comparison with the benefits to the United States of maintaining allegiance to the principle of nondiscriminatory access to data. The Committee realizes that in its efforts to promote commercial land remote sensing activities, it has established certain barriers, in particular concerning U.S. foreign policy and national security concerns. The Committee feels, however, that these are reasonable costs to be incurred by an operator and, although they might reduce the profitability of land remote sensing, they should not impede commercialization of land remote sensing activities.

Mr. President, there are two other issues that I also would like to surface: First, the net cost of the commercialization of Landsat to the Federal Government; and

Second, the effect of commercialization upon the Landsat data user community.

I will address the latter concern first. Mr. President, there is some concern among the user community as to the effect of the commercialization of Landsat on data prices. Needless to say, I am not in a position to assure the user community that commercial data prices will not be higher than current Federal data prices. I am able, however, to assure the user community that the committee went out of its way to protect the interests of the user community. The Senate bill's emphasis upon the importance of the marketing of remote sensing data and data continuity is meant to reflect the committee's position that broader markets and reliable service—not higher data prices—are the keys to the successful commercialization of land remote sensing. In addition, the committee realizes that the advent of foreign competition should help restrain price increases, as should the availability of remote sensing experimental data generated by Federal Government research and development activities. Finally, the nondiscriminatory availability of data provisions included in H.R. 5155 insure equal access to data at standard, published prices to all users.

Mr. President, I realize that change can be frightening, and potential cost increases can be more frightening. However, based on both the GAO and OTA reports, it is clear that the demand for remote sensing data is very elastic in terms of price. A commercial operator, therefore, would have to think twice about a significant data price increase.

Finally, I should indicate that during the Source Evaluation Board's review of bids, the final three bidders indicated that there would be no major data price increases over the projected NOAA price increases for Landsat data. I would ask at this time that two tables reflecting NOAA's projected Landsat data prices be included in the RECORD to give Members an idea of the possible price effect on users of the proposed legislation.

Mr. President, next I would like to address the issue of the cost of commercialization to the Federal Government.

During the course of the debate on this issue, there was concern as to whether or not the commercialization of the existing Federal land remote sensing system would result in net cost savings to the Federal Government. Clearly, during the early years, a Federal subsidy will be required by the commercial operator. The exact amount, however, will not be known until the final contractual agreement is made public. Still, in its efforts to insure a Federal cost savings, the committee has included language in its bill to emphasize the importance of the cost of the commercial system to the Federal Government and the importance of a competitive awards process. The committee also requested a letter from the Department of Commerce

addressing the net cost effect of commercialization, a copy of which I ask unanimous consent to include in the RECORD at this point.

The PRESIDING OFFICER. Without objection, it is so ordered.

(See exhibit 1.)

Mr. HOLLINGS. Mr. President, based on the information supplied by the Department of Commerce, it can be seen that the average annual costs for continuation of the existing Landsat system would be in the range of \$183 million per year. Considering the fact that the Department has developed the most advanced remote sensing system in the world, these are reasonable costs. However, a good case can be made that for significantly less money, a good percentage of the existing capability can be provided. A good case also can be made that the private sector alone has the ability to expand the land remote sensing data market to the point where it is commercially feasible. At present, the current Federal system is unable to generate a revenue base adequate to offset operating costs, let alone spacecraft and launching costs.

Mr. President, as noted in the Congressional Budget Office's cost estimate, until the committee is advised as to the exact nature of the proposed contract, it is difficult to estimate the amount of the required subsidy and whether there will be a savings or a cost to the Federal Government. However, based on the commitment of the Deputy Secretary of Commerce in the aforementioned letter "not to proceed with commercialization unless it is a good deal for the taxpayers" and the congressional notification requirements included in the Senate-reported version of H.R. 5155, it is highly unlikely any contract that did not result in net cost savings would be found acceptable to the Department of Commerce, the Congress, or this Senator.

Mr. President, in conclusion, let me indicate that I support this legislation and the commercialization of land remote sensing. It is my opinion that the time is right for increased private sector participation in this area just as the timing was right for private sector participation in satellite communications years ago. With this legislation, we are providing a climate for innovation that encourages imagination and the entrepreneurial spirit so characteristic of this Nation. I support this measure and ask for the support of my fellow Members.

EXHIBIT 1.—SUMMARY OF PRODUCT PRICES 1979-PRESENT FOR LANDSAT MULTISPECTRAL DATA

	EDC 1979-81	EDC 1982	EDC 1983-84	EDC 1985
Standard image products:				
10 in B&W print	\$8	\$10	\$30	\$35
20 in B&W print	12	20	58	65
40 in B&W print	20	35	95	105
10 in color print	12	15	45	50
20 in color print	25	35	90	110
40 in color print	50	70	175	195
Color composite generation charge	50	75	195	220

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EXHIBIT 1.—SUMMARY OF PRODUCT PRICES 1979-PRESENT FOR LANDSAT MULTISPECTRAL DATA—Continued

	EDC 1979-81	EDC 1982	EDC 1983-84	EDC 1985
Digital product				
9 track, 1600 BPI computer compatible tape	200	300	650	730

Note.—Prices listed are for standard products from the Eros Data Center archive in Sioux Falls, SD. The image products listed represent the bulk of all Landsat image data requests for the years 1979-1983. That is, between 60-90% of all image data requests are for the same image products listed. The majority of requests for digital data are for 9 track magnetic tapes.

SUMMARY OF PRODUCT PRICES 1979-PRESENT FOR LANDSAT MULTI-SPECTRAL DATA

Products and services	1979 EDC Price	1982 EDC Price	1983 NOAA Price	1985 NOAA Price
<b>Imagery products</b>				
70 mm film positive (B&W)	\$8	\$8	\$76	\$30
70 mm film negative (B&W)	30	10	32	35
10 in film positive (B&W)	10	10	30	35
10 in film negative (B&W)	10	12	35	40
10 in paper positive (B&W)	8	10	30	35
20 in paper positive (B&W)	12	20	58	65
40 in paper positive (B&W)	20	35	95	105
10 in film positive (color)	15	25	74	80
10 in paper positive (color)	12	15	45	50
20 in paper positive (color)	25	35	90	110
40 in paper positive (color)	50	70	175	195
Generation of color composite	50	75	195	220
<b>Digital products</b>				
9-track, 1600 BPI OCT, MSS Scene	700	300	650	730

SUMMARY OF PRODUCT PRICES 1979-PRESENT FOR LANDSAT MULTI-SPECTRAL DATA—Continued

Products and services	1979 EDC Price	1982 EDC Price	1983 NOAA Price	1985 NOAA Price
9 track 1600 BPI OCT, REV (incl. 4 (Single subsensor))	200	300	650	730
9 track 1600 BPI OCT, REV (incl. 4 subsensors)	400	600	1,300	1,466
14 track high density tape (price per scene)	NA	NA	1,900	1,120

\* New NOAA service

THE DEPUTY SECRETARY OF COMMERCE,  
Washington, D.C., April 5, 1984.

HON. ERNEST HOLLINGS,  
U.S. Senate,  
Washington, D.C.

DEAR SENATOR HOLLINGS: This letter is in response to your concerns regarding the cost of commercializing the Land Remote Sensing Satellite System.

Enclosed is a compilation of the projected costs through 1997 if the Government were to proceed with the Landsat program as currently configured. The figures are the "upper limits" based on the assumption of four additional satellites procured in two pairs. They do not include any receipts from Landsat data sales or capital investment from the contractor which would, of course, reduce the cost to the Government. We believe substantial savings can be realized

through use of less expensive systems built by pursuing alternative spacecraft and sensor options.

With regard to the proposals currently under review by the Source Evaluation Board, I am aware of the desirability from your standpoint of having more detailed information concerning the range of costs to the government of the proposals. Nevertheless, I am gravely concerned that premature release of this information could jeopardize the procurement process. Any advantage provided to a bidder through inadvertent disclosure of proprietary information contained in these proposals could chill the negotiations yet to come and place the government at a disadvantage in its effort to structure the most favorable deal for the taxpayer.

As the Secretary has stated, we will not proceed with commercialization unless it is a good deal for the taxpayers. I want to assure you in the strongest possible terms that we will not make an award under the RFP unless the projected cost to the government is substantially less than the figures outlined on the enclosed sheet.

I appreciate the cooperation and assistance your staff has provided and look forward to quick Congressional consideration and passage of the time-critical Landsat legislation.

Sincerely,

CLARENCE BROWN.

LANDSAT COSTS

(In millions of dollars)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Operations	33	39	39	39	40	40	40	40	40	40	40	40	40	40
Spacecraft and launching:														
D <sup>I</sup>	76													
D <sup>II</sup> and D <sup>III</sup>	29	101	171	157	106	58	49	54	222	204	138	75	64	70
D <sup>IV</sup> and D <sup>V</sup>							38	131						
Total S/C and launch	55	101	171	157	106	58	87	185	222	204	138	75	64	70
Total Landsat program	88	140	210	196	146	98	127	225	262	244	178	115	104	110
Launches	D <sup>I</sup>				D <sup>II</sup>			D <sup>III</sup>			D <sup>IV</sup>			D <sup>V</sup>

\* Based on Landsat D<sup>I</sup> and D<sup>II</sup> estimates and inflated at 5 percent per year. Average annual costs from FY 85 through FY 94: Operations, \$40,000,000; Spacecraft and Launching, \$143,000,000; Total, \$183,000,000 per year.

The bill was ordered to be engrossed for a third reading, read the third time, and passed, as amended.

Mr. BAKER. Mr. President, I move to reconsider the vote by which the bill was passed.

Mr. BYRD. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

GRATUITY TO MATTIE WASHINGTON

The resolution (S. Res. 397) to pay a gratuity to Mattie Washington, was considered, and agreed to as follows:

S. RES. 397

Resolved, That the Secretary of the Senate hereby is authorized and directed to pay, from the contingent fund of the Senate, to Mattie Washington, mother of Robert A. Hunter, an employee of the Senate at the time of his death, a sum equal to six months' compensation at the rate he was receiving by law at the time of his death, said sum to be considered inclusive of funeral expenses and all other allowances.

Mr. BAKER. Mr. President, I move to reconsider the vote by which the resolution was agreed to.

Mr. BYRD. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

PRIVATE RELIEF

The resolution (S. Res. 398) to pay a gratuity to Peter Washington; James A. Washington; Harvey E. Washington; Don Washington; Travis A. Washington; Diane Cook; Jacqueline Greene; and Tracey R. Washington was considered, and agreed to as follows:

S. RES. 398

Resolved, That the Secretary of the Senate hereby is authorized and directed to pay, from the contingent fund of the Senate, to Peter Washington, James A. Washington, Harvey E. Washington, Don Washington, Travis A. Washington, sons of Joyce E. Washington, and Diane Cook, Jacqueline Greene, Tracey R. Washington, daughters of Joyce E. Washington, an employee of the Architect of the Capitol assigned to duty in the Senate Office Buildings at the time of her death, a sum equal to six months' compensation at the rate she was receiving by law at the time of her death, said sum to be considered inclusive of funeral expenses and all other allowances.

Mr. BAKER. Mr. President, I move to reconsider the vote by which the resolution was agreed to.

Mr. BYRD. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

NATIONAL BIRDS OF PREY CONSERVATION WEEK

The joint resolution (S.J. Res. 230) to designate the week of October 7, 1984, through October 13, 1984 as "National Birds of Prey Conservation Week," was considered, ordered to be engrossed for a third reading, read the third time, and passed.

The preamble was agreed to.

The joint resolution and preamble are as follows:

S.J. Res. 230

Whereas hawks, owls, and other birds of prey are vital ecological components of the wildlife communities in which they live, and are important environmental indicators of ecosystem quality;

Whereas forty of the fifty-three species of birds of prey that occur regularly in the United States have been listed by one or