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

Federal Communications Commission  
Office of Secretary

JUL 10 1998

In the Matter of	)		
	)		
FINAL ANALYSIS	)	File Nos.	25-SAT-P/LA-95
COMMUNICATION SERVICES, INC.	)		76-SAT-AMEND-95
	)		79-SAT-AMEND-96
For Authorization to Construct, Launch	)		151-SAT-AMEND-96
and Operate a Non-Voice, Non-	)		7-SAT-AMEND-98
Geostationary Mobile Satellite System	)		
in the 148-150.05 MHz, 400.15-401 MHz,	)		
and 137-138 MHz bands	)		

To: The Commission

**RESPONSE TO "FURTHER REPLY" OF LEO ONE**

Final Analysis Communication Services, Inc. ("Final Analysis"), by its attorneys, hereby files this Response to the unauthorized "Further Reply" of Leo One USA Corporation ("Leo One") filed on July 2, 1998, a full month after the close of the pleading cycle in the above-captioned proceeding.<sup>1</sup> Leo One has not shown good cause for acceptance of this additional pleading.<sup>2</sup> However, because it demonstrates that Leo One cannot raise credible challenges with respect to the central concern in this proceeding, the Further Reply actually helps narrow the issues and facilitates a swift conclusion that Final Analysis's proposals should be approved.

<sup>1</sup> Leo One's filing is replete with prejudicial misstatements and to correct them Final Analysis is compelled to ask for acceptance of this Response pursuant to Section 1.45(c) of the Commission's Rules, 47 C.F.R. §1.45(c). Moreover, as demonstrated herein, acceptance of this Response will facilitate resolution of this proceeding.

<sup>2</sup> Leo One's pleading clearly exceeds the page and time limits specified in Section 1.45(b) of the Commission's Rules, 47 C.F.R. §1.145(b) for permitted pleadings, which in fairness should be adhered to for additional pleadings filed pursuant to Section 1.45(c). Most importantly, Final Analysis believes that Leo One has filed this pleading purely for the purpose of creating obfuscation and delay. The Commission has previously rejected unauthorized pleadings of this sort. See, e.g., *Jacor Broadcasting Corporation*, 12 FCC Rcd 7934, 7934 (1997); *AT&T*, 95 F.C.C.2d 167, 173 (1983).

When reduced to its essence, Leo One's Further Reply demonstrates that Leo One cannot rebut Final Analysis's showing that its proposed system modifications are necessary and will not cause additional potential interference. The technical arguments now raised by Leo One with respect to Final Analysis's proposed constellation changes (increased satellites and changes inclination) as well as downlink power are generally irrelevant to a finding of additional potential interference. They are also largely conjectural and wholly unsupported by technical analysis or even an engineer's certificate.<sup>3</sup> This is in stark contrast to the record created by Final Analysis, supported by three independent technical experts, which shows that Leo One will actually cause more potential interference to Final Analysis. Consequently, the Commission may now easily conclude that with respect to these issues Leo One has not demonstrated that it, or any other licensee, will suffer any additional potential interference. On the issues of the number of uplink channels and the data rates proposed by Final Analysis, Leo One actually concedes error in its earlier pleadings. On these issues no real controversy remains. Accordingly, Leo One's Further Reply supports Final Analysis's position and confirms that Final Analysis's *Licensing Order*<sup>4</sup> should be revised.

## DISCUSSION

### **Leo One Does Not Rebut Final Analysis's Showing That Constellation Changes And Increased Downlink Power Will Not Cause Additional Potential Interference**

Constellation Changes - Leo One claims that it is not possible to conclude from the report by W. L. Pritchard & Co. ("Pritchard Report"), which was submitted as Exhibit 3 to the Final Analysis Reply, that the probability of interference from Final Analysis to NOAA would be decreased, despite a larger number of satellites, as a result of the reduction from three

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<sup>3</sup> Leo One also failed to supply an engineer's certificate or any other expert verification of the technical arguments raised in its May 18, 1998 Opposition to Final Analysis's Application for Clarification and Review.

transmitters to one per satellite (p. 6).<sup>5</sup> Leo One asserts that “[t]he probability of a transmitter failing in an “on” state is generally less likely than a computer or memory upset/failure that would result in transmitted interference.” *Id.* The Pritchard Report in fact takes into account that transmitter and computer/memory failures will be different but does not assign specific values as they are not yet known in the Little LEO industry. Leo One offers no data or quantitative probability analysis to dispute the conclusion of the Pritchard Report that the combined effect of Final Analysis’s proposed increase in satellites<sup>6</sup> and reduction of transmitters actually reduces potential interference to NOAA.<sup>7</sup>

Increased Downlink Power - Leo One now admits that it has indeed increased its own power flux density (“PFD”) levels and does not dispute that Final Analysis’s proposed changed PFD remains within the relevant  $-125 \text{ dBW/m}^2/4\text{kHz}$  threshold.<sup>8</sup> Leo One’s efforts to dismiss

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(...continued)

<sup>4</sup> Final Analysis Communication Services, Inc., Order and Authorization, DA 98-616 (Int’l Bureau, rel. April 1, 1998) (“*Licensing Order*”).

<sup>5</sup> Leo One also claims, at 5-6, however, that it “must conclude” that Final Analysis plans to use three transmitters on each satellite because Final Analysis’s 1997 Amendment did not specifically reflect a reduction to one transmitter. This statement is nonsense. As Leo One well knows, the industry settlement contemplates the shift of virtually all of Final Analysis’s service links to the 400 MHz band and future spectrum. As Final Analysis has repeatedly and plainly stated on the record, the potential of using at least one transmitter in the 137 MHz band spectrum is being retained against the possibility that no new spectrum will be allocated. Leo One’s argument must be taken as a demonstration that, at this point, it can raise no credible arguments against Final Analysis’s proposed constellation changes.

<sup>6</sup> Leo One attempts to cast doubt by conjecture on Final Analysis’s need for additional satellites to increase the availability of its system under timesharing conditions (at 8-9). A difference of opinion on the optimum design of Final Analysis’s system does not in any way support the conclusion that any additional potential interference will be created.

<sup>7</sup> It should be noted that NOAA has also clarified that the International Bureau mistakenly relied upon incomplete analyses informally referred to by that agency regarding probabilities of failure and the potential for interference. *See* Letter of William T. Hatch, Acting Associate Administrator, National Telecommunications and Information Administration, to William E. Kennard, Chairman, Federal Communications Commission, June 11, 1998. Thus, it is now entirely clear that the assumptions underlying the International Bureau’s conclusion on this point are erroneous.

<sup>8</sup> Leo One disputes the power levels referred to in Final Analysis’s pleadings (at 3-4), but does not dispute the essential points: that Leo One has increased its own power and that Final Analysis’s PFD levels remain within the threshold.

the relevance of the threshold makes no sense. Under its current theory, Leo One's own power increases should have been rejected as major amendments, but clearly they were not.<sup>9</sup> Leo One provides no rationale to support application by the International Bureau of wholly different standards to Final Analysis and Leo One on this issue.

### **Leo One Concedes Error And No Real Controversy Remains Regarding Final Analysis's Uplink Utilization**

Number of Uplink Channels - Leo One admits that Final Analysis will utilize only 14 uplink channels and therefore concedes the error of its earlier assertion that Final Analysis proposes an increase to 40 uplink channels.<sup>10</sup> The argument that an increase in satellites in view will impair access to uplink channels, even if only 14 channels are utilized, is grossly oversimplified. It does not take into account that Final Analysis has reduced its data rate by a factor of 2 and does not rebut the throughput analysis in Final Analysis's Reply at 4. It is now clear that Leo One's earlier exaggeration of Final Analysis's proposed uplink usage seriously misled the International Bureau.<sup>11</sup>

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<sup>9</sup> *Leo One USA Corp.*, Order and Authorization, DA 98-238 (Int'l Bur., rel. Feb. 13, 1998) at ¶ 29. Leo One also makes the extraneous arguments that Final Analysis has proposed a change in system noise temperature and miscalculated its downlink margin. Further Reply at 4. Final Analysis's downlink margins have been independently calculated. Leo One's challenge amounts to no more than an unsupported assertion that Final Analysis does not require the increased power it has requested. Moreover, Leo One criticizes Final Analysis's proposal to operate at 17.8 dBW when Orbital Communication Corporation ("ORBCOMM") operates at 12.5 dBW, but conveniently omits explanation of why it proposes that its own system operate at 21 dBW.

<sup>10</sup> Leo One's effort (at 7 and note 20) to convince the Commission that the memory on board Final Analysis's system indicates that Final Analysis will actually activate 40 uplink channels is completely strained and incredible. The memory on Final Analysis's system will be utilized for a variety of purposes including satellite housekeeping and spacecraft reboot software, and is not intended solely for commercial data throughput. Final Analysis has committed to activating only 14 uplink channels for its commercial Little LEO service in the 148-150 MHz band, and the debate should end there.

<sup>11</sup> *Licensing Order* at ¶¶58-60.

Data Rates - Leo One acknowledges, at p. 7, that Final Analysis proposes a 9.6 kbps uplink data rate. This is an admission by Leo One that it wrongly alleged, and the International Bureau wrongly concluded, that Final Analysis proposed to use high data rates.<sup>12</sup>

The remaining allegations raised in the Further Reply are either nonsensical or simply repeated statements from past pleadings,<sup>13</sup> and do not merit consideration.<sup>14</sup>

### CONCLUSION

For the reasons stated above, the Commission should expeditiously grant Final Analysis's Application for Clarification and Review.

Respectfully submitted,

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Dated: July 10, 1998

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<sup>12</sup> *Id.* at ¶¶ 52-54.

<sup>13</sup> For example, Leo One disputes, at 5, a statement in the Pritchard Report, that O-QPSK Modulation, to be used by Leo One and ORBCOMM, creates more out-of-band emission than MSK modulation. The point is wholly irrelevant both because it has nothing to do with the Final Analysis system and also because Final Analysis proposes to use GMSK modulation. The Pritchard Report and the ITT/Aerospace/Communications Report (Exhibit 2 to the Final Analysis Reply), both state that GMSK is specifically designed to reduce potential interference in adjacent communication channels. On the other hand, Leo One provides no proof that it actually can or will utilize the "appropriate baseband pulse shaping techniques" that must be used to achieve equal or superior out-of-band performance with O-QPSK.

<sup>14</sup> Final Analysis has separately requested that the International Bureau derestrict this proceeding to make it a permit but disclose proceeding for *ex parte* purposes. Final Analysis believes that the confusion Leo One has attempted to generate with its Further Reply could be most efficiently and expeditiously dispelled in a direct presentation to the Commission staff.

## CERTIFICATE OF SERVICE

I, Beatriz Viera, hereby certify that a true and correct copy of the foregoing **Response to "Further Reply" of Leo One** on behalf of Final Analysis Communication Services, Inc. was delivered by hand or regular mail this 10th day of July 1998, to each of the following:

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