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JUN 28 1994

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

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

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JUL - 1 1994

IMPROVED FACILITIES DIVISION  
SATELLITE RADIO BRANCH

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In the Matter of the )  
Licensed approval of )  
NORRIS SATELLITE )  
COMMUNICATIONS, INC. )  
Licensed to Construct, )  
Launch and Operate Communications )  
Satellites in the Ka-Band )  
\_\_\_\_\_ )

File Nos. 54-DSS-P/E-90  
55-DSS-P-90

Licensee's Statement of Compliance  
With Construction Contract Milestone

Comes Now Licensee providing notice of this voluntary supplemental submission of Licensee Norris Satellite Communications, Inc. supplementing its previous notice to the Federal Communications Commission (hereinafter "Commission") of Licensee's confirmation that it has a construction contract for NorStar I, including an additional contracting Technology Partner, and that such consortium's construction contract is active, in full force and effect, and as scheduled will meet the launch date requirement set forth in the Order of the Commission. Licensee so certifies.

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Licensee provides this additional notice that it continues to comply, complies herewith and has always complied to date, with the Order of the Commission that NorSat commence construction of licensee's first satellite, NorStar I, by June 1994 and launch by July 1997, and in support thereof states affirmatively as follows:

1. Licensee Norris Satellite Communications, Inc. (hereinafter referred to as "NorSat" or "licensee"), doing business as NorStar I, has commenced construction of NorStar I and has expanded on construction activities since the last submission by Licensee to the Commission, in full compliance with the Order of the Commission.

2. Licensee states that it has fully complied with the original Order of the Commission, in that the contract with Harris Corporation, as amended, fully met the standards applicable for commencement of construction of the subject satellite under the circumstances. Specific performance of the construction contract had commenced thereunder, payment for such construction had been made, and performance had commenced, meeting the milestone requirement, certification thereto having been submitted to the Commission at the time.

3. Licensee continues to assert that it has fully complied with the original Order of the Commission without regard to any extensions of time Ordered by the Commission, but supplements its previous construction status with the addition of Technology Partner Motorola, and with additional services having been performed on the satellite bus and its interfaces with the communications payload.

4. Licensee's satellite construction activities have continued and have been extended since the last submission by licensee to the Commission. Licensee is proceeding in accordance with the Order of the Commission, and under contractual time lines

that will meet the Commission's Order for launching NorStar I by July 1997.

Technically speaking, there is no regulatory provision requiring any additional submission by licensee since the Order extending the milestone compliance dates made no finding that the previously submitted compliance statement was deficient in any specific way. However, in order to voluntarily update the compliance statement, Licensee NorSat is pleased to advise the Commission that it is proceeding with its construction contract, and that the current schedule of time-line performance by the contracting parties fully requires completion of construction to meet the launch timetable set by the Commission of July 1997.

5. Licensee states that it has continued and extended the content and scope of performance of line-item construction task performance with its original, irrevocable contractual partner Harris Corporation. Harris Corporation has identifiable tasks, system requirements, review processes, planning and scheduling activities in which it is actively engaged, specified since the last submission by licensee to the Commission. Licensee re-states that its irrevocable contract of satellite construction is active and in full force and effect, with additional tasks being performed. Specific construction tasks have been supplemented and adjusted in the process of contract performance, and Technology Partner, Motorola, has construction tasks which required a revised division of construction tasks to enhance the construction process.

The Commission should take judicial notice of Motorola's role in implementing satellite performance in this entire field, and of the stability added to the venture by the addition of Motorola since they successfully performed on the same communications subsystems on NASA's ACTS satellite. The current Motorola contractual efforts adjust performance standards by a three-cycle improvement factor over the same communications subsystem designed and implemented by Motorola on NASA's ACTS satellite - NorStar I will contain significant improvements over the ACTS operating subsystems.

The irrevocable construction contract in this pathbreaking communications field is, by its nature, one which requires modification of certain performance characteristics and system architectures in the course of the staged developmental process. These changes do not change the underlying irrevocability of the construction contract itself, but simply reflect normal engineering and technical adjustments that are inherent in every construction process. The system architecture changes are necessary due to design improvements revealed in the normal construction process as well as improvements in the satellite bus interfaces with the communications payload. They do not delay the launch date, but they may modify internal time-line construction operations while remaining within the time-line parameters ordered by the Commission. System architectures are not appropriate for public disclosure since they are proprietary in nature. There is no legal, regulatory or other restriction on these interim system

architecture changes. However, should any system architecture modification impact the Commission's ordered milestone compliances, licensee will so inform the Commission and request appropriate relief at that time. The changes to date serve to enhance the construction process and ensure that once launched, the system will work efficiently. The construction process is in place, and fully contemplates timely compliance with the launch date milestone.

6. There has been an augmentation of and addition to the construction technology consortium engaged in the satellite construction of NorStar I. In addition to the original contractor Harris Corporation, there have been additional construction tasks performed involving the satellite's bus which have occurred since the last submission by licensee to the Commission. These expenditures in the bus of the satellite are functions designed to enhance operational performance upon and after launch, including, *inter alia*, improved interfaces with the communications payload subsystem. Further, since the last submission to the Commission, licensee has added Motorola, Inc. as a Technology Partner with identifiable performance tasks in which Motorola is actively engaged. The consortium has divided the tasks of construction, including allocation of time-line standards for the communications payload, the bus, the interfacing of the payload with the bus, power systems, the antennae, and other significant technical contract tasks such as construction and systems engineering interfacing of the Baseband Processor Subsystem.

7. The active involvement of Motorola in the design and implementation of the Baseband Processor Subsystem in the communications package of NorStar I is particularly significant since Motorola performed this task in the construction of NASA's ACTS satellite. This communications subsystem has been generally described as the "Switchboard in the Sky." This wording and description of the technical subsystem was NASA's description; it is apt and quite significant.

The entire purpose of NASA's ACTS satellite was to demonstrate to the United States business community that they could be assured that this KA-Band technology works, particularly the tests confirming that there is no rain attenuation problem with the spot beams. Businesses seeking to take advantage of the unique KA-Band characteristics, such as data transmissions of 1 Gigabit per second to accommodate the needs of Super-computers and High Density Television (HDTV), needed proof-positive that the "switchboard in the sky" would actually work. NASA has confirmed the technical performance by its satellite experiments. The corporation creating the Baseband Processor Subsystem, that is, the "Switchboard in the Sky" on NASA's experimental ACTS satellite, was Motorola. Licensee has now secured under active contract that same company which has demonstrated its performance capability.

8. NASA's satellite is the experimental satellite whose purpose is to open this entire new spectrum to commercial use, with Licensee NorStar I being the first commercial pathbreaker in this KA-Band spectrum.

By the addition of Motorola as a Technology Partner in the construction of NorStar I, the business community and the Commission is assured of stability, continuity, and reliability in the completion of construction and the actual business performance of the NorStar I satellite upon launch in 1997.

9. The addition of Technology Partner Motorola confirms the resolution of their previous opposition of record between the parties involving licensee's petition for reconsideration on the spectrum allocation. The parties are now working jointly on the most exciting new frontier of communications technology, with the best geostationary slot designed for the expansion of business in this pathbreaking frequency. Motorola recognizes the importance of the geostationary orbit, and has a strong desire to be a Technology Partner with the company having this premier space slot.

Motorola recognizes its own significant contributions to the interests of the United States public in opening this new frontier of communications technology, and licensee NorSat is very pleased to have Motorola as its Technology Partner, including the contemplated participation of Motorola in marketing, ground based activities, and other functions which provide confidence and assurance to the business community that this pathbreaking satellite venture will actually perform as designed, and will professionally identify, target and penetrate its initial and long-term markets.

10. With regard to market segment identification and penetration, licensee is engaged in a professional approach, with

short and long term goals and objectives being identified and secured. While not a part of the legal FCC mandates, licensee is volunteering this comment since it is a normal part of business development that would meet the Commission's inherent ultimate milestone requirement for "operation" of the satellite once launched on or before July 1997. Incidentally, licensee expects to launch well before the July 1997 deadline date, (but makes no other representation at this time as to any specific advance target date).

11. Licensee states to the Commission that, notwithstanding anything to the contrary submitted herewith, it reserves the right to conform its construction contract to meet standards of performance of satellite construction to assure the Commission's ultimate milestone standard: satellite operation. Motorola's construction of the Baseband Processor Subsystem is one specific example of how the modification of the contract is needed in order to assure the maximum efficiency from the designed satellite. Unless licensee has the right to continually amend the contractual partners, scope of work, and terms of delivery under the contract, licensee could not be able to provide the necessary assurance to the Commission that it will meet that ultimate milestone, operation of the satellite. Modifications of contracts, modifications of scope of work of contractors, modifications of which contractor or Technology Partner is to deliver satellite subsystems, interfaces, or compliance with delivery for specified launch schedules are all contract implementation issues reserved for every company engaged



in normal business. The Commission's milestones compliance requirements do not require a licensee to accept inadequate performance in the implementation of any contract. Licensee reserves the right to insist on construction of the satellite as specified in the contracts. If a contractor breaches the contract, licensee must have the right to insist on proper performance. Therefore, it is clear that the currently existing, on-going, active contracts by which Licensee NorSat represents that it fully contemplates meeting the launch (and operational) deadline set by the Commission meet the requirements of the license. Licensee does not anticipate that there will be a significant change in the parties to the construction contract. Should any significant change occur, licensee may be required to submit additional confirmation of its continued confidence of launch and operation of the licensed NorStar I. Such a speculative event has not occurred, and it is not anticipated that it will occur. After all, licensee is continuing to assert that its original irrevocable contractual partner remains its irrevocable partner, with enhanced and specified performance tasks added by others; licensee has actually performed contractual tasks related to the bus and its interfacing with the communications payload; and licensee has added the only company in the world with experience in a demonstrably proven operation of a Baseband Processor Subsystem in the KA-Band which is now an active Technology Partner with Licensee. The construction consortium now in place will not only bring the United States into the forefront of technology in the world, but will provide the

United States with the opportunity to conform its "state of the art" technology with that which is to be implemented in the rest of the world. The United States cannot afford to relinquish space-based telecommunications in the KA-Band without risking falling behind in the global communications market or becoming second best.

Satellite data processing and interactive telecommunications holds the potential of quantum reductions in deliverable signal costs similar to the cost savings affiliated with the computer in its original introduction to the business world. NASA has tried to show these truths of physics to the Commission - the physics of huge profit margins. The rest of the world knows of the huge savings involved with the new digital, compression satellite advantage. Licensee NorSat need not argue the substantive merits of satellite versus 1920's radio technology from terrestrial sources. The rest of the world is recognizing that the cost savings in quantum leaps can only be achieved if we adopt the technologies that can generate dollar savings that are in fact quantum leaps. The greatest potential for such dollar savings relies on satellite technology, as demonstrated in operation by NASA, and now by pathbreaking Licensee NorSat.

The United States cannot afford the interim argument that short term massive employment of terrestrial hardware could ever be successful as a long term substitute for satellite communications. Such terrestrial 1920's radio technology can require repeater towers every 5 miles and signal reflectors around every building, tree and house in a 5 mile radius. While it would temporarily

employ small business, it is the exact opposite of the concept of market economics. To adopt inherently inefficient systems merely to create "make-work" jobs has been objectively confirmed as a market failure, such as in communist systems which sought to impose business operations regardless of cost-efficiency. Ultimately, cost efficiency prevails, and ultimately, satellite communications can perform the same functions for 1% of the terrestrial based costs. Space based systems are ready to coordinate their gateways and terrestrial connections to the benefit of all. To the extent that terrestrial based systems preclude the enormous cost benefits of satellite systems in the United States, we will see the decline of the importance of the United States in the world's communications leadership. If satellite systems are excluded from this frequency, the United States will have chosen to "employ the public in the short term" which will come to a competitive end (and all those temporarily employed will be fired) when the more efficient space-based systems in the rest of the world take over the space-based communications industry in our own country.

The space-based technology offers far more employment potentials in the burgeoning information super highway areas not yet articulated to the Commission. Licensee's performance will assist in showing the way to increased employment in the new age of communications technology. Licensee is on the cutting edge of technology innovation which requires a balanced business approach: sales in utilization of its KA-Band beams provide for steady and consistent business income, while at the same time, innovative

contractual commitments are needed to develop concepts which push the envelope of space-based technical capabilities to advance the expanding public interest in utilization of the KA-Band by satellites. Satellites are constrained by the essential feature of launch cost: weight. Terrestrial systems have alternatives; satellites are constrained by their weight. Satellites need this spectrum. NorSat's licensed authority is a major commitment by the United States government to the utilization of the KA-Band by satellites; the licensed authority has been granted, and the FCC has confirmed the public interest in the space-based utilization of the KA-Band.

The entire KA-Band is not at issue with this licensee, and therefore, no objections based on parties involved in other portions of the KA-Band are relevant to this submission. Licensee is not attempting to present its position with regard to anything other than the approved, authorized frequencies already granted as a matter of right to licensee Norris Satellite Communications, Inc. The comments regarding space-based utilization of the KA-Band are solely made in justification of the continued license of NorSat, with its economic cost efficiencies. No comments made herein should be construed as involving any other frequency allocations pending before the FCC; licensee is herein only asserting its legal concerns for its own frequency allocation applications.

Confidentiality request. The Commission has an interest, including a public United States interest, in the commercial viability of its own pathbreaking licensee in the KA-Band.

Licensee NorSat requests that the Commission respect its business needs, and that the Commission give particular and appropriate additional concern to this pathbreaker's licensed commercial needs to assure licensee's business success. It is in the public interest to provide the necessary confidentiality to licensee of its operations so that the business potential can be demonstrated for future corporate involvement.

Licensee notes that at this stage, licensee NorSat desires additional satellites in the KA-Band in order to expand the customer base in satellite usage of the KA-Band. However, NorSat seeks competitive privacy of its design and construction procedures to make sure they survive initially, which will allow an environment in which future competition and growth of the space-based KA-Band spectrum utilization will flourish - a stated goal by the Commission in its considerations authorizing this license to Norris Satellite Communications.

Thus, we ask that licensee's submissions be treated confidentially in this area of pathbreaking effort needing initial nurturing and support as all newly innovative commercial endeavors.

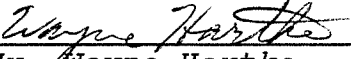
Licensee itself considers the contents of this voluntary submission to be confidential in nature. The law mandates confidentiality if the parties thereto treat the subject matter as being confidential. It discloses the participants involved in the ongoing contracting construction process, and it states technical subsystem performance by specific entities. The information contained in this submission has not been disclosed to anyone other

than this Commission. It is clear that these parties have every right in the world to claim that they want to make sure that while they are proceeding with construction, and making voluntary disclosures of the improving conditions and the addition of Technology Partners, and making technical improvements in the bus and its interfacing with the communications package, that they are not revealing matters that will open the door to other competitors prematurely. The parties themselves view and hereby certify: all disclosure of their contractual performance in the design, construction, launch and operation of this pathbreaking satellite to be subject to the utmost level of confidentiality, including non-disclosure of any technical, system interfaces, or operational details of the subject satellite construction contract or the implementation thereof. The parties hereto have executed written agreements which prohibit disclosure to persons who do not have a "need to know" the particular information, substantively confirming by this objective evidence that the parties consider this material to be construed as holding the utmost degree of confidentiality permissible which is consistent with law.

It is considered by the Licensee that this submission should be construed as confidential and not subject to disclosure in accordance with legal standards (including, inter alia, The Critical Mass case), and therefore that this document need not be publicly disclosed. If it is determined that this document should be publicly disclosed, please advise me of that determination.

Sincerely,

NORRIS SATELLITE COMMUNICATIONS, INC.  
doing business as Norstar I,  
BY COUNSEL

  
\_\_\_\_\_  
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Certificate of Service

I hereby certify that I have submitted the original plus four (4) copies of the foregoing document to the Federal Communications Commission on this 28<sup>th</sup> day of June, 1994.

  
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Wayne Hartke