

from their targets, however, space-based systems also require much more capable and sophisticated sensors than do other kinds of reconnaissance systems. Furthermore, because space based systems cannot be maintained or repaired once they are launched, the components of the system must be designed and manufactured to withstand the rigors of constant use, over many years, without requiring any refurbishment or repair. Finally, components of reconnaissance satellite systems must be hardened against radiation, able to withstand the harsh environment of space, and capable of operating in substantial temperature ranges.

A reconnaissance satellite system consists of one or more satellites and associated ground facilities for support and data processing. A reconnaissance satellite has two primary components—the unmanned spacecraft itself, generally known as the “bus,” and one or more assemblies of sensors and other components, usually referred to as the “payload.” The payload enables the satellite to perform a specific reconnaissance mission. While the bus and the payload are separate products, the system and its payload have to be jointly developed because their performance is interdependent. The lead (“prime”) contractor for a reconnaissance satellite system has overall responsibility for the design, development, production, and integration of the system components. The prime contractor typically produces the spacecraft, and either produces or procures the ground facility components. The prime contractor may also produce or acquire launch vehicles or services for the satellites. The prime contractor typically acquires the payload from another manufacturer, and the U.S. Government relies on prime contractors to select payloads based on their competitive merits so as to optimize over all system performance.

TRW is one of the few companies that has the capability to be the prime contractor on a U.S. reconnaissance satellite system. Northrop is one of only two companies that has the capability to be the radar or EO/IR payload provider on U.S. reconnaissance satellite systems.

Radar Reconnaissance Satellite Systems

Radar is the process of sending out radio waves and listening for the echoes that result when they strike and bounce off an object. The United States deploys many types of radars using distinctive signal processing technologies. Imaging radars, for example, can create photograph-like images and identify and track moving targets. Because radars can see through clouds, operate at night, and function independently of the energy emitted by a target, radar reconnaissance satellite systems will be able to gather information of a type and under conditions that cannot be duplicated by other types of reconnaissance satellite systems.

The Space-Based Radar (“SBR”) program is a DoD program intended to develop and produce an operational radar reconnaissance satellite system. The Request for Proposal for SBR is expected to be issued in early 2003, and the first SBR satellite launch is scheduled for 2010. TRW is one of a few companies with the capability to be the

prime contractor for the SBR program. The only companies with the capability to supply the advanced radar sensors for the SBR program are Northrop and one other company, both of which have been developing their radar capabilities, and receiving funds and evaluations from the U.S. Government, in anticipation of the SBR program. It is expected that the potential prime contractors and radar reconnaissance satellite payload providers will have to form teams for the SBR competition no later than 2003.

The Complaint alleges that the development, production, and sale of radar reconnaissance satellite systems is a product market. As described above, the mission and performance characteristics of such systems are sufficiently different from the mission and performance characteristics of non-radar reconnaissance satellite systems, and from non-space-based radar reconnaissance systems, that a small but significant increase in prices for radar reconnaissance satellite systems would not cause the only customer, the U.S. Government, to switch to other types of systems so as to make such a price increase unprofitable and unsustainable.

The Complaint also alleges that the development, production and sale of radar reconnaissance satellite payloads is a product market. As described above, the mission and performance characteristics of such payloads are sufficiently different from the mission and performance characteristics of non-radar reconnaissance satellite payloads, and from non-space-based radar reconnaissance payloads that a small but significant increase in prices for radar reconnaissance satellite payloads would not cause the only customer, the U.S. Government, or prime contractors competing to provide reconnaissance systems to the U.S. Government, to switch to other types of systems or other types of payloads, so as to make such a price increase unprofitable and unsustainable.

EO/IR Reconnaissance Satellite Systems

EO/IR systems detect electromagnetic radiation emitted or reflected from objects within the spectrum from far infrared to far ultraviolet. These components are used to detect, locate, identify, or track a target. EO/IR Early Warning (“EW”) systems are used in missile defense programs to detect the hot plumes of a missile launch. EO/IR sensors may be found on a number of different platforms, including aircraft and satellites, and are already used as part of the Defense Support Program (“DSP”) satellite system to provide early missile warning.

The current programs designed to provide space-based EO/IR reconnaissance capabilities are called the Space-Based Infrared System (“SBIRS”) High and SBIRS-Low. SBIRS-High will provide a system of satellites orbiting thousands of miles above the earth, scanning large sections of the planet for signs of a missile launch, and warning of that event if it occurs. One of TRW’s competitors will serve as the prime contractor for SBIRS-High, and Northrop will supply the EO/IR payload. SBIRS-High will serve to provide essentially the same mission as the current DSP program, but will employ higher-performance instrumentation. SBIRS-Low is a planned system of satellites in

lower-earth orbit that will “acquire” a missile and track it so that it may be intercepted. The acquisition function proposed for SBIRS-Low is similar to the work being done by DSP and planned for SBIRS-High; in contrast, the tracking function planned for SBIRS-Low is a different and much more technically difficult one.

The Missile Defense Agency (“MDA”), Which Controls the SBIRS program, established a “national team” for SBIRS-Low in April 2002, naming TRW as the prime contractor. The MDA plan calls for a continuing competition between the only two potential payload suppliers. Northrop and another company, throughout the SBIRS-Low program. The competition between the two SBIRS-Low payload suppliers is to be run by TRW as the prime contractor. TRW, with nominal oversight from the United States, will choose the winner of the payload competition.

The Complaint alleges that the development, production, and sale of EO/IR systems can provide coverage of geographic areas that cannot be reached by other EO/IR systems and can provide persistent coverage of specific geographic areas. Further, EO/IR systems can detect missile launches and track missiles better than other types of reconnaissance systems. A small but significant increase in prices for space-based EO/IR systems would not cause the only customer, the U.S. Government, to switch to other types of systems so as to make such a price increase unprofitable and unsustainable.

The Complaint also alleges that the development, production and sale of EO/IR reconnaissance satellite payloads is a product market. Space-based EO/IR payloads are specially designed to work in a space-based EO/IR reconnaissance satellite system: other space-based payloads cannot perform the same missions or be used in EO/IR reconnaissance satellite systems. A small but significant increase in prices for EO/IR reconnaissance satellite payloads would not cause the only customer, the U.S. Government, or prime contractors competing to provide reconnaissance systems to the U.S. Government, to switch to other types of systems or other types of payloads, so as to make such a price increase unprofitable and unsustainable.

C. Harm to Competition as a Consequence of the Acquisition

If Northrop purchases TRW, it will own one of the few companies capable of competing as a prime contractor for radar or EO/IR reconnaissance satellite systems. TRW has demonstrated its technical, financial, and organizational ability to bid for, win, and perform on complex U.S. Government space systems by competing for and winning a number of such programs. Similarly, Northrop is one of only two companies with the capability to produce the payloads to be used on radar and EO/IR reconnaissance satellite systems.

Absent the protections afforded by the proposed consent decree, Northrop would have to incentive and ability post-merger to deny its competitors access to either its prime contractor or payload capabilities. If