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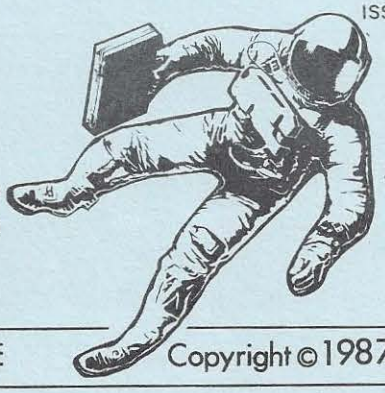

A MONTHLY NEWSLETTER ON FREE ENTERPRISE IN SPACE

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First Amendment vs. Military: Media Access To Satellite Imaging

Use of existing and future orbiting satellites to provide detailed images of events on the earth's surface has generated a controversy which involves national security, the First Amendment, and the right to privacy.

U.S. military and intelligence officials are worried about news media access to detailed images collected by orbiting earth satellites, fearing that unrestricted access to such images could prove a risk to national security interests. These officials want the right to put limits on satellite images available to the press.

Media representatives disagree. The Radio-Television News Directors Association (RTNDA), among others, counters that arbitrary restrictions on imaging amounts to "prior restraint," a violation of the First Amendment.

This issue has been simmering on the back burner ever since earth resources satellites were first orbited. In the Free World there are presently only four satellites capable of returning detailed images from orbit (this does not include weather satellites or, of course, military reconnaissance satellites whose images are not available to the public).

Landsats 4 and 5 are currently the only operational U.S. earth resources satellites, launched in 1982 and 1984 respectively. In 1984, the U.S. Congress passed the Land Remote-Sensing Commercialization Act (the Landsat Act), which began a long and arduous attempt to commercialize the Landsat program.

The company selected to commercialize the system was the Earth Observation Satellite Company (EOSAT), a joint venture between the Hughes Aircraft Co. and RCA. EOSAT took over with the understanding that the deal would include hefty government subsidies (in the neighborhood of $250 million) to help finance new ground facilities and the construction of Landsats 6 and 7.

Unfortunately for EOSAT, the subsidies fell afoul of the Gramm-Rudman-Hollings act, and the company has been floundering ever since. At present EOSAT is hoping for a reprieve from the Reagan administration, or a possible bailout from the Department of Defense--Landsat's single largest customer.

In February of 1986, the French remote sensing satellite SPOT (System Probatoire d'Observation de la Terre) was launched on an Ariane. SPOT, a major competitor to the Landsat, is represented in the U.S. by the SPOT Image Corporation. This company is in somewhat better shape than EOSAT, and looks forward to making enough to cover its operating expenses during the coming year. SPOT 2 is being readied for operation, and will probably be launched sometime in 1989.

Finally, last February, Japan launched Marine Observation Satellite One (MOS-1) aboard a Japanese N-2 booster. MOS-1 is Japan's first earth resources satellite.

All of these satellites operate by scanning the earth's surface with a variety of sensors, digitizing the results and transmitting them to receiving stations on the earth's surface. There they are stored on magnetic tape. EOSAT, Spot Image, and other companies and agencies take this data and use computers to translate them into a variety of images at prices ranging from $50 to $1,800 per image.

The data making up these images can be manipulated in a number of ways to bring out features of specific interest to the customer. Some images are artificially colored to enhance the contrast between different features, i.e. two types of vegetation or different geological features. Data can also be processed into images which closely resemble photographs, either color or black-and-white. It is these images that are of the most interest to the news media.

The impact of earth resources satellites on the news media began in earnest with the Chernobyl reactor incident which took place in the Soviet Union in the spring of 1986. When the Soviets initially refused photo access to the accident site, the news media used images of the accident provided by both Landsat and the then-new SPOT. Since then, images have been published by the media which include Soviet nuclear test sites, Soviet launch facilities, battle sites in the Persian Gulf, and others. A company in Sweden, Space Media Network, has been formed primarily to market remote sensing images to the news media.

Where the news industry ran afoul of the U.S. Government was when it expressed a desire for satellites owned and operated by the media themselves--"Mediasats"--with an image resolution better than any provided by existing non-military earth resources satellites. The U.S. Government, in particular the Departments of Defense and State, feels that such high-resolution images should not be made available to the press without first being cleared by authorities.

"Image resolution" in this context refers to the amount of visible detail in an image. A photograph with a 1 meter resolution, for example, means that objects as small as 1 meter across can be discerned. Obviously, the smaller this number is, the more details you can see.

The image resolution currently available from existing satellites is 30 meters for Landsat color images (the new Landsat 6 would provide resolutions of 15 to 20 meters when--or if--it is launched), 20 meters for SPOT color images, and 10 meters for SPOT black-and-white images. Japan's MOS-1 has a resolution of 50 meters or better. The resolution from military satellites is classified, but is estimated to be from 1 meter down to 15 centimeters (about 6 inches).

Mark E. Brender, chairman of the Media in Space Committee of the RTNDA, has stated that a Mediasat should have a 5 meter resolution or better. Sensors tailored for photo-type imaging and systems allowing rapid and timely delivery of images (to beat news deadlines) were also mentioned as desirable characteristics, but it is the 5-meter figure that is the sticking point with the government.

The government has drawn a line at 10-meter resolution which it does not want the private sector to cross. There are three methods which the government could use to restrict private high-resolution remote sensing operations:

One is an appeal to the right of privacy. It can be argued that high-resolution imaging could intrude on the privacy of citizens. However, this argument does not hold much water. At 5-meter resolutions, no satellite could pick out individuals or their activities, unless the individuals are exceedingly fat. In any case, such an argument could be made against aerial photography, which has much higher resolutions, and no one thinks twice about this.

Another method would make use of a classified executive order specifically directing that no private remote sensing satellite should be allowed to operate at less than 10-meters of resolution. This order, Presidential Directive 37, was signed by President Carter in 1978. A strict interpretation and enforcement of this order could effectively stifle Mediasat.

The third, and probably most effective method would involve the Department of Commerce. The Commerce Department, specifically the National Oceanic and Atmospheric Administration (NOAA), was given the right to regulate remote sensing satellites by the previously-mentioned Landsat Act. The Act required the Department of Commerce to consult with the Departments of Defense and State, and NOAA is currently drafting regulations that could halt approval of any licenses if "national security" is deemed threatened by either of these two Departments.

According to one source, the proposed regulations would even allow NOAA to order "immediate termination" of a satellite operation which has been determined to be a security threat, before any hearing on the subject takes place.

Press representatives, not surprisingly, feel that the NOAA regulations, as they stand, violate the First Amendment by constituting "prior restraint" of information. In testimony before the House Committee on Science, Space and Technology, Mark Bender stated that the proposed regulations "could be interpreted to give the Departments of Defense and State a virtual carte blanche to impose ad hoc restrictions on media remote sensing--now and in the future--under the easily-manipulated rubric of national security and foreign policy."

The Defense Department insists that license denials do not constitute prior restraint, but only legal limitation of access to regulated facilities. The government fears that the media could play fast and loose with critical national security operations.

In a debate with Brender before the New York Bar Association, Retired Major General Jack E. Thomas gave an example: "Suppose that 300 hostages are being held somewhere. The media get a picture of an aircraft carrier...covered with helicopters. A rescue effort is about to be launched. Publication of that picture will destroy that mission."

Brender countered with examples of media restraint when national security was at stake--cases where the media had advance knowledge but kept it quiet, such as the invasion of Grenada and the bombing of Libya.

Others opponents of the government position have pointed out that the Soviets possess advanced reconnaissance satellites which certainly far exceed even the 5-meter resolving capability of the proposed Mediasat. Who exactly are we trying to keep the information from?

Some press representatives are not against regulations so much as they are against arbitrary regulations. The Supreme Court holds that the government must meet a strict standard of proof to justify any press restraints, and some in the media would be glad to accommodate "objective and reasonable" regulations.

I contend that any restriction at all of the right to gather news information from free space is one restriction too many. If an "objective and reasonable" resolution limit is drawn at 10 meters, or even 5 meters, a precedent will be set for government control of space imaging, and it would only be a matter of time before other, more stringent restraints would be brought to bear.

A Mediasat could be easily built. The technology to deliver the required 5-meter resolution is available. The design requirements for a Mediasat, which is

intended to deliver only clear, sharp visual images, are much less stringent than those of typical earth resources satellites, which must operate in several spectral bands. The money is also available--remember, we are talking about an industry that spent $300 million for the right to broadcast the 1988 Olympics.

However, as long as the specter of government restraint remains, it will be exceedingly difficult to get anyone to finance a U.S. Mediasat in the near future. If this happens, there will be nothing to stop the market from going overseas. It should not escape notice that even the Department of Defense has been purchasing SPOT imaging data from the French.

* * *

NASA Signs Commercial Agreement With General Dynamics

The National Aeronautics and Space Administration (NASA) has signed an agreement transferring the commercial operations of the Atlas/Centaur launch vehicle to General Dynamics. This is another step in the long road to commercialization of existing expendable launch vehicles. Under the terms of the agreement, General Dynamics, manufacturer of the Atlas, will acquire production and operating rights to build Atlas/Centaurs for commercial launches. General Dynamics will be able to use government-controlled facilities for commercial launches, but will have to reimburse the government for any direct costs incurred.

Atlas Launch Failure

On March 26, an Atlas/Centaur launch vehicle went out of control during flight and had to be destroyed by range safety personnel 71 seconds after lift-off. The Atlas was carrying a Fleet Satellite Communications military payload worth $83 million. This, added to the $78 million cost of the Atlas, brought the total mission loss to $161 million.

The most likely culprit in the incident is lightning from a thunderstorm at the launch site. An investigation by NASA and others is under way, and investigators currently believe that one or more lightning strikes hit the Atlas during flight. No strikes were observed on the vehicle during flight (the Atlas was hidden from ground viewers by low clouds), but analysis of recovered debris has revealed punctures in the payload fairing typical of lightning damage. Further Atlas launches are on hold until the investigation is completed.

One of the things investigators will want to determine is why NASA launched the Atlas during a thunderstorm, and in driving rains. According to NASA, the weather was within proper launch parameters. NASA is somewhat sensitive on the subject of weather-related launch failures--the loss of the Challenger was partially due to launching under questionable weather conditions.

Until next time,

Tom Brosz

The Commercial Space Report (C.S.R.) is published monthly, and endeavors to report and analyze developments in the field of private initiatives in space transportation and exploitation.

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