

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of Application of )  
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)  
AFRISPACE, INC. )  
)  
For Authority to Construct, Launch )  
and Operate a Subregional Africa )  
and Middle Eastern Satellite Sound )  
Broadcasting Transmission System )

File No. CSS-90-017

**AMENDMENT**

**AFRISPACE, INC.**

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## Table of Contents

Executive Summary .....	iii
I. Overview .....	2
II. Background .....	3
A. AfriSpace Application .....	3
B. The AfriSpace Experimental License .....	9
1. Issuance of the Experimental License .....	9
2. Progress Under the Experimental License .....	11
C. ITU Coordination and Standardization .....	17
III. Review of Amendment to AfriSpace Application .....	18
A. Updated Description of AfriSpace Service and System .....	19
B. Need for Expedited Grant of a Full License .....	22
C. Regulatory Aspects of Application and Amendment .....	23
1. Private International Satellite System .....	23
2. Rationale for Changing Orbital Position .....	23
3. Numerous FCC Authorizations to Satellite Providers with Control Facilities Outside of the United States .....	25
4. Control of AfriSpace/Satellite and Facilities Remains in the United States .....	26
D. Orbital Location .....	27
E. Technical Considerations .....	27
F. Corporate Organization of AfriSpace .....	28
G. Financial Considerations .....	29
H. Public Interest .....	31
IV. Compliance with 47 C.F.R. §25.114 .....	32
V. Anti-drug Abuse Act .....	36
VI. Certification .....	36
VII. Further Information .....	37
VIII. Conclusion .....	37

## **List of Attachments**

**Attachment 1 - FCC Form 312 and Related Exhibits**

**Exhibit A - Ownership of AfriSpace and WorldSpace, Inc.**

**Exhibit B - Board of Directors and Officers of AfriSpace and WorldSpace, Inc.**

**Attachment 2 - Technical Description**

**Attachment 3 - Technical Certification**

**Attachment 4 - Financial Information**

**Attachment 5 - Estimated Operating Expenses**

**Attachment 6 - Financial Certification**

**Attachment 7 - Balance Sheet Current For The Fiscal Year -- 1997**

**Attachment 8 - Financial Commitments Reflected in the Balance Sheet**

**Attachment 9 - AfriStar Schedule and Milestones**

**Attachment 10 - Diagram of AfriStar System**

**Attachment 11 - Organizational Structure of WorldSpace, Inc. And AfriSpace**

**Attachment 12 - Background and Ownership Information Regarding WorldSpace International Network Inc.**

**Attachment 13 - Organizational Structure of WorldSpace, Inc. International Network Inc.**

**Attachment 14 - Diagram of AfriSpace Business**

## Executive Summary

On July 23, 1990, AfriSpace, Inc. (“AfriSpace”) filed an application for a private international satellite system to provide Broadcasting-Satellite Service (Sound) (“BSS(Sound)”) on a non-common carrier basis to Africa and the Middle East in the 1467-1492 MHz frequency band. AfriSpace hereby submits this amendment to update the information contained in its pending application, and bring its orbital location into conformance with the FCC experimental license granted to AfriSpace in 1991. AfriSpace also seeks to modify its application to include the use of the lower BSS(Sound) L-Band frequencies, specifically 1452-1467 MHz, subject to the results of a competent ITU conference to be convened for the planning of BSS(Sound) services in this lower band.

AfriSpace's mission has not changed since the day it was conceived -- to bring badly needed additional sources of information, entertainment and news to the vastly underserved people and communities of Africa and the Middle East. Africa has an average of 0.8 radios per household. In the United States, by contrast, there is an average of 5.4 radios per household; in Europe, typically, there are 3.0 radios per household.<sup>1</sup> The average American has access to a multitude of media outlets, including print media, over-the-air television, cable television, satellite services and many other information and entertainment sources, exemplified best by the exploding access to the Internet. In sharp contrast, most people in the regions to be served by the AfriStar satellite rely on radio as a primary means of accessing local and national information. A lucky few have access to unreliable shortwave radio providing limited access to international

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<sup>1</sup> United Nations Educational, Scientific and Cultural Organization (“UNESCO”) Statistical Yearbook 1996.

news and information resources. AfriStar will advance pluralism and the free flow of information by providing access to these sources of information to all citizens in Africa and the Middle East.

AfriSpace will be the first international private satellite system to offer BSS(Sound) technology to the developing nations of Africa and the Middle East. As Vice President Albert Gore stated at the International Telecommunication Union (“ITU”) Plenipotentiary Conference in Minneapolis last year, “. . . today, on the eve of a new century and a new millennium, we have an unprecedented opportunity to use these powerful new forces of technology to advance our oldest and most cherished values.”<sup>2</sup> Those values, as described by the Vice President, are “rising standards of living and literacy, an ever-widening circle of democracy, freedom, and individual empowerment.”<sup>3</sup> Satellite technology can break the economic equation that hinders the extension of communications services to remote and rural areas, and open new markets for U.S. products and services.

AfriStar will provide the platform for customers to deliver a mix of commercial and non-commercial programming, including public service information supplied by international, regional and national health and social welfare agencies. A strong component in this mix is expected to be programming produced by U.S. organizations. AfriStar will offer such U.S. programmers, and other U.S. international media organizations, the infrastructure necessary to

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<sup>2</sup> Vice President Albert Gore, Remarks before the 15th International ITU Plenipotentiary Conference, Minneapolis, Minnesota, U.S.A. (Oct. 12, 1998).

<sup>3</sup> *Id.*

reach the over one billion people in Africa and the Middle East which to date have been largely out of their reach.

On June 21, 1991, AfriSpace was granted an experimental license for the AfriStar system. This experimental license allowed AfriSpace, with the Commission's assistance, to build its business, develop and test its technology, and conduct different studies. In addition, the experimental license allowed AfriSpace to enter its last phase of development, the launch of the AfriStar satellite which successfully took place on October 28, 1998. In the second quarter of 1999, AfriSpace intends to initiate commercial trials of the AfriStar system. In addition, AfriSpace, has made great strides regarding the ITU coordination and standardization process. The ITU coordination process is in its final stages, in large measure due to the efforts and support of the FCC.

In summary, AfriSpace requests that the Commission grant this application and issue a private international satellite license on an expedited basis so that the public benefits of the AfriStar system will be realized as rapidly as possible.

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**AMENDMENT**

AfriSpace, Inc. (“AfriSpace”), pursuant to Section 25.116 of the Federal Communications Commission’s (“FCC” or “Commission”) Rules, 47 C.F.R. §25.116 (1997), hereby submits this amendment to its pending application for a private international satellite system in the 1467-1492 MHz frequency band (hereinafter referred to as “Amendment”). Through this Amendment, AfriSpace respectfully requests permission to: (i) update the information contained in its application for a full license for the AfriStar private international satellite system to provide facilities on a non-common carrier basis for customers wishing to provide international Broadcasting-Satellite Service (Sound) (“BSS(Sound)”) to Africa and the Middle East in the 1467-1492 MHz frequency band; (ii) bring its orbital location into conformance with the FCC experimental license granted to AfriSpace in 1991, as amended; and (iii) modify its application to include the use of the lower BSS(Sound) L-Band frequencies, specifically 1452-1467 MHz,



subject to the results of a competent International Telecommunication Union (“ITU”) conference to be convened for the planning of BSS(Sound) services in this lower band.

## **I. Overview**

Despite the fact that one in every eight people on Earth live in Africa, it remains the last economic and political frontier on the planet. In the 1990's, many nations in Asia and Latin America, as well as Eastern Europe, instituted economic and political reforms long encouraged by the United States. A new era dawned as the Cold War died. Unfortunately, the African people were largely left behind in this rush to reformation, though the start of political and economic reform has lately commenced in several countries in the region. President Clinton's visit to Africa last year highlighted the progress that has been made and the commitment of the United States to provide greater assistance to, and investment in, the nations and people of Africa. As President Clinton said before that trip, “the United States stands ready to be a partner in Africa’s prosperity.”<sup>4</sup> Many obstacles, however, remain subject to or dependant upon full realization of economic development and political reform in Africa and the Middle East.

Information and communication scarcity is one such obstacle to sustainable development in these regions. AfriSpace intends to assist in remedying that situation by providing the facility by which the people of Africa and the Middle East will have access to a true cornucopia of digital audio and ancillary services. For the first time, the average listener in Africa and the

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<sup>4</sup> President William Jefferson Clinton, Statement on House of Representative Action on the “African Growth and Opportunity Act,” 34 Weekly Comp. Pres. Doc. 416 (Mar. 11, 1998).



Middle East will be able to choose from and compare a diversity of sources of news, opinion, music and entertainment - a true realization of the free flow of information encouraged by U.S. policies and embodied in the United Nations Charter. AfriSpace will be the latest manifestation of long-established U.S. policy to use space technology -- ranging from fixed satellite services and remote sensing to low earth orbiting satellite systems -- to promote economic growth in developing regions.

For AfriSpace, the vision remains the same, though it has matured with the support of the FCC under its experimental license program and through its coordination of AfriStar before the ITU. AfriSpace was thus able to move into the next stage, with the launch of its AfriStar satellite on October 28, 1998, and testing of the satellite on an experimental basis, before initiating commercial trials planned in the second quarter of 1999.

The sections which follow describe the progress made by AfriSpace, and its parent company, WorldSpace, Inc.,<sup>5</sup> in bringing forward the vision that has driven this venture since 1990, including the refinements made to the technology, the business structure and the service delivery mechanism.

## **II. Background**

### **A. AfriSpace Application**

AfriSpace submitted an application on July 23, 1990 to construct, launch and operate a private international satellite system to provide BSS(Sound) to Africa and the Middle East

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<sup>5</sup> See Attachment 11 for an organizational chart relating to WorldSpace, Inc. and AfriSpace, Inc.

(hereinafter referred to as “Application”).<sup>6</sup> In a subsequent letter to the Commission dated August 6, 1990, AfriSpace clarified that it was only requesting that the Commission issue a construction permit to commence construction of its first satellite, AfriStar, which was FCC policy in 1990.<sup>7</sup> The Application was placed on Public Notice on October 12, 1990, and comments were requested from interested parties.<sup>8</sup> The Public Notice stated that the Application had not yet been accepted for filing by the Commission. In particular, the FCC specifically invited comments from the Executive Branch in view of the national interest and foreign policy issues raised by the application.

Supportive comments were received by more than 30 parties, encompassing U.S. Government agencies,<sup>9</sup> representatives from educational institutions, industry members, foreign

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<sup>6</sup> AfriSpace, Inc., Application to the Federal Communications Commission “For Authority to Construct, Launch and Operate a Subregional Africa and Middle Eastern Satellite Sound Broadcasting Transmission System,” FCC File No. CSS-90-017 (July 23, 1990).

<sup>7</sup> Letter from Barbara L. (Pixie) Waite to Donna R. Searcy, Secretary, Federal Communications Commission (Aug. 6, 1990). Before 1996, the FCC’s licensing policy for satellites contemplated issuance of a construction permit prior to issuing a launch and operating license.

<sup>8</sup> Public Notice, Report No. I-9501, (Oct. 12, 1990).

<sup>9</sup> Comments were filed by the Department of State, the National Telecommunications and Information Administration within the Department of Commerce (“NTIA”), and the National Aeronautics and Space Administration (“NASA”). The Department of State stated that it had “weighed the foreign policy issues involved and has no objection to the Commission proceeding with consideration of this application.” However, given that an international frequency allocation had not been made yet for BSS(Sound), and that the United States had not reached a position as to what domestic spectrum allocation should be used for such a service, the Department of State did not take a position on the frequency band issue. Comments of Department of State, at 1. NTIA stated that it

governments, regional, and multilateral and international organizations, including African and Middle Eastern organizations and private citizens.<sup>10</sup> No party filed a petition to deny the

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“supported the implementation of such services as an important opportunity for United States industry, from a commercial perspective.” Although NASA was not able to endorse specific commercial entities or undertaking, it did state in its letter that “. . .NASA supports the commercial utilization of space and space communications technologies in a manner consistent with the benefit of citizens of the United States and the world. It is NASA’s view that the concept of an international satellite sound broadcasting system represents such a potentially beneficial utilization of space and space communications technology.” Comments of NASA, at 1.

<sup>10</sup> In addition to the U.S. Government agencies mentioned in the preceding footnote, the following parties also filed supportive comments: Access Network; ADVANCE, Incorporated; AfriSpace (submitting letters of support from Union of National Radio and Television Organizations of Africa (URTNA); PanAfrican News Agency; U.S. Embassy, Botswana; Office de Radiodiffusion Television du Senegal; B.S. Rao, ITU Project Coordinator; Satellite Broadcasting Saudi Arabia; Radio & Television Union of the Government of Egypt; Radio Canada International; Council of Europe; International Institute of Communications; the Ministry of Information of the People’s Democratic Republic of Ethiopia; Government of Benin; African, Caribbean and Pacific Group of States; Embassy of the Republic of Zimbabwe; Zimbabwe Broadcasting Corporation; Minister of Information and the Press of the Republic of Zaire; Ministry of Communication of the Republic of Niger; Ministry of Culture & Communication of the Republic of Senegal; and Government of Guinea); American Association of Community and Junior Colleges; American Association of University Women; Black College Satellite Network; California Center for International Private Enterprise; California State University; The Christian Science Publishing Society; Colorado Video, Inc.; Defense Systems, Inc.; Engineering Technologies, Inc.; Frank B. Hall & Company, Inc.; Department of Radio, TV and Film, School of Communications, George Washington University; Hispanic Information & Telecommunications Network, Inc.; Wegard D. Holby, Esq.; Abiyi R. Ford, Howard University; Sulayman S. Nyang, Ph.D., College of Liberal Arts, African Studies & Research Program, Howard University; International Technologies, Inc.; International Telecommunication Union; Molajo Group, Inc.; Morgan Graphics; Multi-Technology Analysis & Research Corporation; National Association of Arab Americans; Donald R. Norland; Philip Olivetti; The Right-Roc Group; Société Internationale Financière Pour Les Investissements Et Le Développement En Afrique; Soundprint (John Hopkins University); Stanford

Application. The only issue of potential debate expressed by certain parties involved the allocation of frequencies to BSS(Sound),<sup>11</sup> which was resolved at WARC-92, as discussed below.

On November 9, 1990, AfriSpace filed a letter with the Commission explaining that the company was willing to accept a "license at any frequency within the range identified by ITU Resolution 520 (0.5-3.0 GHz) or WARC-92, notwithstanding its specification of 1470-1530 MHz."<sup>12</sup> Subsequently, AfriSpace's counsel filed a letter on January 25, 1991, after a meeting with Commission staff members, restating that it was not asking for a frequency allocation or a full license, but was asking only for a construction permit at that time.<sup>13</sup>

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Telecom; Gary J. Strauch; TeleSystems International Corporation; Transcomm, Inc.; UNESCO; Peter Watkins; The World Bank; and World Christian Broadcasting Corporation. The following parties filed reply comments: National Association of Black Owned Broadcasters, Inc. and Voice of America Inc.

<sup>11</sup> See Comments filed by American Mobile Satellite Corporation, Communications Satellite Corporation and Motorola, Inc.

<sup>12</sup> Letter from Noah Samara to Donna R. Searcy, Secretary, Federal Communications Commission, regarding the Application of AfriSpace, Inc., FCC File No. CSS-90-017 (Nov. 9, 1990). NTIA supported acceptance of AfriSpace's application for filing, based on AfriSpace's amendment, which stated that AfriSpace would accept a grant and subsequent license at any frequency within the range identified by ITU Resolution 520 (0.5-3.0 GHz) or WARC-92. Moreover, NTIA noted "that other nations are contemplating similar activities and, therefore, encourage[d] all reasonable expediency in this matter." Comments of NTIA, at 1-2.

<sup>13</sup> Letter from Tara Kalagher Giunta, Attorney for AfriSpace, to Donna R. Searcy, Secretary, Federal Communications Commission, regarding the Application of AfriSpace, Inc., FCC File No. CSS-90-017 (Jan. 25, 1991).

On January 30, 1991, AfriSpace filed a minor amendment to its pending Application, notifying the Commission that: (i) AfriSpace had become a wholly-owned subsidiary of WorldSpace, Inc.; (ii) AfriSpace had been reconstituted as a Maryland corporation; and (iii) no substantive changes had been made to the ownership and control of AfriSpace as a result of the corporate reorganization.<sup>14</sup>

Through its counsel, AfriSpace submitted a letter to the FCC clarifying various questions raised by Commission staff in a meeting held on April 9, 1991.<sup>15</sup> AfriSpace reiterated that, at that time, it was seeking only a construction permit and not specific frequencies. It also emphasized that it would operate as an private international satellite system and would not be providing any services to or within the United States. On July 30, 1991, AfriSpace submitted a separate application for a pioneer's preference,<sup>16</sup> restating a request that had been made in its pending application.<sup>17</sup>

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<sup>14</sup> Amendment to Application of AfriSpace, Inc., FCC File No. CSS-90-017 (Jan. 30, 1991).

<sup>15</sup> Letter from Tedson J. Meyers, Attorney for AfriSpace, to Gerald P. Vaughan, Deputy Chief, Common Carrier Bureau, Federal Communications Commission, regarding Application of AfriSpace, Inc., FCC File No. CSS-90-017 (Apr. 23, 1990).

<sup>16</sup> Letter from Tedson J. Meyers, Attorney for AfriSpace, to Donna R. Searcy, Secretary, Federal Communications Commission, regarding Establishment of Procedures to Provide a Preference to Applicants Proposing an Allocation for New Services, General Docket No. 90-217; FCC File No. CSS-90-017; Supplemental Notice of Inquiry, Gen. Docket No. 89-554 (July 30, 1991).

<sup>17</sup> Application, *supra* n. 5, at 77.



On March 3, 1992, WARC-92 allocated the band 1452-1492 MHz for facilities downlinking BSS(Sound), with immediate use permissible in the upper 25 MHz of that band (*i.e.*, 1467-1492 MHz).<sup>18</sup> On May 6, 1992, AfriSpace filed an amendment to its pending Application.<sup>19</sup> The amendment was filed to bring AfriSpace's Application up-to-date with the results of WARC-92 and to amend the technical specifications in the AfriSpace application.

On June 21, 1996, AfriSpace filed an amendment to its pioneer's preference request<sup>20</sup> in order to comply with the new requirements established by the Commission in ET Docket No. 93-266.<sup>21</sup> On September 11, 1997, the Commission terminated the pioneer's preference program

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<sup>18</sup> In footnote S5.344 to Resolution 528 (WARC-92), the United States reserved an alternative allocation in the L- Band (1452-1525 MHz) to fixed and mobile services on a primary basis. In footnote S5.393 the United States reserved an additional allocation (2310-2360 MHz) for BSS(Sound) downlinks within the United States. These footnotes to ITU Resolution 528 (WARC-92) are not applicable to AfriSpace because AfriSpace's facilities will downlink outside of the United States exclusively (*i.e.*, into Africa and the Middle East).

<sup>19</sup> Amendment to AfriSpace's Application and Amended Application for a Construction Permit, FCC File No. CSS-90-017 (May 6, 1992).

<sup>20</sup> Letter from Tara Kalagher Giunta, Attorney for AfriSpace, to William F. Caton, Acting Secretary, Federal Communication Commission, regarding AfriSpace Amendment to Pioneer's Preference Application in CSS-90-017 (Jun. 21, 1996).

<sup>21</sup> The Commission issued a Public Notice on May 14, 1996 stating that parties with outstanding pioneer's preference requests that had not reached the Tentative Decision Stage or complied with the new requirements set forth in the Second Report and Order and Third Report and Order in Docket 93-266 had to amend their applications by June 21, 1996. Filing Deadline Announced for Submission of Amendments to Pending Pioneer's Preference Requests, *Public Notice*, 11 F.C.C.R.13829 (1996).



and dismissed all pending pioneer's preference requests, including AfriSpace's request.<sup>22</sup> That dismissal was appealed by Qualcomm, but the appeal was denied by the Commission in April 1998.<sup>23</sup> A court challenge to this dismissal is pending.<sup>24</sup>

B. The AfriSpace Experimental License

1. Issuance of the Experimental License

In 1991, after discussions with FCC staff, AfriSpace filed an application for an experimental license in order to permit AfriSpace to proceed with its business venture while the ITU and the Commission resolved frequency allocation issues related to BSS(Sound).<sup>25</sup> On June 20, 1991, the FCC granted AfriSpace an experimental license for its space station to be located at 12 degrees W.L., and to use the 2310-2360 MHz band. The Commission also granted a separate experimental license for an uplink earth station to operate from the United States between 7015-7075 MHz.<sup>26</sup> The Commission's experimental license policies allowed AfriSpace to organize its

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<sup>22</sup> See Dismissal of All Pending Pioneer's Preference Requests; Review of the Pioneer's Preference Rules, *Order*, 12 F.C.C.R. 14006, 14009 (1997).

<sup>23</sup> See Dismissal of All Pending Pioneer's Preference Requests; Review of the Pioneer's Preference Rules, *Memorandum Opinion and Order*, 13 F.C.C.R. 11485 (1998).

<sup>24</sup> See *Qualcomm Incorporated v. FCC*, No. 98-1246 (D.C. Cir., May 21, 1998).

<sup>25</sup> Application of AfriSpace, Inc. For Experimental License, FCC File No. 2075-EX-PL-91, (June 10, 1991).

<sup>26</sup> See Experimental Licenses, FCC File Nos. 2075-EX-PL-91 and 2083-EX-PL-91 (issued June 21, 1991 and October 31, 1991, respectively). AfriSpace received an experimental radio station construction permit and license authorizing it to construct, launch and operate a satellite system on a non-commercial basis. In

business, develop and test its technology, conduct market studies, test the satellite, and launch and operate the AfriStar satellite on an experimental basis.<sup>27</sup>

Since 1991, the experimental license has been renewed every two years, with the most recent renewal set to expire in December 1999.<sup>28</sup> Various modifications and amendments have been made by AfriSpace during the past seven years to the experimental license. The most significant involved an amendment in 1992 to bring the frequency allocations into compliance with the outcome of WARC-92.<sup>29</sup> In 1994, pursuant to an agreement reached with NTIA and the

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1998, the Commission eliminated the rules requiring that a construction permit be obtained in conjunction with an experimental license. *See* Amendment of Part 5 of the Commission's Rules to Revise the Experimental Radio Service Regulations, FCC 98-283 *Report and Order*, (1998), ET Docket No. 96-256.

<sup>27</sup> Through its counsel, AfriSpace submitted a letter to the Commission clarifying that AfriSpace would not be withdrawing its application for a full license merely because it had received an experimental license. Letter from Tara Kalagher Giunta, Attorney for AfriSpace, to Donna R. Searcy, Secretary, Federal Communications Commission, regarding the Application of AfriSpace, Inc., FCC File No. CSS-90-017 (July 31, 1991).

<sup>28</sup> *See* Experimental License, FCC File No. 2075-EX-PL-91 (authorization effective from June 21, 1991 to Dec. 1, 1993); 2083-EX-PL-91 (authorization effective from Oct. 31, 1991 to Dec. 1, 1993); 3046-EX-ML-92 (authorization effective from July 20, 1992 to Dec. 1, 1993); 3046-EX-R-93 (authorization effective from Dec. 1, 1993 to Dec. 1, 1995); 4593-EX-ML-95 (authorization effective from Apr. 4, 1995 to Dec. 1, 1995); 4593-EX-R-95 (authorization effective from Dec. 1, 1995 to Dec. 1, 1997); and 4593-EX-R-97 (authorization effective from Dec. 1, 1997 to Dec. 1, 1999).

<sup>29</sup> On March 27, 1992, AfriSpace modified its space station experimental license to conform to the frequencies allocated by WARC-92, on a non-interference basis. The Commission granted a modified experimental license in the 1467-1492 MHz frequency band. Experimental License, FCC File No. 3046-EX-ML-92 (authorization effective July 20, 1992 to Dec. 1, 1993).

Department of Defense, AfriSpace requested permission to change the orbital location for the AfriStar satellite from 12 degrees W.L. to 21 degrees E.L., in order to eliminate possible coordination difficulties with Mobile Aeronautical Telemetry Service ("MATS") operations in the United States.<sup>30</sup> The modified experimental license was issued in April 1995.<sup>31</sup> At the time of the modification, AfriSpace returned its experimental license for an associated earth station in the United States because, as a result of the satellite's repositioning, the earth station would no longer be in view of the satellite.<sup>32</sup>

## 2. Progress Under the Experimental License

AfriSpace has made outstanding progress in developing its technology and business case under the Commission's experimental license program. In 1993, the Commission instituted a requirement that experimental licensees file status reports every six months. AfriSpace has filed such status reports for each subsequent six-month period, demonstrating the progress under the experimental license.

During 1992-1994, AfriSpace's parent, WorldSpace, Inc., negotiated with several major satellite manufacturers for the design, development and construction of its satellite system.

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<sup>30</sup> See Letter from Richard D. Parlow, National Telecommunication and Information Administration, to Richard M. Smith, Federal Communications Commission, (Sept. 9, 1994).

<sup>31</sup> Application of AfriSpace for New or Modified Radio Station Authorization, FCC File No. 4593-EX-ML-95 (Dec. 30, 1994), FCC Experimental File No. 4593-EX-ML-95 (authorization effective from Apr. 4, 1995 to Dec. 1, 1995).

<sup>32</sup> See Letter from Noah A. Samara to H. Franklin Wright, Office of Engineering and Technology, Federal Communications Commission (Mar. 20, 1995).



Consultations with technical experts enhanced the efficiency with which AfriSpace will use the frequency spectrum. As a result, a plan was developed to utilize time division multiplexing in addition to the already planned use of digital modulation techniques, thus allowing for a wider variety of audio service channel quality.<sup>33</sup> Additionally, moving the AfriStar satellite to 21 degrees E.L. reduced the possibility of harmful interference to fixed service transmitters.

WorldSpace, Inc. conducted users' conferences, involving representatives of international and national broadcasting organizations, global industrial electronics and consumer products manufacturers, governments, public telephone operators, United Nations agency and non-governmental organization representatives, as well as interested parties from telecommunications, banking and investment entities. As a result of information learned from these users' conferences, MPEG<sup>34</sup> 2.5 Layer 3 was selected as the audio compression coding standard for the system, enabling more efficient use of the radio frequency spectrum and greater access to the system by smaller programmers.

In January 1995, Alcatel Espace ("Alcatel") was chosen as the prime contractor to build and deliver in-orbit the AfriStar satellite, based on specifications for the end-to-end system design and integration of the various segments (*i.e.*, transmission, space, mission, radio, infrastructure and business) designed by Motorola, Inc. By the end of 1995, Matra Marconi

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<sup>33</sup> The service quality will range between AM monaural voice (16 kbps) to compact disk (CD) stereo voice/music (128 kbps) quality.

<sup>34</sup> MPEG is commonly known as a series of hardware and software standards designed to reduce the storage requirements of digital bit streams. The word MPEG is actually the acronym for the Motion Pictures Experts Group, a joint committee of the International Standards Organization ("ISO") and the Electrotechnical Commission ("EC").

Space ("Matra") was selected as the major subcontractor to Alcatel. Matra's EuroStar 2000+ design was selected for the satellite platform. Spectrum efficiency was greatly increased when a decision was made to reuse the downlink frequency band through polarization diversity.

In September 1995, an experiment was conducted by the Motorola Government Systems and Technology Group to test, in real-time, the AfriStar satellite network's Time Division Multiplexed ("TDM"), Quaternary Phase Shift Keying ("QPSK") modulated, digital waveform. The demonstration was conducted using an L-Band transponder on the Mexican Solidaridad II satellite and a transportable uplink located in Mexico. The signal reception and processing equipment were located at a site in Tempe, Arizona. The test results confirmed the robustness of the waveform and effectiveness of the audio source coding and error correction coding. The Fraunhofer Institute Integrierte Schaltungen ("FhGIIS") continued to progress the development of receiver technology.

Also during this period, the Gallup Research Organization conducted a market survey to ascertain and quantify the effects of various factors affecting market penetration of the AfriSpace BSS(Sound) service. Data was collected on such parameters as price sensitivity, programming choices, and consumer product availability. Overall, the results provided empirical evidence of strong interest and enthusiasm for the proposed service, and projections reflected that millions of receivers would be in use within five years of service initiation.

Steady progress continued on the design and development phase to the product development, testing and procurement stage. Specifically, in July 1996, AfriSpace completed BSS(Sound) system simulation activities and validation tests. These tests verified the compatibility of the digital format at the broadcast, space and radio segment levels for both



uplink and downlink signals. During this period, SGS Thompson (new ST Microelectronics) (Italy) and ITT Intermetall (Germany) (now Micronas Intermetall) were selected as the two initial radio chipset manufacturers for production of the micro-integrated circuits for the radio receivers. McKinsey & Company also was contracted to conduct further market research and strategy studies following the Gallup market survey.

In September 1996, FhGIIS conducted experiments to validate the quality of signal reception in stationary, portable and mobile environments.<sup>35</sup> Several operational modes were confirmed and a full report with quantitative results was produced. The qualitative results validated the complete end-to-end transmission chain. These results established a benchmark for further developmental tests and technical investigations.

By the end of 1996, the satellite manufacturing program progressed to the Critical Design Review (“CDR”) stage, and other aspects of the end-to-end system design continued to develop (e.g., receiver chipset development), along with ground network and feeder link station implementation.

Between 1996 and 1997, the company focused on finalizing the long-term financing of the system, as more fully described below. Achievements during this period were mostly accomplished through strategic alliances and interim debt financing. Industrial partners largely conducted design and development work for their respective aspects of the system, in

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<sup>35</sup> Key tests used a helicopter as a platform to simulate satellite operations and a personal computer-based prototype receiver. The test setup consisted of replaying a pre-recorded TDM bitstream, representative of various audio qualities, from a personal computer that was on board the helicopter. The helicopter hovered at altitudes between 3,000-10,000 feet and transmitted the amplified signal at various power levels and elevation angles.



anticipation of obtaining the funding necessary to move the program into full deployment and operation.

On December 15, 1997, Alcatel delivered the AfriStar payload to the Integration and Test facilities at Matra, which then commenced assembly of the payload with the spacecraft bus. Additionally, the ground network equipment for the operation and control of the AfriStar satellite completed final test stages.

From January through August 1998, the AfriStar payload underwent systems tests and final payload assembly procedures at the Matra Marconi Space and Interspace test facilities. Test results demonstrated that the communications payload functioned normally.

During these tests, the communications payload performance disclosed a potential difficulty if the satellite were to transmit at the higher end of the 1467-1492 MHz frequency band, due to phase noise that could be introduced into the signal by the interaction of payload signal generating components. This phase noise could cause receivers to suffer from intermittent loss of signal. However, the frequency plan for AfriStar (*see* Attachment 2 for a further description of the AfriStar frequency plan) calls for the satellite to transmit in frequencies well away from the higher end of its allocated range. Consequently, there is little likelihood that AfriStar will operationally experience phase noise.

In late August, the fully completed AfriStar satellite was shipped to the Alcatel launch facility in Kourou, French Guyana for launch vehicle integration. The AfriStar satellite shared a payload with a GE Americom communications satellite aboard an Arianespace Ariane 4 launcher.

The AfriStar launch took place on October 28, 1998 from Kourou. It resulted in successful insertion of the spacecraft into transfer orbit, from which ground controllers moved it to its present geostationary position at 21 degrees E.L. The launch and transfer orbit maneuvers were followed by the handover of ground control operations from CNES (the French space agency) to the AfriSpace Regional Operations Center ("ROC") and associated earth stations on November 9, 1998. However, the spacecraft will remain the responsibility of Alcatel until its formal acceptance at the In-Orbit Acceptance Review ("IOAR").

In-orbit payload testing commenced once the AfriSpace ROC assumed operational control of the AfriStar satellite. While, for the most part, the payload functioned normally. After conducting various tests, however, an anomaly was observed in the Payload Interface Unit ("PIU"), which controls the switching of the traveling wave tube amplifiers ("TWTAs") for two of the three beams. This anomaly limits the ability of AfriSpace to reconfigure the payload and, in the event that a TWTA fails, could reduce the capacity to back-up a failed TWTA with one of the back-up units. Inability to restore the operation of a failed TWTA may result in substantial loss of capacity, which may in turn, reduce the useful life of the satellite.

Shortly after the completion of In-Orbit Testing on January 7, 1999, the AfriStar satellite successfully completed end-to-end system tests, using production radios and other test equipment. AfriSpace will commence normal on-station operations of AfriStar following completion of the IOAR. This review is planned for the end of January 1999; however, the risks associated with the PIU anomaly will remain with Alcatel until all associated procedures regarding qualification and training are completed. This process is expected to be completed by

early March 1999, after which the AfriStar satellite will become available for commercial trials and eventual revenue service.

C. ITU Coordination and Standardization

After granting AfriSpace its experimental license in June 1992, the Commission commenced the ITU coordination process on behalf of AfriSpace by submitting advance publication information to the ITU for both the uplink and downlink frequency bands of AfriStar's wideband communications carriers. This information was published by the ITU in December 1992. Subsequently, the FCC sent the Request for Coordination information for AfriStar to the ITU in September 1994. The ITU published the Request for Coordination for AfriStar in July 1996. This publication provided all countries with notice of AfriSpace's intention to operate AfriStar at 21 degrees E.L., in the BSS(Sound) L-Band frequencies.<sup>36</sup> AfriStar was the first satellite for which a Request for Coordination was published by the ITU for BSS(Sound) in the L-Band to the African and Middle East region. On August 26, 1997, the ITU published the modification to the Request for Coordination for AfriStar, to add the uplink narrowband carriers and other information on the telemetry carrier.

The Commission, on behalf of AfriSpace, has conducted exchanges of information with commenting Administrations and reached coordination agreements with Ethiopia and Senegal.

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<sup>36</sup> Advance publication information for AfriStar initially identified the orbital location for the satellite as 12 degrees W.L. The orbital location was later changed to 21 degrees E.L. for reasons as stated above.

As of January 1999, the ITU had received 17 Letters of Association (“LOAs”) regarding AfriStar from various African and Middle Eastern countries, indicating their intention to authorize the use of AfriStar. These countries include: Angola, Botswana, Central African Republic, Democratic Republic of the Congo, Egypt, Gabon, Gambia, Ghana, Kenya, Lesotho, Liberia, Mauritius, Senegal, Sierra Leone, South Africa, Togo and Uganda.

In October 1998, Joint Working Group 10-11S of the ITU's Radiocommunication Bureau approved Recommendation BO.1130-1 on systems for digital sound broadcasting. The Recommendation states that the three digital audio broadcast systems developed to date, including the transmission system to be used by the AfriStar satellite network (referred to as Digital System D), are equally acceptable. Given the comparability between the systems, the Recommendation allows each individual government to decide which of the three digital audio broadcast systems to adopt. The Recommendation will be submitted for approval at the next full Study Group 10 meeting in June 1999, and for adoption at the ITU Radiocommunication Assembly in 2000.

### **III. Review of Amendment to AfriSpace Application**

This Amendment provides the Commission with updated information regarding AfriSpace's pending Application. Since AfriSpace's Application was originally filed in 1990, certain changes have taken place which AfriSpace brings to the Commission's attention below.

A. Updated Description of AfriSpace Service and System

AfriSpace proposes to operate an private international satellite system, called AfriStar, in the BSS(Sound) portion of the L-Band. Since 1990, when the Application was filed, AfriSpace's service objectives have remained the same.<sup>37</sup> AfriSpace will offer point-to-multipoint transmission capacity to customers exclusively on a non-common carrier basis. Initially, nearly all of the capacity will be leased to one customer, WorldSpace International Network Inc. ("WIN").<sup>38</sup> Win will resell capacity to programmers in need of BSS(Sound) transmission capacity in the African and Middle Eastern region.

AfriStar will serve close to sixty countries in the African and Middle East region, with a combined population of more than 1 billion people. By and large, radio is the leading form of information dissemination in those countries. As noted by many of the parties that submitted comments in support of AfriSpace's pending Application, however, radio programming options in these countries are few. There is limited access to local, regional or international news, entertainment and educational programming.<sup>39</sup> AfriStar will offer a reliable and vitally needed alternative to unreliable shortwave radio for international, regional and national audiences. It will allow programmers the ability to provide the people of Africa and the Middle East with a

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<sup>37</sup> See Application, *supra* n. 5, at 16.

<sup>38</sup> WIN is an off-shore company located in the British Virgin Islands in which WorldSpace, Inc. holds a 17 percent ownership interest. See also, Part III. F of the Amendment.

<sup>39</sup> See, e.g., Letter from Tara Kalagher Giunta, Attorney for AfriSpace, to Donna R. Searcy, Secretary, Federal Communications Commission, FCC File No. CSS-90-017 (Jan. 25, 1991).



broad range of programming and information in many languages, and consistent with audience interests and needs.

Since AfriSpace's Application was filed, the company has proceeded to develop its proposed system and certain changes have been introduced regarding the operational and technical aspects of the system. Attachment 2 and this Section of the Amendment update the system and technical descriptions set forth in Parts I and VIII of the Application.<sup>40</sup> These operational and technical aspects have been submitted to the FCC previously in reviewing the experimental license.

The AfriStar system consists of a geostationary satellite, associated ground control systems, associated network management systems and feeder link stations. The satellite is equipped with three downlink beams, each focused on a different geographical region within the satellite's overall coverage area.

AfriSpace will exercise complete technical and operational control over AfriStar through dedicated facilities and staff. Operation of the satellite is monitored and controlled by the ground control system consisting of a ROC located in Washington, D.C., and two Telemetry, Control and Range ("TCR") stations and one In-Orbit Testing/Communications Systems Monitoring ("IOT/CSM") facility, located off-shore, in line-of-sight of the satellite.

The TCR stations are located in Bangalore, India and Port Luis, Mauritius. The TCR station in India constitutes the primary technical control facility for AfriSpace's private satellite

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<sup>40</sup> Application, *supra* n. 5 at 14-22 (System and Service Description) and 80-97 (Technical Description).



system, while the station in Mauritius provides the technical back-up control facility for the system. The IOT/CSM facility is located in Libreville, Gabon.

The ROC in Washington, D.C. manages the performance and operation of all AfriStar systems, including the on-board communications payload. In addition, the ROC, through its mission control center, controls and facilitates the delivery and quality of the signals from the individual feeder link stations to the satellite by assigning the signals to the appropriate uplink frequencies and routing them through the onboard communications payload to their appropriate downlink carriers. The ROC controls the satellite from Washington, D.C. via dedicated telephone lines to the remote TCR stations.

*See* Attachment 2 to this Amendment for a more detailed technical and operational description of the AfriStar private international satellite system.

To finance the space segment, AfriSpace has entered into a 12-year lease agreement whereby it will lease AfriStar from an offshore company, WorldSpace Satellite Company, Ltd.<sup>41</sup> AfriSpace will offer capacity on AfriStar to its customers. Initially, nearly all of the capacity on AfriStar will be leased to WIN pursuant to a channel service agreement. *See* Attachment 8 to this Amendment for a summary and a copy of the lease and channel service agreements. WIN already has signed agreements with numerous global and regional audio broadcasters, including CNN International, Bloomberg, Kenya Broadcasting Corporation, Ghana Broadcasting

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<sup>41</sup> WorldSpace Satellite Company, Ltd. is a British Virgin Islands corporation and a wholly-owned subsidiary of WIN, also a British Virgin Islands corporation.

Corporation, Radio One Lebanon, Egyptian Radio and Television Union, Radio Sanyu Uganda, South Africa's Kaya FM, Benin's Golfe FM and Mali's Radio Kledu.

B. Need for Expedited Grant of a Full License

The AfriSpace Application has been pending before the Commission since 1990. As stated previously, over 30 parties filed comments in support of the proposed AfriStar private international satellite system, expressing their agreement that such a service was critically needed in the African and Middle Eastern regions.

AfriStar will operate on a non-exclusive basis. Because the AfriStar satellite is located at the 21 degrees E.L. orbital position and is not visible from U.S. territory, it will not cause interference to the U.S. systems operating in the same or adjacent frequency bands.<sup>42</sup>

AfriSpace has made substantial progress with its project, thanks to the Commission's encouragement through grant and renewal of the experimental license, and the FCC's assistance with the ITU coordination process. AfriSpace now requires a full license to operate the AfriStar satellite on a commercial basis at 21 degrees E.L.<sup>43</sup> In addition, AfriSpace, Inc. seeks to modify its application to include the use of the lower L-Band frequencies, specifically 1452-1467 MHz, subject to the results of a competent ITU conference to be convened for the planning of BSS(Sound) services in this lower band.

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<sup>42</sup> See Letter from Tara K. Giunta, Attorney for AfriSpace to Francis K. Williams, Chief, Treaty Branch, Office of Engineering and Technology, Federal Communications Commission, FCC File No. 1300AS-S-FKN (Mar. 31, 1994).

C. Regulatory Aspects of Application and Amendment

1. Private International Satellite System

AfriSpace will only provide facilities for its customers to provide programming to the African and Middle Eastern region on a private carriage basis. As such, AfriSpace is similar to PanAmSat, Orion and other international private satellite providers. Additionally, AfriSpace's customers will offer their programming outside of the United States; and therefore, they will not interfere with U.S. terrestrial radio broadcasters or S-DARS licensees providing service in the United States. AfriSpace is not subject to the rules established for Satellite Digital Audio Radio Service ("S-DARS") in the United States because it is not a domestic S-DARS system.<sup>44</sup>

2. Rationale for Changing Orbital Position

When AfriSpace filed its original experimental application in 1991, it requested the same orbital location (12 degrees W.L.) that it had specified in its July 1990 application to construct, launch and operate a private international satellite. The satellite's orbital position was within the U.S. line-of-sight. This location was chosen in order to "achieve AfriStar's primary coverage of the African-Arabian region, and still be controlled from U.S. territory . . ."<sup>45</sup> On December 30, 1994, pursuant to the above-mentioned coordination agreement with NTIA and DOD, AfriSpace filed a letter with its FCC Form 442 requesting a modification in its experimental license for a

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<sup>44</sup> See Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, *Report and Order Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 12 F.C.C.R. 5754 (1997).

<sup>45</sup> Application of AfriSpace, Inc. For Experimental License, *supra* n. 24, Exhibit 1 (June 10, 1991).

BSS(Sound) space station to relocate the satellite to 21 degrees E.L. from 12 degrees W.L. This change was made to eliminate concerns expressed to the Commission by other U.S. government agencies regarding potential interference to U.S. MATS sites.<sup>46</sup> Consequently, AfriSpace returned the related experimental earth station license which became unusable for a satellite at 21 degrees E.L.<sup>47</sup> As a result, the Commission issued AfriSpace a new experimental license at the 21 degrees E.L. location.<sup>48</sup> As part of the decision to move the satellite, AfriSpace and the Commission agreed to find an alternative means of controlling the satellite at the new 21 degrees E.L. location. It was acknowledged by both AfriSpace and the Commission that AfriSpace would maintain control of the satellite indirectly from the United States. Subsequently, AfriSpace constructed a spacecraft control network that included dedicated telephone lines to its TCR stations in Mauritius and India from the ROC located in Washington, D.C.

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<sup>46</sup> “. . . [F]rom the new location any chance of interference by the satellite into the Mobile Aeronautical Telemetry Service (“MATS”) in the United States will be virtually eliminated. Concerns about such potential interference have been expressed by the National Telecommunications and Information Administration (“NTIA”) and the Department of Defense (“DOD”). While an understanding has been achieved with NTIA and DOD on these issues, AfriSpace’s proposal contained herein to modify the location of the satellite should put to rest any remaining concerns concerning potential interference into U.S. MATS sites.” Letter from Timothy J. Logue, Space & Telecommunications Analyst, to Federal Communications Commission, Experimental Radio Service (Dec. 30, 1994).

<sup>47</sup> See Letter from Noah A. Samara to Franklin Wright, Office of Engineering and Technology, Federal Communications Commission (Mar. 20, 1995).

<sup>48</sup> Experimental License, FCC File No. 4593-EX-ML-95 (authorization effective from Apr. 4, 1995 to Dec. 1, 1995).

3. Numerous FCC Authorizations to Satellite Providers with Control Facilities Outside of the United States

Consistent with FCC precedent, while AfriSpace will offer its facilities to provide service outside of the United States, it will control the satellite from Washington, D.C. The Commission has previously authorized other private international satellite systems whose control facilities are out of line-of-sight of the United States, but who assure remote or indirect control through various facilities.

In 1992, for example, the FCC authorized PanAmSat Corporation (“PanAmSat”) to construct, launch and operate a new hybrid satellite in the Indian Ocean region (PAS-6).<sup>49</sup> As set forth in PanAmSat’s application, the Telemetry, Tracking and Control (“TT&C”) for the satellite would be accomplished from a new facility to be constructed abroad.<sup>50</sup> The facility performing the TT&C for the PAS-6 satellite is located in Perth, Australia. PanAmSat also has authority to construct, launch and operate a second satellite in the Indian Ocean Region (PAS-7).

PanAmSat’s TT&C facilities in Australia also are used to control the PAS-7 satellite. In addition, the Commission has granted PanAmSat special temporary authority to launch and

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<sup>49</sup> Alpha Lyracom, d/b/a Pan American Satellite, Application for Authority to Construct, Launch and Operate a Hybrid International Communications Satellite System (PAS-6), *Memorandum Opinion, Order and Authorization*, 7 F.C.C.R. 2974 (1992).

<sup>50</sup> See In the Matter of Application of Alpha Lyracom, d/b/a Pan American Satellite For Authority to Construct, Launch and Operate a Hybrid Separate System International Communications Satellite, File No. CSS-91-005 (Nov. 29, 1990), in Exhibit No. 1, at 2. See also, Application of PanAmSat Licensee Corp. For Authority to Construct, Launch and Operate a Hybrid C-/Ku Band Satellite in its Separate International Communications Satellite System, Application (Feb. 2, 1996), Exhibit 1.

operate the PAS-21 satellite, a C/Ku-band hybrid satellite, to be co-located with PAS-6. This satellite also is controlled through the TT&C facilities in Australia.

Similarly, the Commission has authorized numerous satellite service providers seeking authorizations for global satellite systems. Many of these systems have TT&C facilities located in overseas locations. In 1997, for example, the FCC authorized several global Ka-band systems whose systems proposed to use satellite control stations and facilities outside of the United States to control their satellites.<sup>51</sup>

#### 4. Control of AfriSpace/Satellite and Facilities Remains in the United States

AfriSpace's TCR stations, located in Mauritius and India, will operate via dedicated telephone lines which directly link back to the ROC in Washington, D.C. Thus, AfriSpace will be able to control the satellite at all times from its operations base in the United States. While the Commission rules allow operating of control facilities under contract to the licensee,<sup>52</sup> AfriSpace has chosen to operate the IOT/CSM facility in Gabon with AfriSpace employees, and to directly connect it to the ROC in Washington, D.C.

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<sup>51</sup> See, e.g., Morning Star Satellite Company, L.L.C. Application for Authority to Construct, Launch, and Operate a Ka-Band Satellite System in the Fixed-Satellite Service, *Order and Authorization*, 12 F.C.C.R. 6039 (1997); GE American Communications, Inc. Application for Authority to Construct, Launch and Operate a Ka-Band Satellite System in the Fixed-Satellite Service, *Order and Authorization*, 12 F.C.C.R. 6475 (1997).

<sup>52</sup> For example, not only is PAS-6's TT&C facility located in Perth, Australia, but the facility is operated under contract with Optus. The same is true for the PAS-7 and PAS-21 satellites.



D. Orbital Location

Through this Amendment, AfriSpace seeks to bring the orbital location in its Application in conformance with its experimental license, and requests that the location be changed from 12 degrees W.L. to 21 degrees E.L.<sup>53</sup> In April 1995, the FCC approved AfriSpace's request to move its orbital location to 21 degrees E.L. for its experimental license. The 21 degrees E.L. orbital slot is preferable because it eliminates possible coordination difficulties with MATS operations in the United States and reduces the possibility of harmful interference to fixed service transmitters. Further, as noted, with the assistance of the FCC, the ITU coordination process of AfriStar at 21 degrees E.L. is far advanced. Given these reasons, AfriSpace requests that the Commission accept its proposed change in orbital location for AfriStar.

E. Technical Considerations

Since the Application was filed in 1990, various technical modifications and improvements have been made to the system, as reported in the semi-annual reports associated with AfriSpace's experimental license. An updated Technical Description is contained in Attachment 2 to this Amendment, which replaces the Technical Description contained in Part VIII of the Application.

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<sup>53</sup> See Application, *supra* n. 5, at 91.

F. Corporate Organization of AfriSpace

As set forth in its Application and earlier amendments, AfriSpace is a U.S. company. It is 100 percent owned by WorldSpace, Inc., a Maryland corporation.<sup>54</sup> WorldSpace, Inc., is owned 97.5 percent by U.S. shareholders and 2.5 percent by foreign shareholders. *See* Exhibit A to FCC Form 312 (Attachment 1) to this Amendment. Since AfriSpace filed its 1991 amendment notifying the Commission of AfriSpace's reconstitution as a subsidiary of WorldSpace, Inc., certain corporate decisions have taken place.<sup>55</sup> Additionally, certain members of the Board of Directors and officers of WorldSpace, Inc., and AfriSpace have changed, as noted in Exhibit B to FCC Form 312 (Attachment 1) to this Amendment.

In December 1996, WorldSpace, Inc. sold all of its non-AfriSpace assets<sup>56</sup> to an offshore entity, WIN, in exchange for capital and a 16 percent equity stake in WIN.<sup>57</sup> The cash proceeds of the sale to WIN were, and are being, used to finance AfriSpace's financial needs through the commencement of commercial trials in the second quarter of 1999. Section III. G. below and Attachments 4-8 to this Amendment provide information relating to AfriSpace's financial

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<sup>54</sup> *See* Attachment 11 to this Amendment for the organizational structure of WorldSpace, Inc. and AfriSpace.

<sup>55</sup> *See* Amendment to Application of AfriSpace, Inc., FCC File No. CSS-90-017 (filed Jan. 30, 1991).

<sup>56</sup> Assets include the development, manufacturing and launch agreements, technology agreements and non-AfriSpace employees.

<sup>57</sup> *See* Attachment 14 of this Amendment for a diagram of the AfriSpace business. *See* Attachment 13 of this Amendment for the organizational structure of WorldSpace International Network Inc.

qualifications. Simultaneously, the shareholders and holders of options of WorldSpace, Inc. were granted rights to exchange their WorldSpace, Inc. shares for WIN shares, subject to FCC approval. None of these rights have been exercised (and permission is not being sought here for such exercise). If and when such exercise is anticipated, AfriSpace will seek prior FCC approval. If all of these rights were to be exercised following FCC approval, WorldSpace, Inc. would become a wholly-owned subsidiary of WIN.<sup>58</sup>

In the interest of fullest disclosure, we have attached the following information on WIN as Attachment 12.

G. Financial Considerations

Section 25.114(c)(11), requires applicants providing certain specified satellite services to demonstrate that they are financially qualified.<sup>59</sup> AfriSpace, however, does not fall into any of the specific categories under indicated in Section 25.114(c)(11). In the event that the Commission determines that AfriSpace is required to demonstrate its financial qualifications, and to the extent such a showing may not have been met, the company hereby requests a waiver of the financial requirements showing of Section 25.140(b)-(e), pursuant to Section 1.3 of the

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<sup>58</sup> If all the aforementioned rights to acquire WIN shares were to be exercised, the shareholders of WorldSpace, Inc. would have, on a fully diluted basis, a 10% interest in WIN.

<sup>59</sup> Under Section 25.114(c)(11), applicants must include detailed information demonstrating their financial qualifications to construct and launch the proposed satellites relating to fixed satellite services; non-voice, non-geostationary mobile satellite services; or 1.6/2.4 GHz mobile satellite service.

Commission's Rules.<sup>60</sup> Grant of a waiver would be consistent with Commission precedent and the public interest in encouraging new entrants using innovative technology which benefit consumers and provide services to developing regions. While AfriSpace does not fall into any of these categories under Section 25.114(c)(11), in the interests of fullest disclosure, it submits the financial information required for providers of fixed satellite services, as per 47 C.F.R. §25.114 (1997), in Attachments 4-8. Attachment 7 includes the consolidated balance sheets of its parent, WorldSpace, Inc., for 1997 and for the eleven months ending November 30, 1998. These balance sheets reflect the financial status of WorldSpace and its subsidiaries.

AfriSpace will be leasing the AfriStar satellite and related ground facilities through a lease agreement with WorldSpace Satellite Company, Ltd., a subsidiary of WIN. Attachment 8 to this Amendment includes a summary and copy of the satellite lease agreement. AfriSpace estimates that the cost of the lease is \$10.9 million during the first year of operation. Operating expenses for the first year of operation are estimated to be \$4 million. These expenses include employees, office lease, operations expenses relating to the ROC facilities and system maintenance, computers, supplies and other miscellaneous items. Upon launch of its commercial

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<sup>60</sup> Applicants, subject to the financial showing requirements of Section 25.114(c)(11), generally must demonstrate their financial ability to fund the estimated costs of construction, launch and first-year operation of its proposed satellite system. This showing may be demonstrated by either submitting evidence of internal financing or irrevocable external financing. See Section 25.140(b), (c); Mobile Communications Holdings, Inc. Application to Construct, Launch, and Operate an Elliptical Low Earth Orbit Mobile Satellite, Order and Authorization 12 F.C.C.R. 9663 (1997) (*citing* Ultravision Broadcasting Application for Construction Permit for New Television Broadcast Services, Memorandum Opinion and Order 1 F.C.C. 2d 544 (1985)).



service, AfriSpace will fund its business by leasing substantially all of its transmission capacity to WIN through a channel service agreement, as described in Attachment 8.

#### H. Public Interest

AfriSpace is precisely the kind of new competitive, entrepreneurial venture that the Commission has sought to encourage -- indeed, the Commission's support over the past 8 years through the issuance and multiple renewals of the experimental license, has been integral to placing AfriSpace where it is today: the successful launch of the AfriStar satellite on an experimental basis on October 28, 1998 and months away from initiating commercial trials.

At AFCOM '98 held on September 9, 1998, FCC Chairman William Kennard pledged to work with Africa to advance the African Information Infrastructure. He stated that "the prime goal must be to attain universal access -- to bring the benefits of telecommunications in order to improve the lives of the people. This objective must drive our efforts as policymakers."<sup>61</sup>

The AfriStar satellite will, for the first time, enable one of the largest regions of the world to have access to information, communications and entertainment never before enjoyed by its over one billion people. By providing the AfriStar satellite facility, AfriSpace will allow consumers in Africa and the Middle East to receive a diverse range of new services from U.S.,

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<sup>61</sup> William E. Kennard, African Telecommunications: A Partnership for Progress, Keynote Address Before AFCOM '98: The Seventh All-Africa Telecommunications, Information Technology, Trade & Investment Conference (Sept. 9, 1998).

international, regional and local programmers. Largely overlooked until very recently, Africa and the Middle East represent the economic and political frontier of the new millennium.

To use the term coined by South Africa's Deputy President, Thabo Mbeki, the region is undergoing an African Renaissance. With the growing liberalization, privatization and law reforms underway in the region, Africa and the Middle East are beginning to realize the benefits associated with competition, the free flow of information and open exchange of views -- precepts long established and protected in the United States. The United States has been the champion of these principles and the defender of the belief that each individual holds the right to be heard, and to seek and receive information and ideas through any media regardless of parameters.<sup>62</sup> Those voices can only be heard if facilities necessary to distribute those voices are available. AfriSpace will provide one such facility over which a diversity of voices and views will be disseminated. We urge the Commission to approve this amendment and issue the license expeditiously. It is in the public interest to establish this facility for U.S. programmers and content providers to distribute their services, and for the citizens of Africa and the Middle East to have access to a multiplicity of views and entertainment sources.

#### **IV. Compliance with 47 C.F.R. §25.114**

The AfriSpace service is not specifically addressed under the Commission's Rules. Therefore, we have followed the general requirements for space station authorizations. In accordance with the general requirements set forth for space station authorizations in Section

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<sup>62</sup> U.N. Universal Declaration of Human Rights, art. 19.



25.114 of the Commission's Rules, AfriSpace submits the following information to update its Application.<sup>63</sup>

(a) AfriSpace submitted a comprehensive proposal for its proposed space station on July 23, 1990 and seeks herein to amend its Application as described in this Amendment and attachments.

(b) This Amendment, including FCC Form 312 and all attachments and exhibits, as well as the AfriSpace Application and its related amendments, together constitute a concrete proposal for Commission evaluation. For the formal waiver required by Section 304 of the Communication Act (1996), 47 U.S.C. §304, *see* signature on Certification at the end of Attachment 1 to this Amendment, FCC Form 312. For the Technical Description and Certification, *see* Attachments 2 and 3 respectively, to this Amendment.

(c) (1) and (2)

Correspondence regarding this application should be addressed to Applicant:

Mr. Benno A. Ammann  
President  
AfriSpace, Inc.  
2400 N Street, N.W., Ground Floor  
Washington, D.C. 20037  
(202)861-8899

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<sup>63</sup> Under section 25.114(c)(11), applicants must include detailed information demonstrating the financial qualifications of the applicant to construct and launch the proposed satellites relating to fixed satellite services; non-voice, non-geostationary mobile satellite services; or 1.6/2.4 GHz mobile satellite service, as appropriate. As described in Part III. G. Of this Amendment, AfriSpace, however, does not fall into any of these categories. However, in the interests of fullest disclosure, AfriSpace submits the financial information required for providers of fixed satellite services, as per 47 C.F.R. §25.114 (1997). To the extent that the Commission determines that AfriSpace is required to demonstrate its financial qualifications, and to the extent such a showing may not have been met, the Company is requesting a waiver of the financial requirements.

with a copy to legal counsel:

Ms. Tara K. Giunta  
Coudert Brothers  
1627 I Street, N.W.  
Washington, D.C. 20006  
(202) 736-1809

(3) The Applicant is amending its pending Application as discussed under Section III of this Amendment and requesting issuance of a full license for a geostationary private international satellite system to serve Africa and the Middle East on a non-common carrier basis, in the 1467-1492 MHz band. Secondly, AfriSpace seeks to bring its orbital position into conformance with its experimental authorization, as amended. AfriSpace also seeks to modify its application to include the use of the lower BSS(Sound) L-Band frequency, specifically 1452-1467 MHz spectrum, contingent upon the results from a competent ITU conference to be convened for the planning of BSS(Sound) service in this lower band.

(4) AfriSpace is establishing a geostationary private international satellite system to provide space segment capacity in the 1467-1492 MHz band, and conditionally the 1452-1467 MHz band, to serve Africa and the Middle East, as described in its Application and Section III of this Amendment. *See also*, Technical Description and Certification under Attachments 2 and 3 respectively, to this Amendment.

(5) For a full description of the information required by Section 25.114(c)(5) of the Commission's Rules, 47 C.F.R. §25.114(c)(5), *see* Attachments 2 and 3 to this Amendment.

(6) (i) The proposed system is geostationary. AfriSpace requests through this Amendment that its orbital location be changed from 12 degrees W.L. to 21 degrees E.L. This change in orbital location will bring the orbital location of AfriStar in conformance with the orbital location in AfriSpace's experimental license, thereby eliminating possible coordination difficulties and any interference concerns. *See also*, Section III of this Amendment and Attachment 2.

(ii) Not applicable. The proposed system is geostationary.

(iii) Not applicable.

(7) *See* Attachment 2 to this Amendment.

(8) *See* Section III of this Amendment for description of services and Attachment 2 to this Amendment.

(9) *See* Attachment 2 to this Amendment.

(10) *See* Attachment 2 to this Amendment.

(11) *See* Attachment 2 to this Amendment.

(12) *See* Attachment 2 to this Amendment.

(13) For financial information, *see* Attachments 4-8 to this Amendment.

(14) As specified in AfriSpace's Application, the AfriStar private international satellite system will only operate on a non-common carrier basis, by leasing channel capacity through long-term, individually-negotiated contracts.

(15) *See* Attachment 9 to this Amendment for construction and launch dates for AfriSpace's leased satellite, AfriStar.

(16) As set forth in AfriSpace's Application and elaborated upon in Section III of this Amendment, the AfriStar private international satellite system will allow programmers to access capacity and disseminate information in such key areas as commerce, disaster preparedness, cultural diversity, education, environmental preservation, and health and safety. This is particularly important because it will provide access to the African continent, a region that is extensively underserved by communications infrastructure.

(17) Not applicable.

(18) Not applicable.

(19) Not applicable.

(20) Not applicable.

(21) Not applicable.

(d) Not applicable.

**V. Anti-drug Abuse Act**

The undersigned certifies that neither AfriSpace, nor any party to this Application, is subject to a denial of federal benefits pursuant to Section 5301 of the Anti-drug Abuse Act of 1988, 21 U.S.C. §853a.

**VI. Certification**

On behalf of AfriSpace, the undersigned, hereby certifies that all statements made in this Amendment are true, correct, and complete to the best of his knowledge and belief.

## **VII. Further Information**

AfriSpace has attempted to comply fully with all of the space station application requirements set out in Part 25 of the Commission's rules. AfriSpace believes it has complied fully with all pertinent Commission rules and policies, and has supplied all relevant information required to license a BSS(Sound) system. To the extent the Commission views the proposal as not fully in accord with current regulatory requirements,<sup>64</sup> AfriSpace hereby requests that the Commission grant any waivers that may be necessary or appropriate in the context of this proposal. Further, to the extent the Commission requires additional information in connection with this application, AfriSpace will respond promptly to any Commission request for such further information.

## **VIII. Conclusion**

In 1990, when AfriSpace filed its application, and throughout the ensuing years, many people thought the task of launching such an advanced communications system for such an underdeveloped region was impossible. Today, the impossible has been achieved and it has been achieved largely because of the support and inspiration of organizations like the FCC -- organizations that believed in and were committed to the objective of establishing a system by which information can be disseminated in a region largely ignored. AfriSpace urges the Commission to accept this Amendment, confirm the change of orbital location in conformance with the action already taken on its experimental license, and issue AfriSpace a full license for

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<sup>64</sup> See also, Part III. G. of the Amendment.

the AfriStar private international satellite system in the BSS(Sound) L-Band to serve Africa and the Middle East. Interested parties have had ample time to address any issues relating to AfriSpace's Application. Additionally, during the seven and one-half years that AfriSpace's Application has been pending, no other party has filed an application seeking to provide a similar service. We urge the FCC to approve this request expeditiously in order for AfriSpace to begin providing vitally needed capacity to this developing region.

In his speech before the Parliament of South Africa in March 1998, President Clinton stated that “[i]t used to be when American policymakers thought of Africa at all, they would ask, what can we do for Africa, or whatever can we do about Africa? Those were the wrong questions. The right question today is, what can we do with Africa?”<sup>65</sup> AfriSpace embodies what we can do with Africa. With AfriSpace, one billion people in Africa and the Middle East, largely untouched by the global information revolution, will be able to access all types of information about their country, their neighbors and the world.

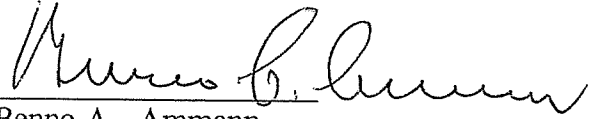
Consistent with the invaluable support to and encouragement of AfriSpace that the Commission has demonstrated since 1991, we respectfully request that the Commission reaffirm that support and issue a license for AfriStar -- a facility that will further the long-stated policies of the U.S. Government to promote the free flow of information and support the economic, political and cultural development of Africa and the Middle East along democratic lines.

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<sup>65</sup> President William Jefferson Clinton, Remarks to House of Parliament, National Parliament, Cape Town, South Africa (Mar. 26, 1998) (transcript available through Fed. News Svc.).



Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Benno A. Ammann".

Benno A. Ammann  
President  
AfriSpace, Inc.

Its Attorneys:

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Coudert Brothers  
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January 22, 1999

CERTIFICATE OF SERVICE

I, Jovana M. Cooke, hereby certify that on this 2<sup>nd</sup> day of January, 1999, a true and correct copy of the foregoing "Amendment" was sent by first class U.S. mail, postage prepaid, to the following parties:

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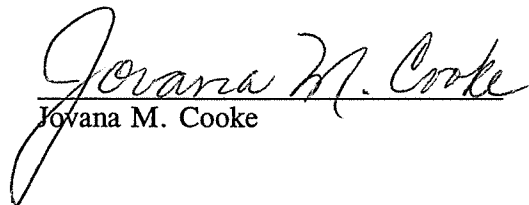
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