

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of
EarthWatch Incorporated
Modification of Authorization to
Construct, Launch and Operate a
Remote Sensing Satellite System
File No. SAT-MOD-20000523-00095

ORDER AND AUTHORIZATION

Adopted: August 28, 2000 Released: August 29, 2000

By the Chief, Satellite and Radiocommunication Division, International Bureau:

I. INTRODUCTION

1. By this Order, we modify the construction completion and launch milestone deadlines for two Low-Earth Orbiting (LEO) satellites to be operated by EarthWatch Incorporated (EarthWatch). This action will enable EarthWatch to adequately test and evaluate its satellite components, thereby ensuring reliable remote sensing service to its customers.

II. BACKGROUND

2. EarthWatch was the first company to propose a commercial remote-sensing satellite system pursuant to the Land Remote Sensing Commercialization Act. Remote-sensing satellites use in-orbit passive optical sensors to measure light reflected from the earth's surface, and then transmit that information to a central earth station where it is transformed into useable information about the "remotely sensed" subject matter. Satellite remote-sensing systems can be used for mapping, resource conservation, law enforcement, national security, environmental monitoring, and forecasting functions.

3. In 1997, the International Bureau (Bureau) authorized EarthWatch to construct, launch, and operate two remote-sensing satellites, QuickBird-1 and QuickBird-2. The Bureau

1 Application of EarthWatch Incorporated For Authority to Construct, Launch and Operate a Remote Sensing-Satellite System, Order and Authorization, 10 FCC Rcd 10467, 10467 (para. 3) (Int'l Bur., 1995) (EarthWatch Authorization Order), citing Land Remote Sensing Commercialization Act, 15 U.S.C. § 4201 et seq.

2 EarthWatch Authorization Order, 10 FCC Rcd at 10467 (para. 2).

3 EarthWatch Authorization Order, 10 FCC Rcd at 10468 (para. 6).

4 EarthWatch Incorporated, Order and Authorization, 12 FCC Rcd 21637, 21638 (para. 5) (Int'l Bur. 1997) (First EarthWatch Modification Order).

originally established a construction completion deadline of July 1998 and a launch deadline of August 1998 for both QuickBird-1 and QuickBird-2.<sup>5</sup> At the request of EarthWatch and upon a sufficient showing, the Bureau later extended the milestones for those two satellites to June 2000 (construction completion), and August 2000 (launch).<sup>6</sup>

4. Prior to those deadlines, EarthWatch requested an extension of the construction completion deadline for QuickBird-2 to December 2000, and the launch deadline to December 2001. The Division found that EarthWatch justified an extension, though not for the full amount requested. The Division provided a construction completion milestone for QuickBird-2 of December 2000, and a launch deadline of April 2001.<sup>7</sup> In EarthWatch's request to extend the QuickBird-2 milestones, it did not seek extension of the milestones for QuickBird-1.<sup>8</sup>

5. Continuing to be faced with external obstacles in its attempts to complete construction and launch, EarthWatch now requests an extension of the QuickBird-1 construction completion milestone from June 2000 to November 2000, and the launch milestone from August 2000 to April 2001.<sup>9</sup> EarthWatch also seeks an extension of the QuickBird-2 construction completion milestone from December 2000 to May 2001, and the launch milestone from April 2000 to December 2001.<sup>10</sup> Alternatively, EarthWatch seeks a waiver of Section 25.117(e)(1), governing milestone extension requests.<sup>11</sup> Following public notice, no comments or oppositions were filed in response to EarthWatch's request.

### III. DISCUSSION

6. We find that EarthWatch has justified its request for extension of its satellite construction completion and launch milestones for QuickBird-1 and QuickBird-2. The request for QuickBird-1 is based on the deficiency of a critical component of the remote sensing satellite, the laser gyroscope. EarthWatch explains that, as it was completing construction of QuickBird-1 in January 2000, it learned from industry reports that the model of laser gyroscope it used in QuickBird-1, provided by Allied Signal (now L3 Navigation Systems), was experiencing degraded on-orbit performance for several recently launched commercial and governmental spacecraft.<sup>12</sup> Because relying on that malfunctioning laser gyroscope could "sharply [limit] the operational and commercial capabilities of the spacecraft," EarthWatch decided it was necessary to replace it with a gyroscope provided by another manufacturer.<sup>13</sup> In order to minimize the

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<sup>5</sup> *First EarthWatch Modification Order*, 12 FCC Rcd at 21643 (para. 19).

<sup>6</sup> EarthWatch Incorporated, Order and Authorization, 12 FCC Rcd 19556, 19560 (para. 13) (Int'l Bur. 1997) (*Second EarthWatch Modification Order*).

<sup>7</sup> EarthWatch Incorporated, Modification of Authority to Construct, Launch and Operate a Remote Sensing-Satellite System, Order and Authorization, DA 00-909 (Int'l Bur., Satellite and Radiocommunication Div., released Apr. 24, 2000) (*Third EarthWatch Modification Order*).

<sup>8</sup> *See Third EarthWatch Modification Order* at para. 10.

<sup>9</sup> EarthWatch Request at 1.

<sup>10</sup> EarthWatch Request at 1.

<sup>11</sup> EarthWatch Request at 2.

<sup>12</sup> EarthWatch Request at 1.

<sup>13</sup> EarthWatch Request at 1.

extension of time EarthWatch would need to request as a result of this unforeseen technical problem, EarthWatch states that it paid a premium to expedite delivery of the new gyroscope.<sup>14</sup> EarthWatch states further that the replacement gyroscope is scheduled to be delivered in August 2000.<sup>15</sup> EarthWatch maintains that it will integrate the gyroscope into the satellite, complete the necessary environmental testing, and complete construction of QuickBird-1 by November 2000.<sup>16</sup> EarthWatch also expects to launch QuickBird-1 by April 2001.<sup>17</sup>

7. EarthWatch also requests an extension of the construction completion and launch milestones for QuickBird-2. EarthWatch seeks to extend the construction completion milestone from December 2000 to May 2001, and the launch deadline from April 2001 to December 2001.<sup>18</sup> EarthWatch asserts that it needs at least six months after the launch of QuickBird-1 to finish testing all the components of QuickBird-2 and to correct any deficiencies if necessary.<sup>19</sup> In one of its earlier extension requests, EarthWatch also observed that it would be preferable not to launch QuickBird-1 and QuickBird-2 at the same time, so that EarthWatch can benefit from its experiences with QuickBird-1 before launching and operating QuickBird-2.<sup>20</sup>

8. Generally, we grant milestone extensions only for circumstances beyond the control of the licensee.<sup>21</sup> For example, we have found in the past that unanticipated technical problems can justify a milestone extension.<sup>22</sup> The circumstances presented by EarthWatch are consistent with this standard. EarthWatch has shown convincingly that its original gyroscope is not likely to work as planned and this component failure would seriously impact its proposed service. In addition, EarthWatch has more than commenced construction of QuickBird-1 and QuickBird-2. Construction well underway and is progressing. In addition, EarthWatch has taken proactive

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<sup>14</sup> EarthWatch Request at 1.

<sup>15</sup> EarthWatch Request at 1-2.

<sup>16</sup> EarthWatch Request at 1-2.

<sup>17</sup> EarthWatch Request at 2.

<sup>18</sup> EarthWatch Request at 2.

<sup>19</sup> EarthWatch Request at 2.

<sup>20</sup> *Third EarthWatch Modification Order* at para. 7.

<sup>21</sup> 47 C.F.R. § 25.117(e)(1). *See also* MCI Communications Corporation, *Memorandum Opinion and Order*, 2 FCC Rcd 233 (1987) (*MCI Order*); Hughes Communications Galaxy, *Order and Authorization*, 5 FCC Rcd 3423, 3424 (Com. Car. Bur. 1990); National Exchange Satellite, Inc., *Memorandum Opinion and Order*, 7 FCC Rcd 1990, 1991 (para. 8) (Com. Car. Bur. 1992); Columbia Communications Corporation Application for Amendment to Pending Application to Extend Milestones, *Memorandum Opinion and Order*, DA 00-702 (Int'l Bur., released Apr. 5, 2000) (*Columbia Milestone Order*).

<sup>22</sup> *See* AMSC Subsidiary Corporation, Application for Modification of Construction Permit and License for the AMSC-1 Satellite, Order and Authorization, 10 FCC Rcd 3791 (Satellite and Radiocommunication Div., 1995) (short milestone extension granted to permit licensee to resolve unanticipated technical problems with antenna); American Telephone and Telegraph Company, Application for Modification of Construction Permit and License for the Telstar 402 Satellite, Order and Authorization, 9 FCC Rcd 2607 (Domestic Facilities Div., 1994) (short milestone extension granted to permit licensee to resolve unanticipated technical problems).

steps to mitigate the delay caused by external factors. Furthermore, the extensions sought here are relatively brief, and commensurate with the time needed to complete construction and launch of the satellites. For all these reasons, grant of these extensions would serve the public interest.

9. Because EarthWatch has commenced construction of both its satellites, it has shown a firm commitment to proceed with its business plan. Therefore, this case is distinguishable from cases in which the licensee seeks extension of a construction commencement milestone.<sup>23</sup> If a licensee does not even begin construction of its satellite by the date specified in its license, it raises substantial doubts as to whether the licensee intends to or is able to proceed with its business plan.<sup>24</sup> Furthermore, EarthWatch faced technical problems that, if left unaddressed, could have drastically reduced the remote sensing capabilities and thus impair service to its customers.<sup>25</sup> Consequently, EarthWatch's milestone extension request is based on tangible, physical, construction-related concerns, rather than nebulous assertions such as "regulatory uncertainty or technological advancements."<sup>26</sup> EarthWatch's milestone extension request also is distinguishable from several cases in which licensees sought milestone extensions for business reasons or economic considerations. Such factors are within the control of the licensee, and so cannot justify a milestone extension.<sup>27</sup>

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<sup>23</sup> See *NetSat 28 Company, L.L.C.*, Memorandum Opinion and Order, DA 00-1264 (Int'l. Bur., released June 26, 2000) (*NetSat Order*); *Morning Star Satellite Company, L.L.C.*, Memorandum Opinion and Order, DA 00-1265 (Int'l. Bur., released June 26, 2000) (*MorningStar Order*); *PanAmSat Licensee Corp.*, Memorandum Opinion and Order, DA 00-1266 (Int'l. Bur., released June 26, 2000) (*PanAmSat Order*).

<sup>24</sup> See *NetSat Order*; *MorningStar Order*; *PanamSat Order*. See also *AMSC Subsidiary Corporation*, Applications to Modify Space Station Authorizations in the Mobile Satellite Service, Memorandum Opinion and Order, 8 FCC Rcd at 4042 (para. 13) (failing to begin construction raises questions regarding the licensee's intention to proceed); *Norris Satellite Communications, Inc.*, Application for Review of Order Denying Extension of Time to Construct and Launch Ka-band Satellite System, Memorandum Opinion and Order, 12 FCC Rcd 22299, 22306 (para. 17) (*Norris Review Order*) (by failing to commence construction or request extension within the milestone deadline, licensee in that Order did not demonstrate a commitment to proceed with its proposed system). See also *AMSC Order*, 8 FCC Rcd 4040, 4042-43 (para. 14) (1993) (construction commencement demonstrates intention to proceed with business plan); *Application of GE American Communications, Inc.*, for Orbital Reassignment and for Modification of Authorization to Construct and Launch the Satcom H-1 Domestic Fixed-Satellite, Memorandum Opinion and Order, 7 FCC Rcd 5169, 5169 (para. 3) (Com. Car. Bur. 1992) (construction commencement demonstrates intention to proceed with business plan).

<sup>25</sup> See *EarthWatch Request* at 1.

<sup>26</sup> *Columbia Milestone Order* at para. 10; *Norris Review Order*, 12 FCC Rcd at 22308 (para. 21) (a claim of "regulatory uncertainty" does not constitute an independent basis for granting a milestone extension request, and so does not warrant an otherwise unjustified milestone extension); *Advanced Communications*, Application for Extension of Time to Construct, Launch and Operate a Direct Broadcast Satellite System, Memorandum Opinion and Order, 11 FCC Rcd 3399, 3412 (paras. 30-32) (1995) (*Advanced Order*) (Promoting technological development cannot substitute for concrete progress towards construction and operation of system).

<sup>27</sup> *Advanced Order*, 11 FCC Rcd at 3409 (para. 22); *American Telephone and Telegraph Company and Ford Aerospace Satellite Services Corporation*, Memorandum Opinion and Order, 2 FCC Rcd 4431, 4434 (para. 26) (1987); *MCI Order*, 2 FCC Rcd at 234 (para. 7), *citing* *Rock City Broadcasting, Inc.*, 52 FCC 2d 1246, 1250 (1975); *Community Broadcasters of Cleveland, Inc.*, 58 FCC 2d 1296, 1300 (1976).

**IV. ORDERING CLAUSES**

10. Accordingly, IT IS ORDERED that Application File No. SAT-MOD-20000523-00095 IS GRANTED. EarthWatch IS GRANTED authority to reschedule the construction completion and launch milestones of QuickBird-1 to November 2000 and April 2001, and to reschedule the construction completion and launch milestones of QuickBird-2 to May 2001 and December 2001.

11. IT IS FURTHER ORDERED that, unless extended by the Commission for good cause shown, this authorization shall become NULL AND VOID in the event the space stations are not launched and successfully placed into operation in accordance with this authorization by the following dates:

	<u>Complete Construction</u>	<u>Launch</u>
QuickBird-1	November 2000	April 2001
QuickBird-2	May 2001	December 2001

12. IT IS FURTHER ORDERED that this Order is issued pursuant to Section 0.261 of the Commission's Rules, 47 C.F.R. § 0.261, and that this Order is effective upon the date of its release.

13. IT IS FURTHER ORDERED that, except as modified by this Order, the *EarthWatch Authorization Order*, 10 FCC Rcd 10467 (Int'l Bur. 1995), *First EarthWatch Modification Order*, 12 FCC Rcd 21637 (Int'l Bur. 1995), *Second EarthWatch Modification Order*, 12 FCC Rcd 19556 (Int'l Bur. 1995), and *Third EarthWatch Modification Order*, DA 00-909 (Int'l Bur., Satellite and Radiocommunication Div., released Apr. 24, 2000), remain in full force and effect.

FEDERAL COMMUNICATIONS COMMISSION

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