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February 2, 2006

VIA HAND DELIVERY
Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: **Ondas Application for Review**
IBFS File No. SAT-LOA-20050311-00061

Dear Ms. Dortch:

Transmitted herewith, on behalf of Ondas Spain, SL ("Ondas"), is an Application for Review of the International Bureau's *Order and Authorization* granting AfriSpace, Inc.'s above captioned application for authority to launch and operate a new satellite, AfriStar-2, located at 21° E.L. for the provision of Broadcasting Satellite Service (sound) to Europe and Africa using 2.6 MHz of spectrum in the 1452-1492 MHz band.

Please direct any questions concerning this filing to the undersigned.

Very truly yours,

Gregory C. Staple

Counsel for Ondas Spain, SL

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

In the Matter of	)	
	)	
AFRISPACE, INC.	)	IB File No. SAT-LOA-20050311-00061
	)	
Application for Authority to Launch and Operate a Replacement Satellite, AfriStar-2, at 21° E.L. and to Co-locate It with AfriStar-1	)	Call Sign: S2666

To: The Commission

ONDAS APPLICATION FOR REVIEW

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February 2, 2006

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SUMMARY

In a January 3, 2006, *Order and Authorization*, the International Bureau granted AfriSpace, Inc. (AfriSpace) authority to launch and operate a new satellite, AfriStar-2, for the provision of Broadcasting Satellite Service (sound) (BSS (sound)) to Europe and Africa using 2.6 MHz of spectrum in the 1452-1492 MHz band. Ondas Spain, SL (Ondas) is seeking review of this Bureau action because it is wholly inconsistent with the Commission's licensing rules for Non-GeoStationary Orbit (NGSO)-like satellites, such as AfriStar-1, which require the Bureau to invite competing license applications to use the radio spectrum and to consider them concurrently with any initial license application. Ondas is developing a competing satellite radio service for Europe with the support of Michigan-based Delphi Corp., and had requested the opportunity to file a competing application in the event that the Bureau did not classify AfriStar-2 as a replacement satellite. The Bureau's action cut-off that opportunity and hence prejudiced Ondas' European development plans.

Upon determining that AfriStar-2 could not legally be classified as a replacement satellite for AfriStar-1 and thus processed on an expedited basis, the Bureau should have either: (1) held the application in abeyance and, by public notice, initiated a modified satellite processing round to invite and concurrently consider competing applications; or (2) dismissed Afri-Space's application as the Bureau had done twice before due to technical defects and the failure to request a rule waiver. Failing that, the Bureau should have limited any grant of authority to that needed for AfriSpace to operate a replacement satellite for AfriStar-1 with approximately the same service parameters focused on Africa, rather than granting AfriSpace vastly augmented operating rights for AfriStar-2 to serve new markets across Europe.

The Bureau's decision to waive its established satellite processing rules for AfriStar-2 was based on flawed engineering grounds, unsupported by prior precedent and contrary to the public interest. As detailed herein, the engineering grounds asserted by the Bureau for waiver of the FCC's standard satellite processing rules -- namely, that interference considerations made it impractical to license any other BSS (sound) satellite in the same frequency band -- does not bear scrutiny. However, even if the Bureau had doubts about the ability of competing parties to coordinate a new BSS (sound) satellite with AfriStar-1, Commission precedent precluded the Bureau from prejudging the international coordination process. Until now, the FCC has routinely solicited and granted competing satellite application subject to international coordination, which is at the applicant's risk.

Beyond that, the Bureau's waiver decision did not meet the required public interest test because it was both unexplained and at odds with the central purpose of the NGSO-like processing rates. Those rules were adopted to advance the agency's goal of licensing as many satellite systems as possible (i.e., to promote competition). The Bureau's waiver had exactly the opposite effect.

Finally, the Bureau's decision is unlawful because Ondas and other interested parties were not afforded adequate public notice that the Bureau might waive the NGSO-like processing rules for AfriStar-2 or the engineering grounds which might justify such a waiver. This deprived Ondas of an adequate opportunity to comment on or challenge the Bureau's proposed action and violated due process.

Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
AFRISPACE, INC.	)	IB File No. SAT-LOA-20050311-00061
	)	
Application for Authority to Launch and Operate a Replacement Satellite, AfriStar-2, at 21° E.L. and to Co-locate It with AfriStar-1	)	Call Sign: S2666

ONDAS APPLICATION FOR REVIEW

Ondas Spain, SL (Ondas)[1], by its attorneys, and pursuant to Section 1.115 of the Commission's Rules, hereby petitions for review of the Bureau's January 3, 2006, *Order and Authorization*[2] in this docket granting AfriSpace, Inc. (AfriSpace) authority to launch and operate a new satellite, AfriStar-2, located at 21° EL for the provision of Broadcasting Satellite Service (sound) (BSS sound) to Europe and Africa using 2.6 MHz of spectrum in the 1452-1492 MHz band.

The *AfriStar-2 Order* is inconsistent with the Commission's licensing rules for Non-GeoStationary Orbit (NGSO)-like satellites, such as AfriStar-2, which require the Bureau to invite competing license applications to use the radio spectrum and to consider them concurrently with any initial license application. As such, the Bureau's *ad hoc*

[1] Ondas is developing a competing European digital satellite radio system in the same BSS (sound) frequency band used by AfriSpace and petitioned to deny the AfriSpace application. In January 2006, Delphi Corp., a leading U.S.-based auto equipment supplier, announced that it had made a significant strategic investment in Ondas. See "Delphi Bets on New Satellite Market," by Sarah McBride, *Wall Street Journal*, January 4, 2006, p. B5.

[2] AfriSpace, Inc., *Order and Authorization*, DA 06-4, released January 3, 2006 ("*Afristar-2 Order*").

decision to waive those rules on its own motion, and without public notice, so as to grant AfriSpace's application was unlawful.

Upon determining that AfriStar-2 could not legally be classified as a replacement satellite for AfriStar-1 and thus processed on an expedited basis, the Bureau should have either: (1) held the application in abeyance and, by public notice, initiated a modified satellite processing round to invite and concurrently consider competing applications; or (2) dismissed AfriSpace's application as the Bureau had done twice before due to technical defects and the failure to request a rule waiver. Failing that, the Bureau should have limited any grant of authority to that needed for AfriSpace to operate a replacement satellite for AfriStar-1 with approximately the same service footprint focused on Africa, rather than granting AfriSpace vastly augmented operating rights for AfriStar-2 to serve new markets across Europe.

The Bureau's peremptory decision to waive its established satellite processing rules was also unsupported by the record and contrary to prior precedent. As detailed below, the engineering grounds asserted by the Bureau for waiver of the FCC's standard satellite processing rules -- namely, that interference considerations made it impractical to license any other BSS (sound) satellite in the same frequency band -- was advanced for the first time in the *AfriStar-2 Order* (and not by the applicant), and was never subject to public scrutiny or comments. In fact, the Bureau's technical judgment was flawed: geographic frequency reuse, cross-polarized signals and advanced space station antenna designs may allow other NGSO-like satellites to operate in the same band, especially for service to Europe. See the engineering affidavit appended as Exhibit B hereto explaining

why a third party BSS (sound) satellite could coordinate its operations with AfriStar-1 in the BSS (sound) band.

But even if the Bureau rightly thought that the coordination of any new BSS (sound) satellite with AfriStar-1 would be difficult, that only underscores the public interest rationale for not allowing AfriSpace to preclude additional competition in this band by licensing AfriStar-2 to operate with a substantially greater service footprint. The Commission adopted modified processing round rules for NGSO-like satellite systems precisely because it wished to preserve the opportunities for competitive market entry in bands where licensing the first applicant to operate throughout the band might prevent entry by subsequent applicants.[3] The Bureau's decision to waive its NGSO-like processing rules for AfriSpace plainly undercut the rule's primary intent and was contrary to the public interest.

I. HISTORY OF AFRISPACE APPLICATIONS FOR AFRISTAR-2 AND THE BUREAU'S WAIVER DECISION.

At the outset, it bears noting that prior to licensing AfriStar-2, the Bureau twice dismissed applications for this satellite because the applicant had failed to meet certain engineering requirements or, in the alternative, request a rule waiver. In neither case did the Bureau find that sufficient public interest grounds existed for waiving the applicable rules itself. The Bureau's acceptance of yet a third application for AfriStar-2, and its subsequent *ad hoc* decision to grant the application pursuant to a rule waiver that was never requested by the applicant, only underscores the arbitrary and capricious nature of the Bureau's decision.

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[3] Amendment of the Commission's Space Station Licensing Rule and Policies, *First Report and Order and Further Notice of Proposed Rulemaking*, IB Docket No. 02-34, 18 FCC Rcd 10760 (2003) ("*First Space Station Licensing Reform Order*"). *See also* Space Imaging LLC, *Declaratory Order Ruling and Order and Authorization*, 20 FCC Rcd 11964 (Int'l Bur. 2005) ("*Space Imaging Order*").

A. April 2004/July 2004 AfriSpace Applications

AfriSpace first submitted an application to "replace" AfriStar-1 with AfriStar-2 on April 13, 2004.[4] On June 16, 2004, however, the application was dismissed because its proposed uplink operation was inconsistent with the Commission's technical rules and no waiver was requested.[5] On July 28, 2004, AfriSpace resubmitted its application for AfriStar-2[6] but again the application was dismissed (on March 4, 2005) because it was at odds with another engineering rule (Section 25.210(c)) and AfriSpace had not requested a waiver.[7]

B. March 2005 AfriSpace Application

On March 11, 2005, AfriSpace resubmitted its satellite application for a third time and this time included the necessary engineering data as well as a request to waive Section 25.210(c).[8] As before, AfriSpace continued to maintain that AfriStar-2 should be treated as a replacement satellite under Part 25 of the FCC's rules and therefore eligible for streamlined processing, without being subjected to competing applications.[9] AfriSpace stated that if its application was deemed to be one for a new satellite, then good cause existed to waive the FCC construction milestone and bond requirements for such satellites.

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[4] *See* AfriSpace, Inc. Application for Authority to Launch and Operate a Replacement Satellite, AfriStar-2 at 21° East and to Collocate it with AfriStar, SAT-LOA-20040413-00082 (S2624).

[5] *See* Letter from Thomas S. Tyez, Chief, Satellite Division, Federal Communications Commission, to Brian Park, AfriSpace, Inc. June 16, 2004.

[6] *See* AfriSpace, Inc. Application for Authority to Launch and Operate a Replacement Satellite, AfriStar-2 at 21° East and to Collocate it with AfriStar, SAT-LOA-20040728-00150 (S2634).

[7] *See* Letter from Fern T. Jarmulnek, Deputy Chief, Satellite Division, Federal Communications Commission, to Brian Park, AfriSpace, Inc., March 4, 2005.

[8] *See* AfriSpace, Inc. Application for Authority to Launch and Operate a Replacement Satellite, AfriStar-2 at 21° East and to Collocate it with AfriStar-1. SAT-LOA-20050311-00061 (S2666) ("*AfriStar-2 Application*").

[9] *Id.*, at Exhibit A, p. 16.

The AfriSpace application did not address the possibility, however, that the Bureau might treat AfriStar-2 not only as a new satellite application but also as a NGSO-like satellite application, and hence subject to the FCC's modified processing round rules. AfriSpace thus did not request any waiver of the NGSO-like application rules even though its application clearly proposed to communicate with fixed and mobile radio receivers that typically have omni-directional antennas,[10] a key characteristic of a NGSO-like satellite system.[11]

Public Notice of AfriSpace's third application for AfriStar-2 was given on March 18, 2005.[12] The Notice advised that AfriSpace had filed its application as a satellite replacement application but had included requests for waiver of the Commission's bond and milestone requirements as well as requests for waiver of certain technical provisions of Part 25 of the Commission's rules. The Notice did not address the

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[10] *Id.*, at Exhibit B, p. 1 ("The system is designed to provide digital sound, multimedia, telematics and data broadcast...to new types of mobile radios in cars, trucks and other vehicles...").

[11] *See* 47 C.F.R. § 25.157(a), which defines a "NGSO-like satellite system" as "(1) All NGSO satellite systems, and (2) All GSO MSS satellite systems, in which the satellites are designed to communicate with earth stations with omni-directional space antennas." The rules defining NGSO-like systems were published by the FCC in May 2003, a year before the initial AfriStar-2 application was docketed. Prior to adoption of the *AfriStar-2 Order*, however, the Bureau had not applied the rules to BSS (sound) satellites.

The modified processing round procedure established by Section 25.157 are as follow:

"(c) Each NGSO-like satellite system application that is acceptable for filing will be reviewed to determine whether it is a "competing application," *i.e.*, filed in response to a public notice initiating a processing round, or a "lead application," *i.e.*, all other NGSO-like satellite system applications.

(1) Competing applications that are acceptable for filing will be placed on public notice to provide interested parties an opportunity to file [responsive] pleadings...

(2) Lead applications that are acceptable for filing will be placed on public notice. This public notice will initiate a processing round, establish a cut-off date for competing NGSO-like satellite system applications, and provide interested parties an opportunity to file [responsive] pleadings...

(d) After review of each of the applications in the processing round, and all the pleadings filed in response to each application, the Commission will grant all the applications that meet the standards of Section 25.156(a), and deny the other applications."

[12] Public Notice, Policy Branch Information: Satellite Space Applications Accepted for Filing, Report No. SAT-00279 (Mar. 18, 2005). Although AfriSpace filed an application for a replacement satellite, the initial file number designation of SAT-RPL-20050311-00061 was changed to SAT-LOA-20050311-00061, "without prejudice to the determination of its replacement status." *See id.*

status of the proposed satellite as a GSO or NGSO like satellite. Nor did the Notice advise interested parties that the Bureau might waive the NGSO-like processing rules if they were found to be applicable.

C. Ondas' Petition to Deny

On April 20, 2005, Ondas filed a "Petition to Deny" the AfriStar-2 application on two main grounds.[13] First, Ondas pointed out that AfriStar-2 could not lawfully be considered a replacement satellite because, in contrast to AfriStar-1, the AfriStar-2 downlink service contours were centered over Western Europe not Africa. Hence, Ondas concluded that AfriSpace's proposal "should be treated for what it is – a new application to provide S-DAB [Satellite-Digital Audio Broadcasting ("S-DAB")] service to Europe."[14]

Second, Ondas stated that the AfriStar-2 application for use of the 1452-1492 MHz band would adversely impact the introduction of S-DAB in Europe because it would both extend and expand the existing spectrum priority of AfriStar-1 under the ITU's Radio Regulations for another 12-15 years.[15] So long as AfriSpace is able to use

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[13] Ondas *Petition to Deny*, filed April 20, 2005. (the "*Petition to Deny*").

[14] *Id.*, at p. 3. In 1992, when the International Telecommunications Union (ITU) initially adopted a global allocation for the 1452-1492 MHz band, the service was formally identified as the BSS (sound), and the spectrum was allocated on a co-primary basis with terrestrial Digital Audio Broadcasting (DAB). In 2003, the Conference of European Postal and Telecommunication Administrations ("CEPT") designated a 12.5 MHz portion of the ITU band, namely 1479.5-1492 MHz, for Satellite-DAB (S-DAB). *See ECC Decision of 17 October 2003 on the designation of the frequency band 1479.5 – 1492 MHz for use by Satellite Digital Audio Broadcasting Systems (ECC/DEC/(03)02).* In the United States, to avoid conflict with aeronautical test telemetry services, the ITU allocated the 2310-2360 MHz band for a similar BSS (sound) service known as Digital Audio Radio Satellite (DARS) and the FCC later granted two DARS licenses of 12.5 MHz each for operation in the 2320-2345 MHz portion of the band. See e.g., *American Mobile Radio Corporation, Order and Authorization*, 13 FCC Rcd 8809 (Int'l Bur 1997). In everyday language, both the S-DAB and BSS (sound) services, as well as DARS, are all commonly referred to as satellite radio services.

[15] Under Articles 8 and 9 of the ITU Radio Regulations (RRS8 and S9), the first GSO satellite that is duly registered to operate at a given orbital location and transmit over a given set of frequencies has superior rights and any subsequent GSO satellites that wishes to operate on these frequencies must coordinate its operations with the prior satellite. See e.g., *ITU Radio Regulations*, (Geneva, 1998) Articles S8.1, S8.3,

AfriStar-2 to bootstrap its spectrum rights, any S-DAB system based on a NGSO-like system, such as that proposed by Ondas, would be at a legal disadvantage even though its system could provide superior services. In addition, AfriSpace proposed to operate AfriStar-2 at a central frequency of 1479.5 MHz, causing half of its downlink service to traverse the lower portion of Europe's S-DAB band.

In view of these facts, Ondas urged the Bureau to reject AfriSpace's application because it would interfere with the development of Ondas' S-DAB. Alternatively, Ondas stated that it "would like the opportunity to submit its own application and make the case why its technical approach is superior" [16] to that of AfriSpace.

On May 3, 2005, AfriSpace filed an "Opposition" to the Ondas Petition. AfriSpace acknowledged that AfriStar-2's coverage exceeded that of AfriStar-1. However, AfriSpace argued that its satellite was still entitled to be treated as a replacement because no other parties had or could be licensed to provide BSS (sound) to theses areas (*i.e.*, its application still deserved to be processed on a first come – first served basis).

D. The Bureau's Decision

The Bureau approved the AfriStar-2 satellite application on January 3, 2006. In so doing, the Bureau first rejected AfriSpace's request to treat AfriStar-2 as a replacement satellite. The Bureau noted that AfriStar-2 has "a substantially different

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S9.1, S9.3, and S9.6. In addition, under the Radio Regulations, the spectrum rights of NGSO satellites may be secondary to GSO satellites. *See Id.* RRS22.2. Accordingly, the future ability of Ondas to operate a GSO or NGSO BSS (sound) satellite system to serve Europe is critically dependent on the extent to which AfriSpace can use AfriStar-2 to extend the duration and scope of the priority the ITU accords AfriStar-1. That satellite was launched in 1998 and will begin to reach the end of its operation of life in 2008. (*See AfriStar-2 Application*, Exhibit A, pp. 6-7.) In 1998, when AfriStar-1 was launched, however, it was the first GSO satellite to be duly registered by the ITU in the BSS (sound) band with satellite beams covering Africa and portions of southern Europe.

[16] *Petition to Deny*, at 4-5.

coverage area than of AfriStar-1," including "territory not accessible by AfriStar-1." [17] Consequently, the Bureau said that it would "consider AfriSpace's application as a request for new authority." [18]

The Bureau then turned to the appropriate regime for approving a new BSS (sound) application under the agency's amended satellite licensing rules.[19] Under the foregoing regime, the Bureau found that even though AfriStar-2 would be placed in a GSO, it would communicate with subscriber terminals (*i.e.*, terrestrial radios) that would have little or no direction towards the satellite. Thus, AfriStar-2 must be considered a non-GSO (NGSO) application that "would typically be considered in a modified processing round where competing applications are invited and considered concurrently."[20]

Yet, rather than follow the logic of this analysis one step further -- namely, that the AfriStar-2 application could not be given further consideration without inviting competing applications in a new processing round pursuant to Section 25.157 of the Rules -- the Bureau arbitrarily dispensed with the NGSO-like satellite processing rules and summarily granted AfriSpace a license. The Bureau did so on its own motion,[21] stating that AfriSpace was entitled to a waiver of the NGSO-like satellite processing rules because it was not technically possible to authorize another BSS (sound) satellite in the

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[17] *AfriStar-2 Order*, ¶ 8.

[18] *Ibid.*

[19] The Bureau noted that although the 2003 space station licensing reforms did not apply to DARS licenses, AfriSpace was not seeking a license in the DARS band (i.e. 2320-2345 MHz) and hence was not excluded from the new policy. *Id.*, ¶ 9, n. 33.

[20] *Id.*, ¶ 11

[21] As noted earlier, AfriSpace never asked for a waiver of the Commission's NGSO-like processing rules. AfriSpace only requested a waiver of other FCC rules if the Bureau elected not to treat AfriStar-2 as a replacement satellite.

L-band "without resulting in an unacceptable interference to the AfriStar-1 network."[22] By contrast, the Bureau reasoned that AfriSpace could self-coordinate the operation of AfriStar-2 with AfriStar-1, and therefore "we can authorize the AfriStar-2 BSS (sound) space station."[23] The Bureau also asserted that the Commission had previously waived the modified processing round procedures for NGSO-like systems applications "when, as a practical matter, it would not be possible to authorize a competing NGSO-like system with the same parameters..."[24]

II. THE BUREAU'S WAIVER OF THE MODIFIED PROCESSING ROUND PROCEDURES FOR AFRISPACE'S NGSO-LIKE SATELLITE DID NOT COMPLY WITH THE FCC'S WELL ESTABLISHED WAIVER STANDARDS.

A. The Bureau's Finding That Circumstances Justified Waiver of the NGSO-like Processing Rules is Wrong and Unsupported by the Record.

Section 1.3 permits the Commission (or the Bureau on delegated authority) to grant a waiver of its rules "for good cause shown."[25] The courts have held that, under Section 1.3, a waiver is appropriate if (1) special circumstances warrant a deviation from the general rule, and (2) a deviation would not disserve the rule's underlying purpose, and would better serve the public interest than would strict enforcement.[26] In applying these criteria, the Commission must "explain why deviation better serves the public interest

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[22] *AfriStar-2 Order*, ¶ 13.

[23] *Id.*, ¶ 14.

[24] *Id.*, ¶ 12, citing to *Mobile Satellite Ventures Subsidiary LLC, Order and Authorization*, 20 FCC Rcd 479 (Int'l Bur. 2005) ("*Mobile Satellite Ventures Order*").

[25] 47 C.F.R. § 1.3.

[26] *See generally WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1960); *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990).

and articulate the nature of the special circumstances."[27] The Bureau did not meet those standards here.

First, the Bureau wrongly concluded that special circumstances warranted a deviation from the modified processing round procedures because "we could not authorize another BSS (sound) operator's space station in the 1457-1492 MHz band ... at the location of an AfriStar-1 receiver without resulting in unacceptable interference to the AfriStar-1 network."[28] This conclusion was not derived from any engineering showing filed by AfriSpace but solely from the Bureau's own "understanding of L-band space station antenna designs, and the large geographic coverage area of AfriStar-1."[29] In the Bureau's view, "it would be very difficult to design an L-band space station antenna that would be able to serve an area visible from the orbital location of AfriStar-1 and attenuate its emissions sufficiently within the combined service area of AfriStar-1 so as not to cause unacceptable interference to the AfriStar-1 BSS (sound) network."[30]

Ondas disagrees. In principle, as the Bureau recognized, it is certainly possible (though difficult) for two or more BSS (sound) services to share spectrum in the same orbital arc. However, in the current case, coordination can likely be achieved because the 2.6 MHz assigned to AfriStar-1 appears to be apportioned among three geographically distinct beams, as shown in Exhibit A hereto (i.e., only a portion of AfriSpace's assigned spectrum is used in each beam).[31] It should therefore be possible to design a BSS (sound)

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[27] *Northeast Cellular Telephone*, 897 F.2d at 1166.

[28] *AfriStar-2 Order*, ¶ 13.

[29] *Ibid.*

[30] *Ibid*, n. 56.

[31] *See also*, the beam patterns in the Afri-Star-1 Application, File No. CSS-90-017; IBFS File Nos. SAT-LOA-19900723-00002; SAT-AMD-19990125-00016, Attachment 2, pp. 19-20.

system that is optimized for Europe by reusing those frequencies currently used by AfriStar-1 in geographically distinct (non-overlapping) beams centered on Africa.[32] Possible beam configurations are discussed in Exhibit B., Para. 9.

Second, AfriStar-1 is only licensed to operate in 2.6 MHz of the 1452-1492 MHz BSS (sound) band, and specifically, only for "service to Africa and the Middle East."[33] This affords further opportunities for frequency reuse. Third, innovative satellite design (e.g., shaped antenna beams with steep roll off beyond the designated coverage area), frequency polarization and signal coding techniques all provide additional scope for resolving a potential coordination issue.[34] In view of the foregoing, the engineering considerations underlying the Bureau's decision are, at best, incomplete and do not justify the Bureau's conclusion that no other BSS (sound) satellite could coordinate with AfriStar-1.

In any case, the Bureau erred in prejudging the results of any future international coordination process between a second (or third) L-band BSS (sound) satellite and AfriStar-1.[35] The precedent on this subject is clear. In other satellite services, the FCC has routinely granted competing satellite licenses, subject to international coordination,

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[32] The Bureau's engineering analysis, by comparison, does not appear to take into account the scope for geographic reuse of the AfriStar-1 frequencies and appears to regard the interference potential of the AfriStar-1 service footprint to be uniform throughout the AfriStar-1 service area. For example, at n. 56 of the *AfriStar-2 Order*, for coordination purposes, the Bureau focuses on the problem of attenuating the emissions of a second BSS (sound) satellite within the combined service area of AfriStar-1 so as not to cause unacceptable interference, but if the emissions of the second satellite are not co-channel, the problem may be non-existent or greatly reduced. On the other hand, the single Europe-N. Africa – S. Asia spot beams authorized for AfriStar-2 (See *AfriStar Order*, ¶ 16, n. 58) will greatly reduce the option for future coordination of a European BSS (sound) satellite.

[33] *See AfriSpace, Inc., Order and Authorization*, 15 FCC Rcd 1632, ¶14 (Int'l Bur., Sat. and Rad. Div. 1999) ("*AfriStar-1 Order*").

[34] *See* Exhibit B, Paras 10-11.

[35] *See e.g., AfriStar-2 Order*, ¶ 13, n.56.

without passing on the outcome of the process. [36] The precedent established by those decisions plainly undercuts the grounds for the Bureau's waiver here and shows that potential international coordination issues need not have precluded initiation of a processing round.

Beyond that, as discussed in Section III, prior to determining whether or not another BSS (sound) satellite could be coordinated with AfriStar-1 – the penultimate licensing issue regarding AfriStar-2 – the Bureau should have issued a new Public Notice and invited comments. The March 18, 2005 Notice provided no indication whatsoever that the Bureau would dispense with the standard processing round procedures if it did not classify AfriStar-2 as a replacement satellite.

B. Assuming *Arguendo* That AfriStar-2 Presented A Special Circumstance, The Bureau's Waiver Decision Was Still Wrong Because It Violated The Underlying Purpose Of The NGSO-Like Processing Rules And Accordingly Did Not Serve The Public Interest.

Even if the Bureau believed that no other BSS (sound) satellite could be coordinated with AfriStar-1 in the L-band, a waiver was still unjustified because it frustrated the competitive rationale underlying the NGSO-like satellite processing rules. Other parties, such as Ondas, should have been provided an opportunity to file and obtain grants for competing applications, subject to international coordination.

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[36] *See e.g.*, *KaStarCom World Satellite LLC*, 16 FCC Rcd 14322, 14330 (Int'l. Bur. 2001) (Granting GSO application in second Ka-band processing round "subject to the outcome of the international coordination process" and noting that "the Commission is not responsible for the success or failure of the required international coordination"). *See also Loral SpaceCom Corp.* 18 FCC Rcd 16374, 16879-16880 (2003) ("The Commission has held that it is not necessary to complete international coordination before a satellite system can be authorized to provide service in the United States." [citations omitted]). The Bureau also ignored the fact that the Commission previously authorized four NGSO systems in the Mobile Satellite Service (MSS) to share spectrum using digital transmission protocols (*i.e.*, CDMA) and did not first seek to resolve practical coordination issues in granting those authorizations. *See Big LEO Order*, 9 FCC Rcd 5936 (1994) *modified on reconsideration*, 11 FCC Rcd 12861 (1996).

The FCC adopted modified processing round rules for NGSO-like satellite systems rather than a first-come, first-served framework because "it better promotes our goal of trying to license as many satellite systems as possible, so that there is as much competition as possible for each satellite service."[37] The Commission stated that if it were to adopt "a first-come, first-served procedure for NGSO-like satellite applications, the first qualified applicant could request authority to operate in so much of the orbit-spectrum resource that additional market entry would be precluded."[38] Yet, that is essentially what the Bureau did here by granting the AfriStar-2 application. It processed a new NGSO-like application under a first-come, first-served approach as a result of which the opportunity for competing parties to use the relevant BSS (sound) spectrum was truncated.

As stated earlier, had the Bureau properly taken into account the pro-competitive policies underlying NGSO-like processing rules, short of dismissal, it could have denied AfriSpace operating authority for AfriStar-2 in excess of that granted to AfriStar-1. That is, the Bureau could have converted the AfriStar-2 application into a *de facto* replacement application and then, consistent with Section 25.157 of the Rules, issued a public notice inviting AfriSpace and any other interested party to file competitive applications for BSS (sound) systems serving other geographic areas, subject to international coordination.

Significantly, the Bureau does not even try to address this second, crucial public interest prong of the FCC's waiver standard. The *AfriStar-2 Order* is entirely silent on

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[37] *First Space Station Licensing Reform Order*, 18 FCC Rcd at ¶22, *supra*, note 3.

[38] *Id.*

the public interest rationale for the waiver.[39] It rests its case solely on engineering grounds which, as noted, are flawed. As a result, the Bureau's decision to grant a waiver to AfriSpace was anti-competitive and contrary to the public interest.

C. The Sole Precedent Cited By The Bureau To Support Its Waiver Decision Is Inapposite.

The Bureau contends that "[t]he Commission has ... waived the modified processing round procedures for NGSO-like system applications when, as a practical matter, it would not be possible to authorize a competing NGSO-like system with the same parameters ..."[40] However, reference is made to a single *Bureau* decision -- not a Commission order -- involving Mobile Satellite Ventures (MSV),[41] and that case is readily distinguishable.

Mobile Satellite Ventures involved an application by the incumbent L-band MSS license to operate a new satellite on the same frequencies previously licensed to MSV but for service to a new geographic area, South America. The Bureau granted the application without inviting competing applications because it concluded that any other prospective NGSO-like system seeking to serve South America would cause harmful interference to MSV's current system and FCC policy precludes licensing new systems that could cause interference to a previously licensed U.S. system.

Mobile Satellite Ventures is distinguishable in three important respects. First, in that case, the applicant acknowledged that it was seeking authority for a new NGSO-like system and expressly requested a waiver in its application. Thus, the public notice

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[39] For this reason, the Bureau's waiver was also invalid because it was unexplained. *See Northeast Cellular Telephone*, *supra*, 897 F.2d at 1166.

[40] *AfriStar-2 Order*, ¶ 12.

[41] *Mobile Satellite Ventures Order*, 20 FCC Rcd 479, *supra*, note 24.

regarding MSV's application gave interested parties adequate notice that the NGSO-like processing rules might be waived, as well as an opportunity to comment or file a competing application in the event the waiver was not granted. Consequently, the FCC's Public Notice regarding MSV's new satellite served essentially the same purpose as a Public Notice initiating a processing round. Here, by comparison, the AfriSpace application did not seek a waiver of the NGSO-like processing rules; the Public Notice did not mention the possibility that such a waiver might be granted by the Bureau; and at the time, neither the Commission nor the Bureau had applied the FCC's new 2003 satellite processing rules to BSS (sound) applications.

Second, no opposition or competing applications were filed or proposed in response to the MSV Public Notice. Again, by contrast, the AfriStar-2 application Notice elicited a Petition to Deny from Ondas. And that petition expressly opposed grant of the AfriStar-2 application without the consideration of a competing application. Ondas also requested the opportunity to file such an application if its Petition to Deny was rejected.

Third, the engineering basis for granting the waiver in the *Mobile Satellite Ventures Order* was presented at length by the applicant and available to all interested parties for review. Again, by contrast, no engineering case for waiver of Section 25.157 was provided by AfriSpace. Instead, the engineering grounds for waiver were crafted *de novo* by the Bureau and there was no opportunity for interested parties to review the evidence, much less comment on it. Rather, the whole matter was simply presented as a *fait accompli* in the *AfriStar-2 Order*.

Significantly, just a few months after adopting the *Mobile Satellite Ventures Order*, the Bureau waived the NGSO-like processing rules in another case which

involved an express waiver request by the applicant and clear public notice to interested parties.[42] In that case, the Bureau found that Space Imaging had persuasively shown that special circumstances justified waiver of the NGSO-like processing rules to permit it to receive data from a foreign licensed NGSO satellite in the Earth Exploration Satellite Service (EESS) because the downlink to its Oklahoma earth station would not adversely affect co-frequency NGSO-systems. The Bureau also noted that very few U.S. licensed EESS NGSO systems operate in the relevant band.

In these circumstances, the Bureau concluded that a waiver of Section 25.157 was warranted insofar as grant of the Space Imaging application on a first come - first served basis was not anti-competitive: "[I]t will neither preclude future systems from using the spectrum assigned to Space Imaging nor cause harmful interference to other operators in the band."[43]

In granting this waiver, the Bureau stressed that, while it was willing to consider waivers of the modified processing round rules from other NGSO-like applicants, "[a]s with any waiver request, such applicants must show good cause for a waiver."[44] "In particular," the Bureau continued,

> we would expect NGSO-like applicants requesting waivers of Section 25.156 and 25.157 to show, as did Space Imaging, that modified processing rounds are not necessary to preclude an applicant from unreasonably restricting further entry in that frequency band.[45]

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[42] See *Space Imaging Order, supra*, note 3.

[43] *Id.*, ¶ 11.

[44] *Id.*, ¶ 13.

[45] *Id.*

AfriSpace plainly did not meet that standard. The Bureau's decision to waive the modified processing round rules for AfriStar-2 was therefore arbitrary and capricious, and must be vacated.

III. THE BUREAU'S DECISION TO WAIVE THE NGSO-LIKE PROCESSING ROUND PROCEDURES VIOLATED THE DUE PROCESS RIGHTS OF ONDAS AND OTHER INTERESTED PARTIES.

The Bureau failed to provide Ondas (and other similarly situated parties) with notice that it might waive Section 25.157(c) of the Rules or the potential grounds for such a waiver. This precluded Ondas from having a meaningful opportunity to comment on or challenge the Bureau's proposed action. The lack of notice also discouraged Ondas from timely filing a competing application. Yet, the practical result of the Bureau's waiver was to award AfriSpace a service footprint that is substantially greater than that of AfriStar-1. In so doing, the Bureau effectively penalized other BSS (sound) providers, including Ondas, that might wish to operate a competing service for Europe. The Bureau's decision therefore violated Ondas' due process rights.[46]

The D.C. Circuit has consistently held that the FCC cannot modify a rule or policy to the detriment of interested parties without first giving those parties notice of the proposed decision; to so would violate a party's due process rights.[47] Thus, when a court reviews an agency's decision to ensure due process, it "ask[s] whether, by reviewing the regulations and other public statements issued by the agency, a regulated party acting in good faith would be able to identify with ascertainable certainty, the standards with

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[46] *See Trinity Broadcasting of Fla., Inc. v. FCC* 211 F.3d 618 (D.C. Cir. 2000); *Satellite Broadcasting Co. v. FCC*, 824 F.2d 1 (D.C. Cir. 1987); *Salzer v. FCC*, 778 F.2d 869 (D.C. Cir. 1985).

[47] *Id.*

which the agency expects parties to conform."[48] While the FCC's interpretation of its rules are entitled to deference, if the agency "wishes to use that interpretation to cut off a party's [procedural] right, it must give full notice of its interpretation."[49]

In applying the FCC's new satellite licensing rules to AfriSpace's application – which raised issues of first impression for a BSS (sound) applicant -- the Bureau failed to adhere to this fundamental principal of administrative law. Neither the FCC or the Bureau gave the public notice that it intended (a) to classify the AfriStar-2 satellite application as a NGSO-like application under the new 2003 satellite licensing rules and then (b) to waive those rules based on engineering considerations never raised by the applicant.[50] Put another way, the Public Notice regarding the AfriStar-2 application did not permit Ondas or any other interested party to ascertain with certainty the standard under which the Bureau was going to license AfriStar-2. Consequently, the Bureau's action did not comport with due process.

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[48] *Trinity Broadcasting*, 211 F.3d at 628.

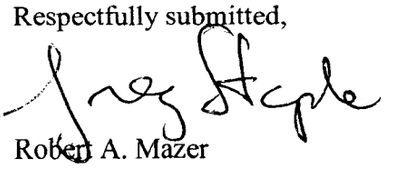
[49] *Satellite Broadcasting*, 824 F.2d at 4.

[50] In fact, the Public Notice announcing acceptance of the AfriStar-2 application suggested that the Bureau was not going to waive its modified processing round rules. That Public Notice detailed other waiver requests, but did not mention any waiver of the modified processing round rules. Thus, the public could reasonably conclude (as Ondas did) that the FCC was only contemplating the waivers expressly listed in the Public Notice.

IV. CONCLUSION

For all of the reasons stated herein, the Commission should vacate the *AfriStar-2 Order*. Alternatively, at a minimum, the Commission should narrow the authority granted AfriSpace to that required to launch and operate a replacement satellite for AfriStar-1 and initiate a modified processing round for any service to Europe or other areas beyond that covered by the Commission's original license for AfriStar-1.

Respectfully submitted,



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February 2, 2006

Counsel for Ondas Spain, SL

GEOGRAPHIC COVERAGE OF AFRISTAR-1 SATELLITE BEAMS

Source: http://www.worldspace.com/coveragemaps/afristar.html
(Visited February 1, 2006)

WORLDSPACE SATELLITE RADIO

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Satellite Radio Coverage

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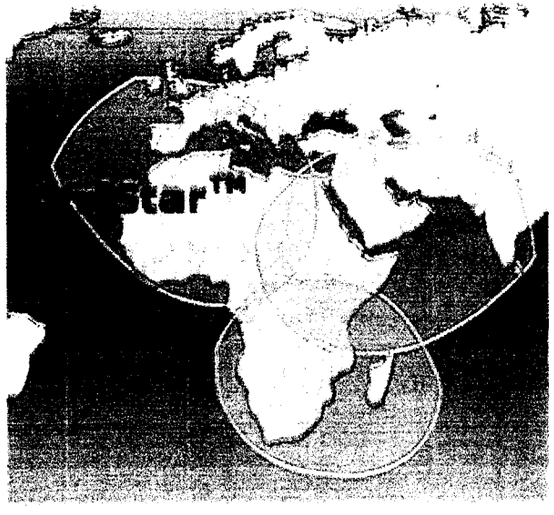

Each satellite has three beams, East, West and South. Different programs are carried depending on the beam you receive. See the Program Guide for details of broadcasts in your location.

Please note that AfriStar and AsiaStar overlap, you may need to view both maps for details on your coverage

View Antenna Pointing Guide

Afristar Program Guide

ONDAS APPLICATION FOR REVIEW
EXHIBIT B

AFFIDAVIT OF DANIEL F. DIFONZO

AFFIDAVIT OF DANIEL F. DIFONZO

1. My name is Daniel F. DiFonzo, and I am the founder and President of Planar Communications Corporation, which provides technical, consulting, and planning services for the communications industry, including the satellite sector. I have more than forty years of experience as an engineer and consultant, most of which is in the satellite industry. I have represented numerous companies before the FCC on satellite matters, and I am familiar with the FCC's rules and regulations regarding satellite applications.

2. I received my BEE degree from Villanova University in 1962 and my MS degree from California State University, Northridge in 1972. From 1969 to 1988, I was employed by Comsat Laboratories, and prior to leaving Comsat was Vice President and General Manager in Comsat's Systems Division. In that capacity I managed Comsat's businesses in communications engineering, satellite systems engineering and integration, turnkey earth stations systems integration, satellite procurement and construction monitoring, software development, network design and training. During my career at Comsat, I also served as Vice President and Assistant Director of Comsat Laboratories and Senior Director of Corporate Development. At Comsat, I conceived and championed the development of a unique Flat Array Antenna for Direct Broadcast Satellite reception, which has been a successful commercial product in Japan.

3. I have authored or co-authored more than thirty publications and conference presentations, authored four book chapters (including the chapter on Satellites and Aerospace for the CRC Electrical Engineering Handbook), and taught courses in satellite technologies and antennas. I am the inventor or co-inventor for six patents. I was a member of the National Research Council Panel on Assessment of National Institute of Standards & Technology Programs and was a member of the IEEE Committee on Communications and Information Policy. I am a Senior Member of the AIAA, and a Life Member of the IEEE Communications Society and the Antennas and Propagation Society, having served as Chairman of the Washington, DC AP-S Chapter during 1981-1982.

4. In order to provide the technical information contained herein, I reviewed the AfriStar-2 *Order and Authorization* (DA 06-4), the AfriStar-2 application and related pleadings (SAT-LOA-20050311-00061), the AfriStar-1 *Order and Authorization* (DA 99-2849), and the AfriStar-1 application and related pleadings (SAT-LOA-19990125-00016).

5. The FCC's International Bureau granted AfriSpace authority to launch and operate AfriStar-1 at 21° E.L. in December 1999. The AfriStar-1 application and the FCC AfriStar-1 authorization specify the satellite's service area as Africa and the Middle East.[1] The AfriStar-1 satellite utilizes three overlapping 5.8° dual circularly polarized (LHCP and RHCP) downlink spot beams centered on northwest Africa, east central Africa and southern Africa.[2] Parts of the northwest Africa beam spill into southern Europe. The satellite operates in 2.6 MHz of spectrum centered at 1479.5 MHz. Each beam has one TDM QPSK carrier on each polarization for a total of six carriers. Each carrier is capable of carrying up to 96 "primary rate carriers" of 16 kbps each for a maximum data rate of 1.536 Mbps. In order to avoid self-interference, the 2.6 MHz of assigned spectrum is divided among the three beams. Thus, each beam uses approximately 850 kHz out of the total of 2.6 MHz. The maximum EIRP per carrier is 53 dBW.

6. On January 3, 2006, the FCC's International Bureau authorized AfriSpace to launch and operate the AfriStar-2 satellite. This satellite also has a dual circularly polarized downlink service beam but, unlike AfriStar-1, its highest EIRP beam contours are centered over Europe[3]. AfriStar-2 is authorized for 2.6 MHz bandwidth centered at 1479.5 MHz in each of two orthogonal circular polarizations and has 53.6 dBW downlink EIRP per carrier to receivers with G/T of –19.9 dB/K, typical of those used today for satellite broadcast to moving vehicles.

7. In granting AfriSpace authority for AfriStar-2 the Bureau waived its standard processing rules for NGSO-like systems. The Bureau did so because"[b]ased on our understanding of L-band space station antenna designs, and given the large geographic coverage area of AfriStar-1, we conclude that we could not authorize another BSS (sound) operator's space station in the 1457-1492 MHz band and above the horizon at the location of an AfriStar-1 receiver without resulting unacceptable interference to the AfriStar-1 network. 56" In footnote 56 the Bureau stated that " It would be very difficult to design an L-band space station antenna that would have to be able to serve an area visible from the orbital location of AfriStar-1 and attenuate its emissions sufficiently within the combined service area of AfriStar-1 so as not to cause unacceptable interference to the AfriStar-1 BSS (sound) network." The Bureau went on to state that it would therefore "waive application of the modified processing round procedure in this instance. Further, since AfriSpace can self-coordinate the operations of AfriStar-2 with those of AfriStar-1, we can authorize the AfriStar-2 BSS (sound) space station..."

8. In my professional judgment, the Bureau was technically incorrect in concluding *a priori* that it would not be practical to coordinate any other BSS (sound)

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[1] *See* Amendment to AfriStar-1 application, January 22, 1999 at 1-2; Afrispace, Inc., 15 FCC Rcd 1632 (1999) at paras 1 and 14.

[2] *Id.* at Attachment 2, 18-19.

[3] For example, Figures 1 and 2 of Exhibit A in AfriSpace's Application for AfriStar-2, show AfriStar-1 beams for northern and central Africa. This may be compared with Figure 3, which shows that northern Africa coverage for AfriStar-2 is at least 6 to 10 dB below that of Europe. AfriStar-2 provides substantially no coverage of central or southern Africa. It does, however, provide some coverage of the Middle East.

satellite than AfriStar-2 in the 1457-1492 MHz band, based on the operating parameters of AfriStar-1. Hence, in my judgment, there was no valid engineering rationale for waiving the modified processing round procedure for AfriStar-2 since, in principle, it is possible to coordinate other BSS (sound) satellites with AfriStar-1. My conclusion is based on the following reasoning.

9. First, as described earlier, AfriStar-1 is only authorized for 2.6MHz of spectrum in the 1457-1492 MHz band. Further, given that the 2.6 MHz is divided among the three beams, it should be possible for a European optimized BSS system to use the same frequencies as the three AfriStar-1 beams through geographical separation. For instance, a new European BSS (sound) system could use the frequency assigned to the AfriStar-1 southern Africa or central Africa beams. Likewise, it may be possible for a new BSS (sound) system to put a spot beam over Eastern Europe using the frequency assigned to the AfriStar-1 Northwest Africa beam without impacting service to the African service area specified in the AfriStar-1 FCC Order.

10. Second, modern broadcast satellites use, or contemplate the use of, large spacecraft antennas that are capable of forming highly shaped beams with steep roll off to reduce their radiation patterns beyond the designated coverage region. Certainly, Ondas Spain (and presumably others) could be expected to use such antennas for shaped beams with rapid roll off beyond the intended area. For example, shaped beams optimized for Europe could have sufficient pattern falloff such that interference into AfriStar-1's African coverage areas could be below harmful levels. This would almost certainly be the case for the AfriStar-1 southern Africa beam where even co-frequency use might be possible. For service to areas near the fringes of both coverage areas, combinations of frequency and polarization coordination might be used.

11. Third, AfriSpace uses both polarizations. As noted in Paragraph 10 above, at least some of the potentially interfering signals would be on the opposite polarization, thereby further mitigating harmful interference. For example, another system's RHCP transmissions targeted for Europe would be generally cross polarized with the LHCP signals from AfriStar-1. Of course, off-axis cross polarization properties of antennas are complex and require case-by-case investigation. The key point is that multiple possibilities exist for interference mitigation and coordination by another entity should not be ruled out in advance.

12. In summary, although the Bureau's analysis led it to conclude that only AfriStar-2 would be able to coordinate withAfriStar-1, it is my judgment that the space station antenna design and frequency constraints perceived by the Bureau need not be preclusive. To the contrary, innovative satellite antennas, geographic frequency reuse, polarization, and signal coding techniques should make it possible for a non-AfriSpace BSS (sound) satellite system to provide service to Europe and to be successfully coordinated with AfriStar-1 (or a legitimate "replacement satellite" for AfriStar-1).

The foregoing statements in this affidavit are true and correct to the best of my knowledge and belief.

Daniel F. DiFonzo.

Daniel F. DiFonzo
February 1, 2006

CERTIFICATE OF SERVICE

I, Scott Woodworth, hereby certify that on this 2nd day of February, 2006, copies of the foregoing "*Application for Review*" were sent via first-class mail, postage prepaid, to the following:

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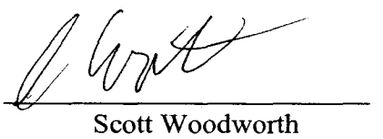

Scott Woodworth

* Via Hand Delivery

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