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SUMMARY OF PETITION

Motorola Satellite Communications, Inc. ("Motorola") hereby petitions the Commission to dismiss and/or deny the application of Ellipsat Corporation ("Ellipsat") for authority to construct an elliptical orbit mobile satellite system using the RDSS service bands. Ellipsat's application is patently deficient in several material respects, including its utter failure to comply with the Commission's application processing requirements in Section 25.392(a) of the Rules. Of particular note, is the total lack of any information in Ellipsat's application concerning the radio frequency or satellite equipment implementation of its tracking, telemetry and control system. Absent this and other basic information about Ellipsat's system, the Commission cannot begin to process this application.

Moreover, based upon the limited technical information in its application, it is apparent that Ellipsat's proposed system simply will not work as designed and will not be able to offer any meaningful RDSS to the public. Coverage of the United States by its six satellite system would be intermittent at best and virtually nonexistent in many parts of the country. Ellipsat's proposed RDSS service only could be used by potential subscribers about 2% of each day, with no RDSS service available to Hawaii, Puerto Rico and the U.S. Virgin Islands. There also would be severe MSS coverage limitations for Ellipsat's proposed

system to many areas of the United States, even assuming an expanded 24 satellite system.

These coverage limitations are exacerbated by the lack of adequate link budget margins for Ellipsat's proposed system. Taking into account the relevant power flux density limits contained in the international Radio Regulations and correcting for glaring errors in Ellipsat's antenna feasibility, it is apparent that the proposed satellites will not be able to maintain communications links with many of Ellipsat's anticipated subscribers. These negative link margins will further reduce the coverage of Ellipsat's satellites and create wider gaps in the availability of its services.

Based upon the numerous errors, omissions and internal inconsistencies in its application, Ellipsat cannot be found technically qualified to become a satellite radio licensee. This is not a case where the Commission can rely upon the expertise of the applicant to modify its system in order to take advantage of newer technologies as they are developed. Ellipsat's system as currently proposed simply will not work and may present a hazard to other satellite systems if launched into orbit. While Ellipsat may be able to correct some of these problems, it is apparent that a total system redesign is in order. Under these circumstances, the Commission cannot continue to process Ellipsat's technically deficient application.

In addition, the Commission must dismiss Ellipsat's application because it has failed to demonstrate its financial

qualifications. Under any reasonable interpretation of the Commission's financial standards, Ellipsat is not financially qualified to construct, launch and operate its proposed satellite system. Ellipsat's projected costs are grossly underestimated while its revenue estimates are exaggerated because of several faulty assumptions concerning the capabilities of its system. Ellipsat does not have sufficient internal resources to build and launch its first generation of satellites, nor does it have any reasonable assurance of obtaining the requisite amount of financing to proceed with construction. Furthermore, it has not submitted a detailed business plan as required by the RDSS rules.

In summary, the Commission should dismiss the Ellipsat application on any one of three grounds, i.e., noncompliance with the Commission's rules regarding the provision of essential information; fundamental technical errors, including use of a subsystem that does not obey the laws of physics; and totally inadequate financial qualifications. Since all three grounds for dismissal are present here, failure to dismiss Ellipsat's woefully inadequate application would make a mockery of the Commission and its processing rules.

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

RECEIVED

JUN 3 - 1991

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of:)

ELLIPSAT CORPORATION)

Application for Authority to)
Construct an Elliptical Orbit)
Satellite System for Operation)
in the RDSS Band.)

File No. 11-DSS-P-91(6)

PETITION TO DISMISS AND/OR DENY

Motorola Satellite Communications, Inc. ("Motorola"), through its attorneys, hereby petitions the Commission to dismiss and/or deny the above-captioned application of Ellipsat Corporation ("Ellipsat") for authority to construct an elliptical orbit satellite system operating in the RDSS frequency bands. Ellipsat has not provided the minimal amount of information required by the Commission's processing rules for accepting applications for filing. Ellipsat's proposed system simply will not work as designed and will not be able to provide RDSS service at least 98 percent of the time to most of the country. Based upon the information set forth in its application, the Commission must find that Ellipsat is neither technically nor financially qualified to become an RDSS satellite licensee.

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I. BACKGROUND

On April 1, 1991, the Commission released its Public Notice in this proceeding and preliminarily accepted for filing applications of Ellipsat and Motorola for authority to construct two distinctly different low earth orbit mobile satellite systems employing the RDSS band frequencies. See Public Notice, Report No. DS-1068 (April 1, 1991).^{1/} The Commission requested comments or petitions regarding both applications from interested parties by June 3, 1991.^{2/}

Ellipsat filed its original application in November 1990, for a so-called ELLIPSO I system. This "initial" system contemplates the operation of six "Eyesat-class" non-interconnected satellites to serve North America. Ellipsat proposes to offer radiodetermination satellite service (RDSS) and mobile voice services within the continental United States and

^{1/} This public notice was subsequently modified to reflect the correct RDSS band uplink frequencies. See Public Notice, Report No. DS-1071 (April 18, 1991).

^{2/} The Public Notice also established a June 3, 1991 cut-off date for accepting applications to be considered in conjunction with both Ellipsat's and Motorola's applications. Ellipsat has written the Commission twice to protest the inclusion of its application in this processing group. See Letters from counsel for Ellipsat (May 2, 1991 and May 21, 1991). As outlined in Motorola's letter to the Commission of May 14, 1991, Ellipsat's submissions are procedurally defective and its arguments are substantively wrong. In any event, for the reasons stated herein, the Commission should dismiss and/or deny Ellipsat's application and thereby moot the issues raised in its correspondence.

domestic offshore points. All six of the ELLIPSO I satellites would be in two inclined elliptical orbital planes with three of the satellites equally spaced within each of the planes. Ellipsat states that beginning in 1994, additional enhanced satellites will be phased into the ELLIPSO II system until 24 satellites are operational in four inclined elliptical orbits. As of this date, however, Motorola is not aware of any separate applications for the ELLIPSO II system, and indeed, the Commission has only placed on public notice the ELLIPSO I system proposal.^{3/}

On January 30, 1991, Ellipsat submitted a "Technical Clarification and Erratum" to its application which included, for the first time, a purported interference analysis and transmission budgets for the L and S band service links. As outlined below, Ellipsat's amended application fails to provide basic information about its proposed system, is internally inconsistent, reveals serious technical infirmities in the system design, and fails to demonstrate its financial qualifications.

When Motorola and Ellipsat filed their respective applications, Geostar Positioning Corporation ("Geostar") held the only license to provide service in the RDSS band. Geostar's licensed system was to be comprised of three satellites each containing eight channels to serve the continental United States.

^{3/} Motorola submitted its application for the IRIDIUM® system in December 1990, and later provided supplemental information to correct minor errors in the application and to augment its spectrum sharing analyses developed in conjunction with the WARC-92 preparations. See File Nos. 9-DSS-P-91(87) & CSS-91-010.

At that time, Geostar had pending various applications to modify its licensed system in order to reduce its dedicated satellites to single-beam operations and extend the implementation schedule for its system. Those applications recently were denied or dismissed, in substantial part, by the Commission.^{4/} The Commission has also required that Geostar submit a revised business plan demonstrating its ability to meet the implementation schedule set forth in its license.^{5/} In light of Geostar's recent filing with the Bankruptcy Court to liquidate its operations, it appears that in the near future there no longer will be any licensed RDSS system.^{6/}

II. THE COMMISSION MUST DISMISS ELLIPSAT'S DEFECTIVE APPLICATION BECAUSE OF GLARING OMISSIONS AND INTERNAL INCONSISTENCIES

Ellipsat's application, even as amended, fails to provide basic information about its proposed system, contains numerous errors and internal inconsistencies, and fails to comply with applicable international Radio Regulations which, taken as a whole, require its immediate dismissal.^{7/} Neither the Commission

^{4/} See Geostar Positioning Corp., DA 91-528 (released April 30, 1991).

^{5/} Id. at ¶¶ 18-19.

^{6/} Communications Daily, at 1 (May 14, 1991).

^{7/} See Section 25.112 of the rules which will become effective on June 27, 1991:

(continued...)

nor any interested parties can determine from the application whether Ellipsat's system will be compatible with any other licensed or proposed system or whether Ellipsat will ever be able to offer RDSS or MSS to the public. Indeed, from the meager information presented in its application, it will be impossible for ELLIPSO I to provide any meaningful RDSS service anywhere in the United States. The Commission cannot continue to process such a filing without severely damaging its carefully crafted application processing guidelines and prejudicing those applicants, such as Motorola, who have submitted complete applications as of the June 3, 1991 cut-off date.

While the Commission has already placed Ellipsat's application on public notice and tentatively accepted it for filing, such a determination was based solely upon an "initial review." See Public Notice, Report No. DS-1068. Indeed, the

^{2/} (...continued)

(a) An application will be unacceptable for filing and will be returned to the applicant with a brief statement identifying the omissions or discrepancies if:

(1) The application is defective with respect to completeness of answers to questions, informational showings, internal inconsistencies, execution, or other matters of a formal character; or

(2) The application does not substantially comply with the Commission's rules, regulations, specific requests for additional information, or other requirements.

See Amendment of Part 25 of the Commission's Rules and Regulations to Reduce Alien Carrier Interference Between Fixed-Satellites at Reduced Orbital Spacings and to Revise Application Processing Procedures for Satellite Communications Services, FCC 91-136, at Appendix B (released May 21, 1991) reprinted in 56 Fed. Reg. 24,016 (1991).

Public Notice specifically states that "[t]he Commission reserves the right to return these applications, however, if, upon further review, it is determined that they are defective or not in conformance with the Commission's rules, regulations and policies."^{8/} Id. Similar processing rules apply in the fixed satellite service.^{9/} The Commission has repeatedly warned that "[a]pplications not containing all required information will be returned as unacceptable for filing."^{10/} As outlined below, the

^{8/} Section 25.392 of the rules requires that:

(a) Space stations application requirements. Each application for a space station license in the radiodetermination satellite service shall describe in detail the proposed radiodetermination satellite system, setting forth all pertinent technical and operational aspects of the system, including its capability for providing and controlling radiodetermination service on a geographic basis, and the technical, legal, and financial qualifications of the applicant. In particular, each application shall include the information specified in Appendix B of Space Station Application Filing Procedures, 93 FCC 2d 1260, 1265 (1983), ... [and] applicants are required to demonstrate compatibility with licensed radiodetermination satellite systems....

47 C.F.R. § 25.392(a) (1990).

^{9/} As the Commission stated in its Space Station Application Filing Procedures, "if a defect is overlooked at prescreening and discovered during normal processing, the application will be returned as unacceptable for filing. The burden is therefore on the applicant to insure that meaningful responses to the information requirements of Appendix B are contained in the application." In re Filing of Applications for New Space Stations in Domestic Fixed-Satellite Service, 93 F.C.C.2d 1260, 1263 (1983) (hereinafter Space Station Application Filing Procedures).

^{10/} In re Amendment to the Commission's Rules to Allocate Spectrum for, and to Establish Other Rules and Policies Pertaining to, a Radiodetermination Satellite Service, 104 F.C.C.2d 650, 667 (1986).

Ellipsat application is patently defective in several material respects and does not comply with the RDSS application requirements set forth in the rules.

There is ample authority for the Commission to deny outright without a hearing patently defective applications and applications from unqualified applicants. Section 308(b) of the Communications Act of 1934, as amended, provides that "[a]ll applications for station licenses . . . shall set forth such facts as the Commission by regulation may prescribe as to the citizenship, character, and financial, technical and other qualifications of the applicant. . . ." 47 U.S.C. § 308(b) (1988). The Commission need not accept for filing or hold a hearing on applications that fail to meet these requirements or that do not provide the basic information deemed necessary for a consideration of their merits. See, e.g., United States v. Storer Broadcasting Co., 351 U.S. 192, 202, 205 (1956); Aeronautical Radio, Inc. v. FCC, 928 F.2d 428, 438-39 (D.C. Cir. 1991); Salzer v. FCC, 778 F.2d 869, 877 (D.C. Cir. 1985); Ranger v. FCC, 294 F.2d 240, 242-43 (D.C. Cir. 1961); In re Advance, Inc., 88 F.C.C.2d 100, 106-07 (1981) (rejection of four DBS applications warranted in order to preserve the integrity of the cut-off procedures and encourage the rapid introduction of new services).

A. Ellipsat's Application Does Not Satisfy Numerous Appendix B Requirements

There is a lack of any information or detail in Ellipsat's filings concerning many important items set forth in Appendix B to the Space Station Application Filing Procedures. As the Commission related when it first established these filing requirements, "[t]o be acceptable for filing, applicants must meaningfully and concretely address each and every one of the information requirements listed in Appendix B."^{11/} 93 F.C.C.2d at 1263. Ellipsat has made a mockery of these filing requirements

^{11/} 4. We require each applicant to file a concrete, comprehensive proposal for its proposed system and services, describing in detail all pertinent technical and operational aspects of the proposed system. . . . [W]e are placing applicants on notice that all domestic satellite applications will be thoroughly scrutinized to insure that they strictly adhere to the informational requirements specified in Appendix B in a manner that demonstrates a real and independent business plan to provide domestic satellite service to the public. Failure to comport with these requirements, or to respond to Commission requests for additional information, will result in dismissal of an applicant's application.

5. Therefore, applicants should note that if their applications are not acceptable for filing as of the cut-off date they will be returned. Furthermore, they will not be reinstated nunc pro tunc; thus they will not be entitled to any further consideration by the Commission. This includes any comparative evaluation that may become necessary. In this way, we intend to avoid, to the extent possible, speculative applications.

93 F.C.C.2d at 1262-63.

by failing to provide complete information for well over 40 percent of the items listed under the general category of "System Proposal/Description" in Appendix B to the Space Station Application Filing Procedures. Ellipsat's application is equally deficient with respect to the information requirements for "Individual Applications" in Appendix B. For example, its system proposal and individual applications are devoid of any information concerning in-orbit or on-ground spares (Appendix B at Section II.D.3), the mass and power budgets for the satellites (Appendix B at Section II.D.5.a), service link budgets for 5° elevation angles and for the separate signalling channels (Appendix B at Section II.E), typical or baseline earth station parameters (Appendix B at Section II.E), system reliability and link availability during solar noise outages and eclipse conditions (Appendix B at Section II.F.9), capabilities for service to Hawaii, Puerto Rico and the U.S. Virgin Islands (Appendix B at Section II.G.2), specific milestones for spacecraft contracting, and completion of financing (Appendix B at Section H.), detailed financial statements of the applicant (Appendix B at Section II.J.4), marketing data required of noncommon carriers (Appendix B at Section L.), space station coverage contours for each antenna beam (Appendix B at Section III.E.), saturation power flux densities (id.), functional block diagram of satellite communications subsystem (id.), and an electrical energy system description (id.).

Ellipsat's application is also lacking in any information concerning its proposed telemetry, tracking and control ("TT&C") functions as required by Appendix B.^{12/} Indeed, Ellipsat barely references TT&C capabilities in its amended application.^{13/} It fails to provide any radio frequency plan (including specific frequencies, bandwidth, polarizations, power into antennas and gain contours), link noise budgets, or interference analysis for its TT&C system. Ellipsat merely indicates a "preference" for using the L- and S-bands for TT&C operations, but cavalierly indicates that it would use whatever frequency bands the Commission might designate for this purpose. The impact on the satellite design of different TT&C frequencies (e.g., antennas, weight, power, thermal control, etc.) is not addressed in Ellipsat's application.

The Commission has determined that all of this information is critical in order to allow it to evaluate the validity of an applicant's system and to determine whether such a technical design would be compatible with other proposed and authorized systems. The complete lack of information and detail concerning so many important items convincingly demonstrates the need to dismiss Ellipsat's application.

^{12/} See Space Station Application Filing Procedures, Appendix B at Sections II.D.1, II.E, II.F.11, and III.C.

^{13/} See Ellipsat Amended Application at 30-31 (Jan. 30, 1991).

B. Ellipsat's Application Is Internally
Inconsistent in Several Important Respects

In addition to the lack of required information in Ellipsat's filings, there are several critical internal inconsistencies which further warrant the dismissal of its amended application. For example, it is virtually impossible to determine from Ellipsat's application the proposed geographic coverage and availability of Ellipsat's planned service offerings utilizing the ELLIPSO I system.^{14/} Throughout Ellipsat's application various references are made to providing "continuous coverage" for RDSS and MSS services within the continental U.S. and domestic offshore points (Executive Summary at 1; Application at 1, 5), and to the fact that orbital gaps would be "minimal." (Amended Application at 29.) Yet elsewhere in its application Ellipsat states that the ELLIPSO I constellation will provide only "sufficient coverage" of the United States and Hawaii that a user at any location in the United States will have "at least 20-30% service availability," that a user would have "an average 20 minutes of uninterrupted service every hour," and that the "area

^{14/} In addition to inconsistent coverage claims, Ellipsat's application provides two conflicting dimensions for its typical footprint. Compare the 5,355 mile diameter noted on page 6 to Ellipsat's Application with a footprint radius of 5,048 km (equivalent to a diameter of 6,310 miles) stated in Exhibit I to its individual satellite applications. Also, there are conflicting statements concerning the maximum output power for Ellipsat's subscriber units. (Amended Application at 13 & Appendix A.)

of continuous coverage" is only above 25 degrees latitude in the Northern Hemisphere. (Amended Application at 7, 32.) Ellipsat ultimately claims that when its full compliment of 24 satellites are in orbit continuous coverage will be available. Id.

In fact, none of these inconsistent and conflicting claims is accurate. Motorola has attempted to duplicate Ellipsat's constellation coverage for both its six satellite and 24 satellite systems utilizing the information contained in its amended application. Using the Integrated Coverage Analysis Program developed by Lockheed, Motorola has determined that intermittent coverage by at least one ELLIPSO I satellite over the continental United States and Hawaii would average only 15-20 minutes per hour. Virtually no coverage would be provided to Puerto Rico and the U.S. Virgin Islands. RDSS service using MIT's Geobeacon technology would be available over a much shorter period of time due to the need for simultaneous coverage by two satellites to provide radiolocation information. Motorola estimates that two ELLIPSO I satellites would simultaneously cover a user in the continental United States an average of only 35 minutes per day and never cover a user in Hawaii, Puerto Rico, or the U.S. Virgin Islands. Surely, such a proposed design cannot be considered sufficient for an applicant to receive an RDSS license.

There would also be large gaps in coverage with Ellipsat's full compliment of 24 satellites. While Figure 4 in Ellipsat's application may offer a snapshot of its coverage

capabilities, Motorola's simulation reveals that this coverage quickly breaks down over the United States and that, in fact, only a very small portion of each orbit would completely cover the continental United States.^{15/} RDSS service once again would be further limited due to the requirement that the coverage of two satellites must converge over a user in order to obtain radiolocation information.^{16/}

C. Ellipsat's Proposed System Does Not Comply With the International Radio Regulations

In addition to these coverage problems, neither the ELLIPSO I nor the ELLIPSO II satellite would comply with the international Radio Regulations for the RDSS downlink frequencies. Ellipsat's proposed downlink power flux density levels would exceed the limits set forth in the international Radio Regulations by almost 6 dB for ELLIPSO I and by even more for ELLIPSO II. Thus, Ellipsat states that at 5° elevation its power flux density level at the earth's surface will be -148.3 dBW/m²/4KHz. (Amended Application at Appendix A.) International Radio Regulation 2557 limits such power flux density levels in the RDSS band to -154 dBW/m²/4KHz at 5° elevation angles. Ellipsat's proposed system similarly exceeds the power flux

^{15/} See Figures 1 - 11 attached hereto which depict the theoretical coverage of Ellipsat's 24 satellite system at ten minute intervals.

^{16/} Motorola estimates that a user located near Omaha, Nebraska would only be able to receive RDSS about 56% of the time when all 24 Ellipsat satellites are operational.

density limits in the international Radio Regulations for elevation angles up to 25 degrees. Such disregard for international technical requirements further necessitates the dismissal of Ellipsat's application.

III. ELLIPSAT IS NOT TECHNICALLY OR FINANCIALLY QUALIFIED TO BECOME A SATELLITE SYSTEM LICENSEE IN THE RDSS BAND

Ellipsat's application, on its face, evidences a lack of basic qualifications to become a Commission licensee in this service. Motorola submits that Ellipsat is not technically or financially qualified to construct, launch and operate its proposed ELLIPSO I system. Not only has Ellipsat failed to include the information concerning its system design which the Commission routinely requires of satellite applicants, but from the limited data provided, it is apparent that its proposed system simply will not work as designed. Ellipsat has also failed to provide the detailed business plans required of undercapitalized applicants for obtaining a license. Ellipsat does not have the internal funds needed to construct its system and operate it for one year, nor can the Commission conclude from the scant information before it that such funds would be generated through anticipated revenues or outside financing. Under such circumstances, the Commission must deny Ellipsat's application.

A. Ellipsat is Not Technically Qualified

The Commission should conclude, based solely upon the serious deficiencies and inconsistencies in Ellipsat's application, that Ellipsat is not technically qualified to be an RDSS licensee. Ellipsat has no real plan for providing workable TT&C functions to ensure the maintenance and control of its satellites, nor has it demonstrated that its satellite design can accommodate a TT&C capability. Its coverage claims are internally inconsistent and grossly exaggerated, and it will not be able to offer any meaningful RDSS to anywhere in the United States. Moreover, its proposed system design is not in compliance with the international Radio Regulations.

Irrespective of these fatal flaws, Ellipsat's recently submitted transmission link budgets reveal that it will not be able to establish communications links for much of the area it claims to be able to serve.^{17/} Ellipsat's calculations indicate only a 1.7 dB margin at a 30° elevation angle for the Ground Control Station ("GCS") to Mobile transmission link. (Amended Application at Appendix B). In addition, 2 dB must be subtracted

^{17/} Ellipsat has failed to provide any link budgets, modulation techniques, or bandwidths for the two narrowband signalling channels proposed in its application. In addition, there are obvious errors in Ellipsat's link budget calculations such as the arithmetic calculations in the Mobile-GCS link and the fact that the path losses for the GCS-Mobile uplink and the Mobile-GCS downlink are identical even though the frequencies are different and the path lengths are the same.

from Ellipsat's link margins because of its faulty assumptions concerning the capabilities of its spacecraft antenna. Ellipsat's amended application contains a spacecraft antenna pattern indicating a peak gain of 8 dBi and a minimum gain of 6 dBi, with some 140° of conical coverage. (Amended Application at Appendix A, Figure A-1.) Such an antenna defies the laws of physics. A theoretically perfect, 140° cone-shaped beam has an integrated average gain of less than 6 dBi.^{18/} Moreover, Ellipsat has failed to take into account the likelihood of self interference from intermodulation, multi-path and fading due to foliage.^{19/} Accordingly, this downlink to mobile terminal link will not provide reliable service without major changes to the proposed system. These negative link margins would be even greater for elevation angles below 30 degrees, as the edge of coverage is approached.^{20/}

Furthermore, Ellipsat's spacecraft are physically unstable and poorly designed. The ELLIPSO I illustration indicates that the S-band helical antenna would be physically blocked from the Earth by the body of the satellite, further hindering the performance of the S-band downlink. (Application at 15.) Moreover, no mention is made of the fact that Ellipsat's

^{18/} See H. Jasik, Antenna Engineering Handbook, 34-25 to 34-26 (1961).

^{19/} See Smith & Stutzman, Statistical Model for Land Mobile Satellite Communications, V.P.I. Report No. 86-3 (Aug. 1986).

^{20/} At 10° elevation angles the path loss increases by another 3.8 dB, and at 5° elevation angles the path loss increases by an additional 4.7 dB.

proposed elliptical orbits will traverse the Van Allen radiation belt about every 50 minutes. The total ionizing effects from such radiation either will cause severe spacecraft weight penalties for shielding or will decrease reliability and useful satellite lifetime.

Many of these technical problems cannot easily be corrected, but instead will require a total system redesign by Ellipsat. For example, in order to increase its transmission link margins while maintaining acceptable downlink power density limits, Ellipsat will have to make major system changes that would materially affect the size of its spacecraft, its launch method, and system capacity. Such major amendments to system technical designs can only be considered outside the current processing window.^{21/}

B. Ellipsat is Not Financially Qualified

Ellipsat's application also is lacking in any meaningful information concerning its financial qualifications. Ellipsat has not provide the Commission with the detailed and thoughtful business plan required of all undercapitalized RDSS applicants. Indeed, Ellipsat has failed to offer a detailed balance sheet or income statement setting forth its own capitalization and that of its major shareholders. Absent such

^{21/} See Section 25.116 of the Rules (to become effective June 27, 1991).

basic information in its application, the Commission cannot make the requisite findings that Ellipsat is financially qualified to construct the proposed satellite system.

All RDSS applicants are required to demonstrate their financial preparedness to construct and operate proposed satellite systems for one year. In its Second Report and Order in the RDSS licensing proceeding, the Commission required that:

applicants ... submit complete financial information and a detailed business plan with well-defined milestones for construction, documenting their claims that they are prepared to proceed with construction and launch of their proposed systems immediately upon Commission grant.

In re Amendment to the Commission's Rules to Allocate Spectrum for, and to Establish Other Rules and Policies Pertaining to, a Radiodetermination Satellite Service, 104 F.C.C.2d 650, 663 (1986) (footnote omitted). The examination of an applicant's financial qualifications by the Commission discourages speculative applications and ensures that service is promptly made available to the public. Id. at 663-64. RDSS applicants specifically have been warned that applications not meeting these financial criteria will be denied. Id. at 665.

These financial requirements were carried forward in Sections II.H. and II.J. to Appendix B of Space Station Application Filing Procedures, 93 F.C.C.2d at 1267-68. Specifically, RDSS applicants are required to provide detailed information on their financial qualifications, including (1) the source and amounts of funds firmly committed to the project; (2)

the source and amounts of funds potentially available along with the identity of financiers and the degree of commitment; (3) the source and amounts of estimated revenues from satellite operations; and (4) detailed financial statements including a current balance sheet and operating statement. Id. at 1268. In addition, applicants must provide a detailed schedule noting contracting and financial milestones for their proposed systems. Id. at 1267.

Ellipsat has provided virtually none of this information. It submitted a balance sheet consisting of only three line items -- assets, liabilities and stockholder equity. (Application at Appendix E.) No operating statement was provided, apparently because the company was formed shortly before the filing of Ellipsat's application. Ellipsat's stated \$20,000 in assets does not even demonstrate its financial ability to prosecute its applications let alone construct, launch and operate an RDSS satellite system.

Instead, Ellipsat relies upon two virtually identical two-paragraph boilerplate letters from venture capital firms which, at most, indicate that should Ellipsat obtain an FCC license, they "believe that, if properly structured, a financing package . . . could be successfully arranged." (Application at Appendix E.) Such "assurances," on their face, do not provide the level of financial commitment and detail required by the Commission for establishing an applicant's financial qualifications. See, e.g., Scioto Broadcasters, 5 F.C.C. Rcd

5158, 5160 (Rev. Bd. 1990), aff'd 6 F.C.C. Rcd 1988 (1991) (and cases cited therein); Ultravision Broadcasting, 1 F.C.C.2d 544 (1965). Indeed, it does not appear from the letters that either venture capital firm has ever had any understanding of the nature of Ellipsat's application, the market for RDSS and MSS services in the United States, Ellipsat's business plans, or the assumptions used to develop its revenue and cost projections.

Nor can the Commission rely upon Ellipsat's estimated revenue and cost projections. As previously indicated, there are numerous technical and engineering flaws associated with Ellipsat's proposed system, including the lack of adequate transmission link margins and TT&C capabilities, insufficient orbital coverage and poor spacecraft design. Even if Ellipsat could correct these problems, a total system redesign would be required which would substantially add to the cost of each satellite as well as the total system cost.

In addition, many of the assumptions contained in Ellipsat's "business plan" are in error. Thus, Ellipsat assumes that a major market for its satellite system will be users that already have a digital CDMA cellular telephone who would "upgrade" their equipment by adding on a satellite RF-antenna unit. (Application at 11-14.) In reality, no such market currently exists nor is one likely to exist in the foreseeable future. CDMA technologies have only recently been explored for the terrestrial digital cellular environment in high density urban areas. Ellipsat's proposed service is primarily targeted

for lower density markets which might never have a need for any digital technologies. Moreover, Ellipsat's CDMA system utilizing 1.4 MHz channels most likely would not be compatible with any future terrestrial CDMA standard.^{22/}

Ellipsat's revenue projections are also grossly overinflated by its estimates of subscribers able to use its RDSS and MSS services. (Application at Appendix D.) As previously shown, Ellipsat's RDSS service can be offered in the United States an average of only 35 minutes each day. Such use would be of limited utility to most individuals who would not know exactly when such service would be available in any given day. Similarly, Ellipsat's MSS revenue and capacity figures are inflated because of its failure to take into account the limited availability of its service (only 20-30% of the time).

^{22/} In fact, the terrestrial CDMA system currently being developed in southern California uses 1.25 MHz channels.

IV. CONCLUSION

For the foregoing reasons, the Commission should grant this petition and promptly dismiss and/or deny Ellipsat's RDSS application.

Respectfully submitted,



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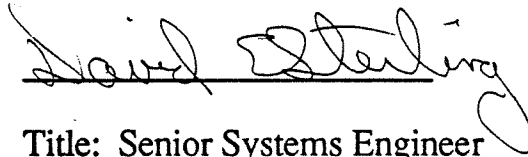
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Its Attorneys

Dated: June 3, 1991

Declaration

I hereby certify that I have read the foregoing Petition to Dismiss and/or Deny the application of Ellipsat Corporation; that I have prepared or reviewed the engineering and technical information contained in this Petition; that I am familiar with the aforementioned application; that I am knowledgeable with respect to Part 25 of the Commission's Rules; and, that the information contained in the Petition is true and correct to the best of my knowledge, information, and belief.

A handwritten signature in cursive script, reading "David Sterling", written over a horizontal line.

Title: Senior Systems Engineer
Motorola Washington Systems Office

Date: June 3, 1991

CERTIFICATE OF SERVICE

I, Philip L. Malet, hereby certify that the foregoing Petition to Dismiss and/or Deny was served by first-class mail, postage prepaid, this 3rd day of June, 1991 on the following persons:

Richard M. Firestone*
Chief, Common Carrier Bureau
Federal Communications Commission
Room 500
1919 M Street, N.W.
Washington, D.C. 20554

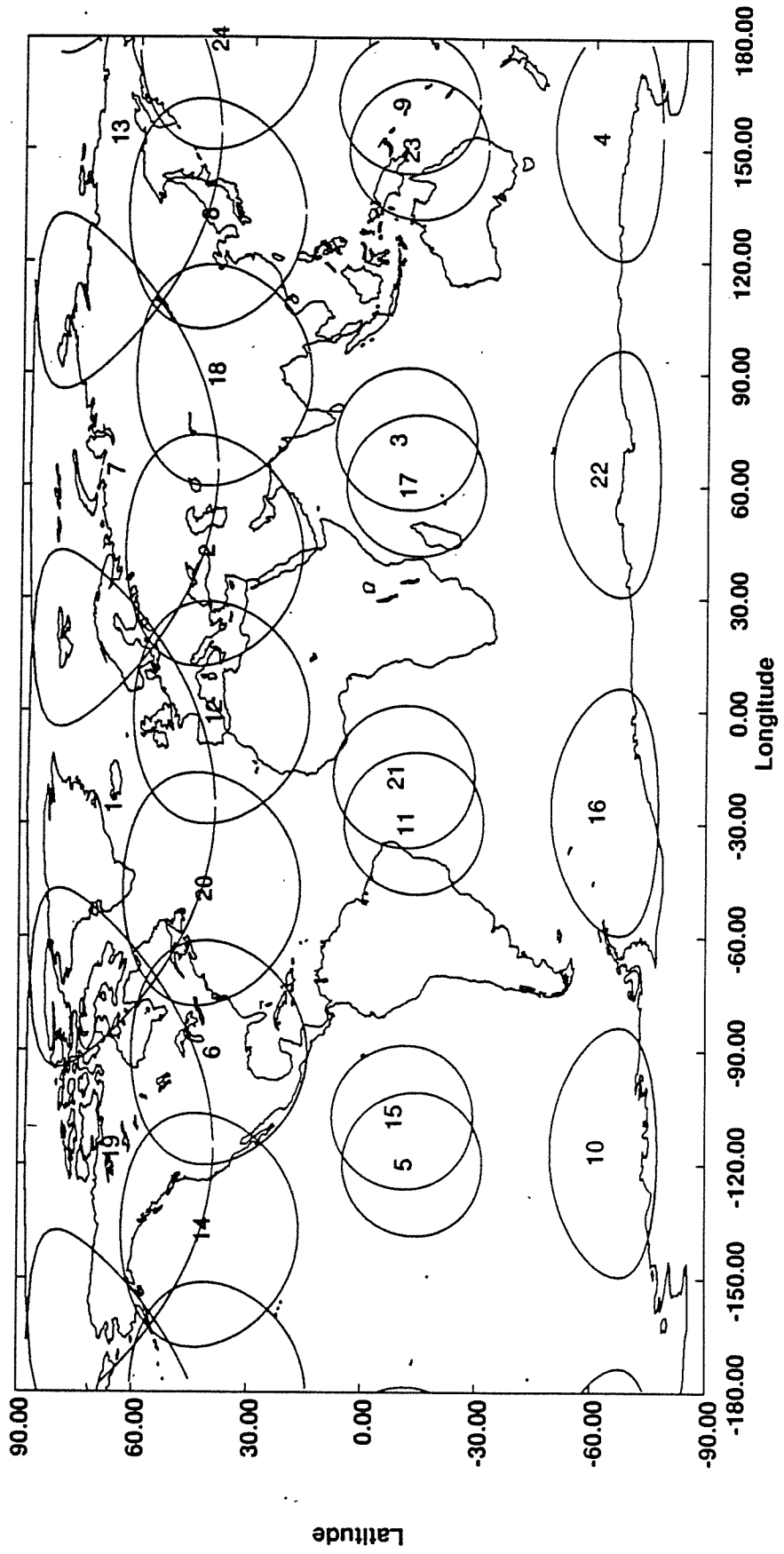
Cecily C. Holiday*
Chief, Satellite Radio Branch
Federal Communications Commission
Room 6324
2025 M Street, N.W.
Washington, D.C. 20554

Jill Abeshouse Stern
Miller & Holbrooke
1225 19th Street, N.W.
Washington, D.C. 20036



*By Hand

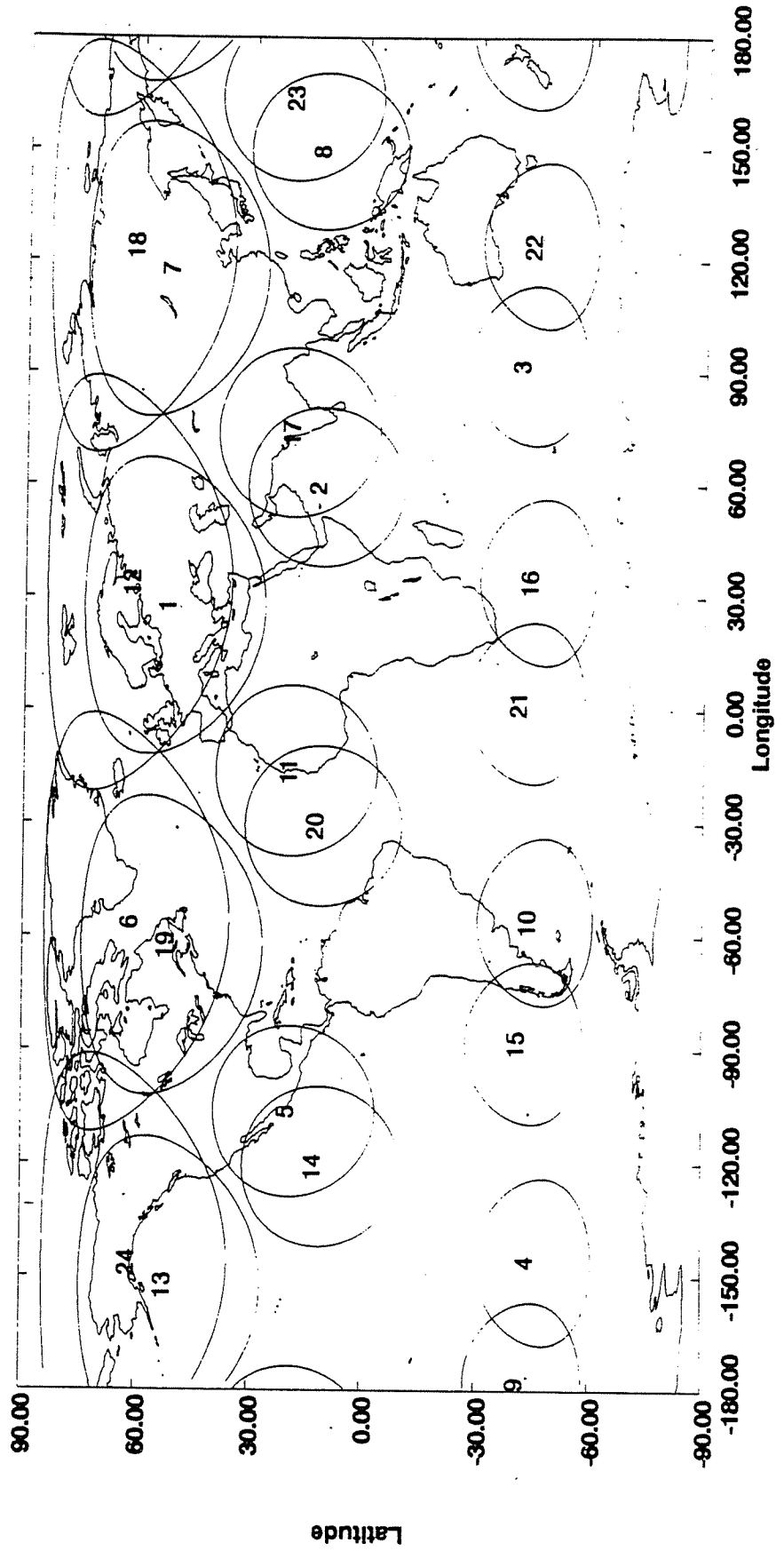
Cylindrical Equidistant Projection



TIME = 0 MINUTES

FIGURE 1.

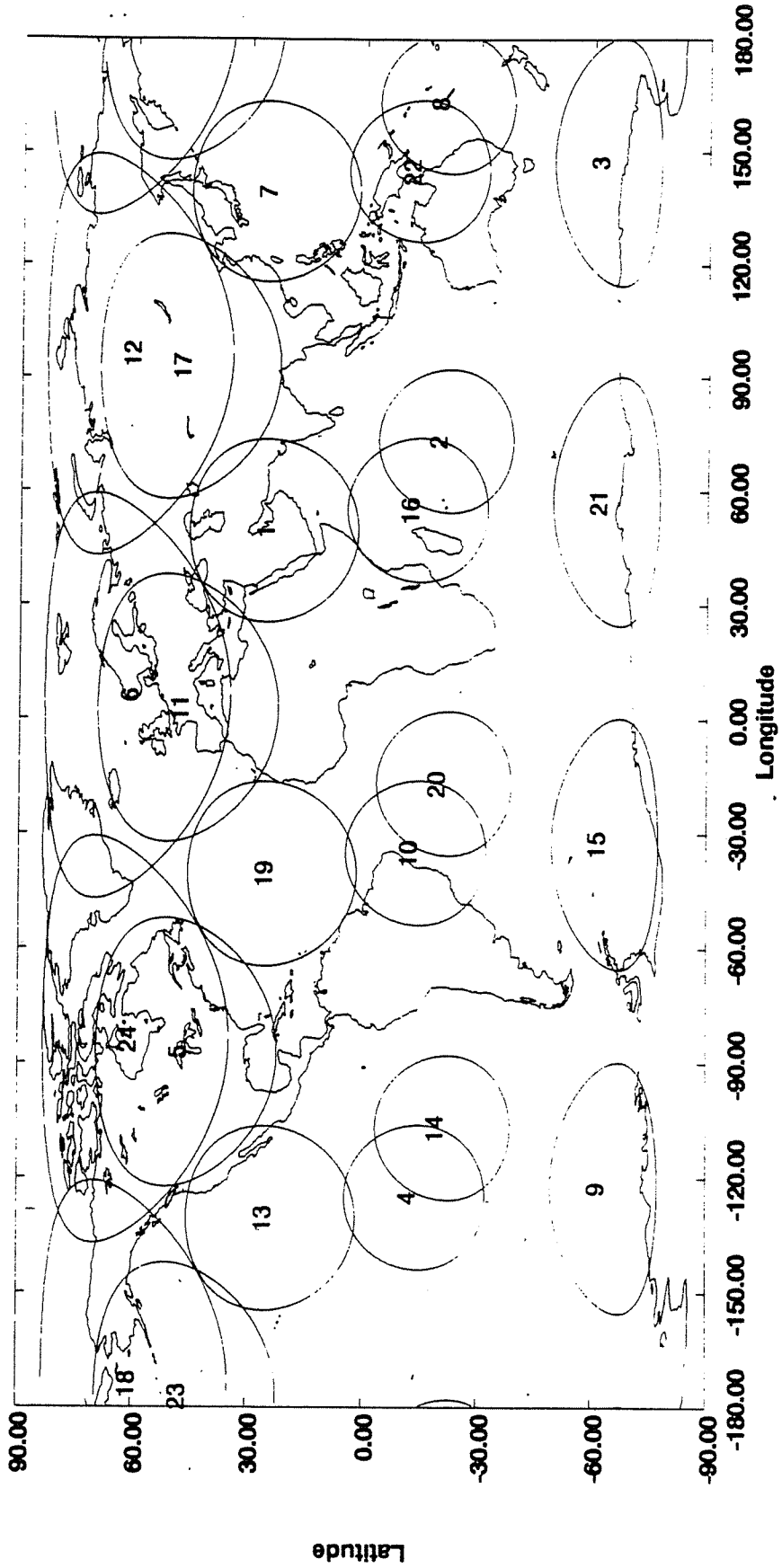
Cylindrical Equidistant Projection



TIME = 10 MINUTES

FIGURE 2

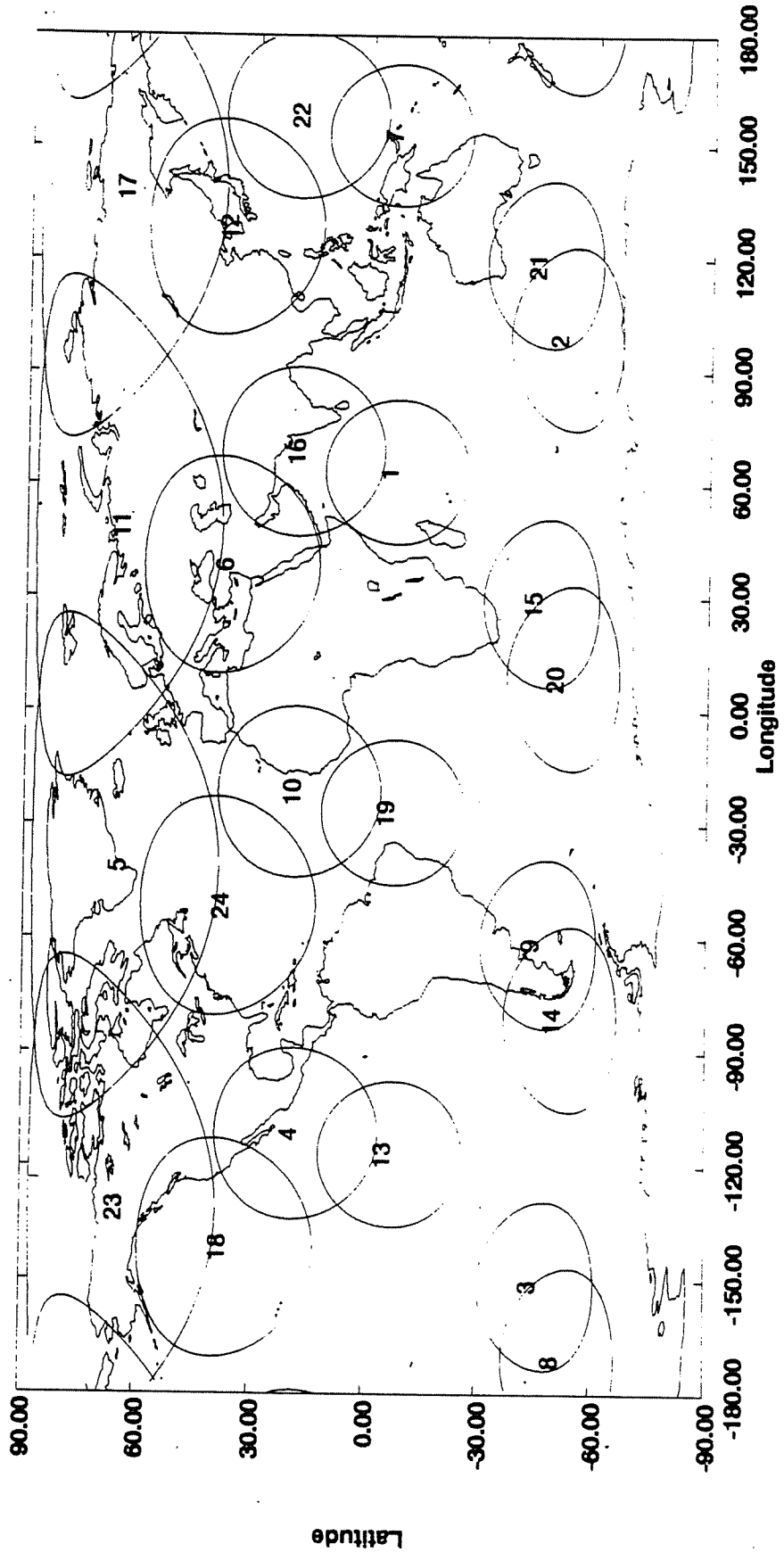
Cylindrical Equidistant Projection



TIME = 20 MINUTES

FIGURE 3

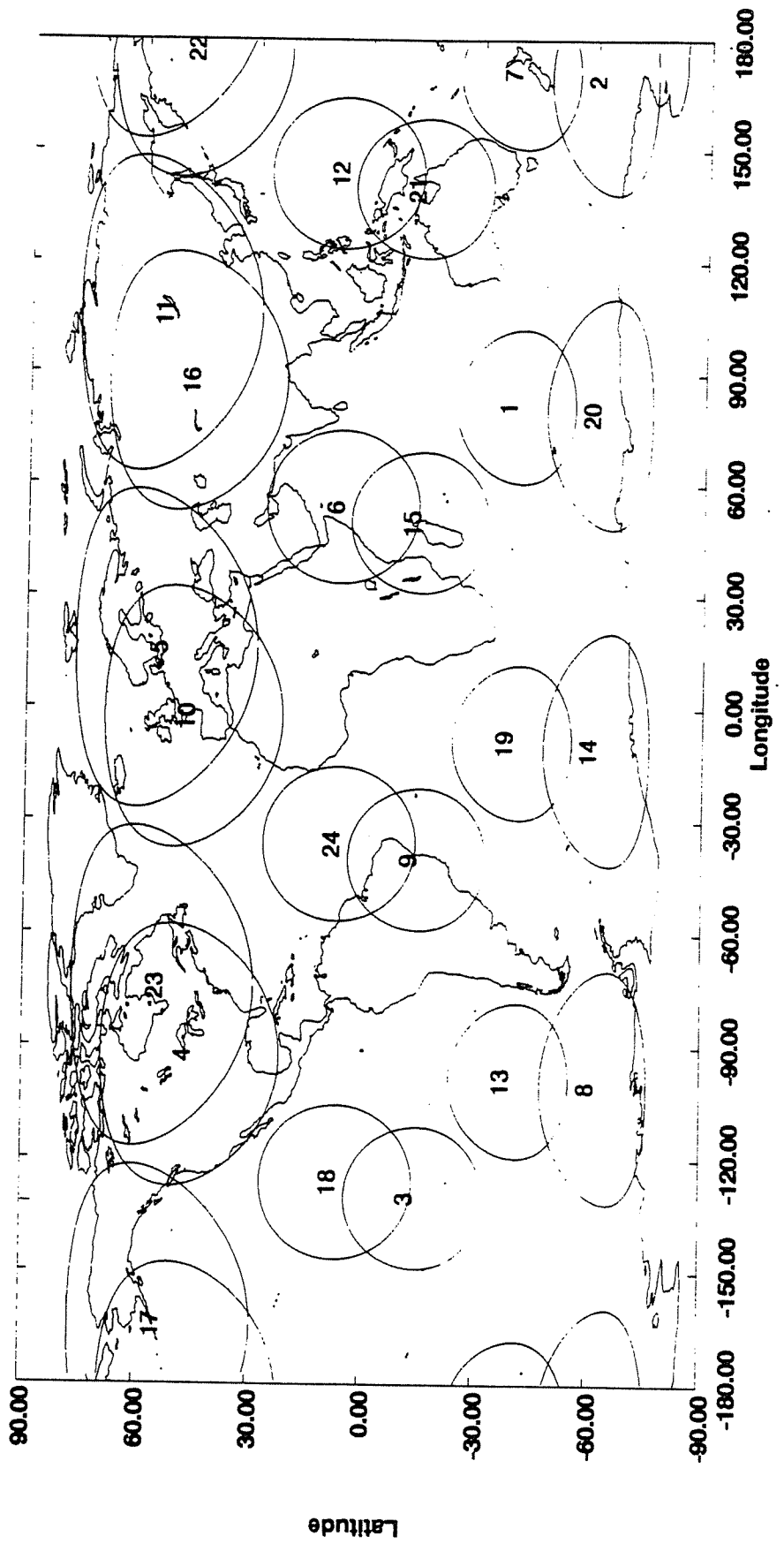
Cylindrical Equidistant Projection



TIME = 30 MINUTES

FIGURE 4

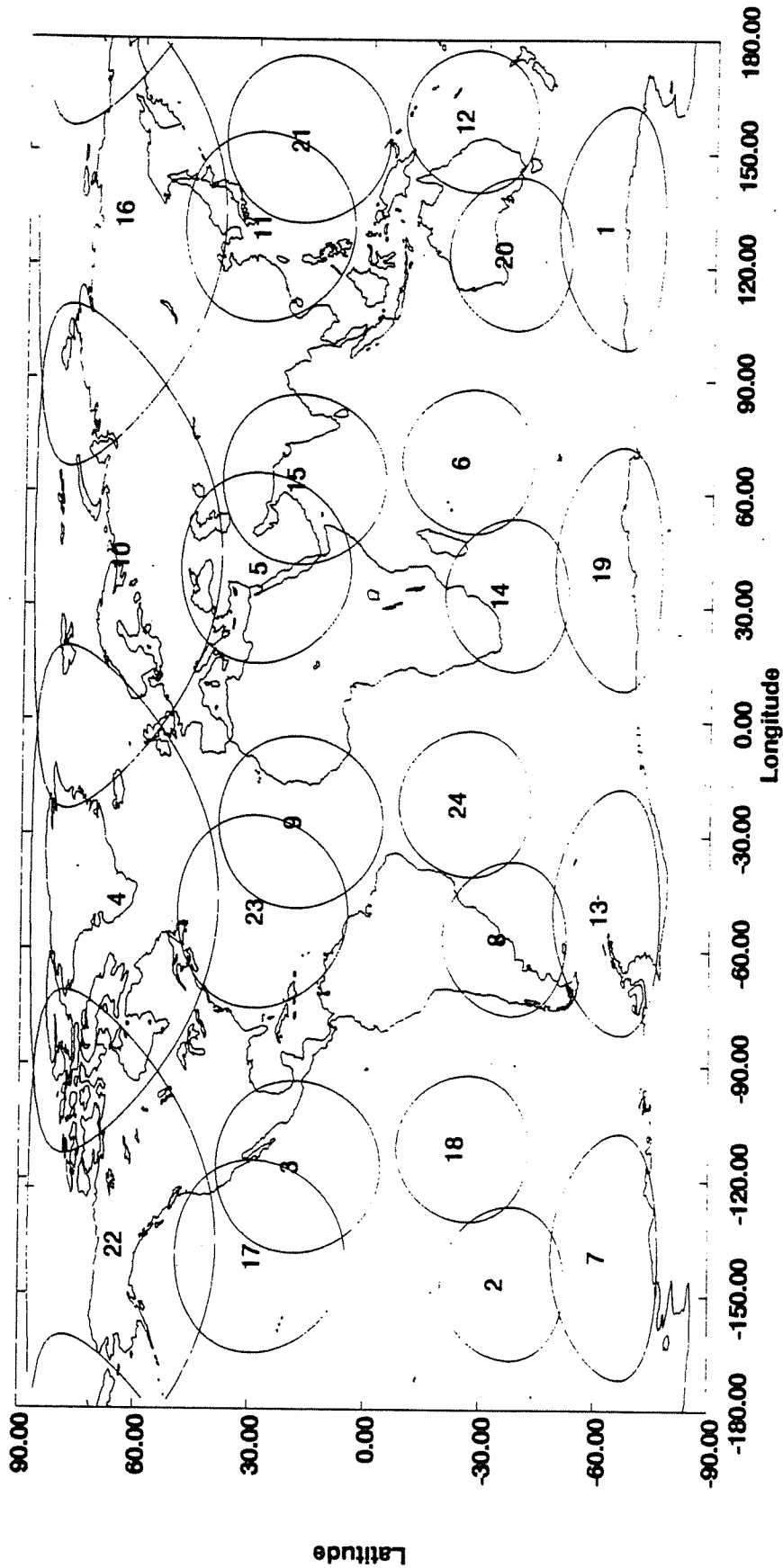
Cylindrical Equidistant Projection



TIME = 40 MINUTES

FIGURE 5

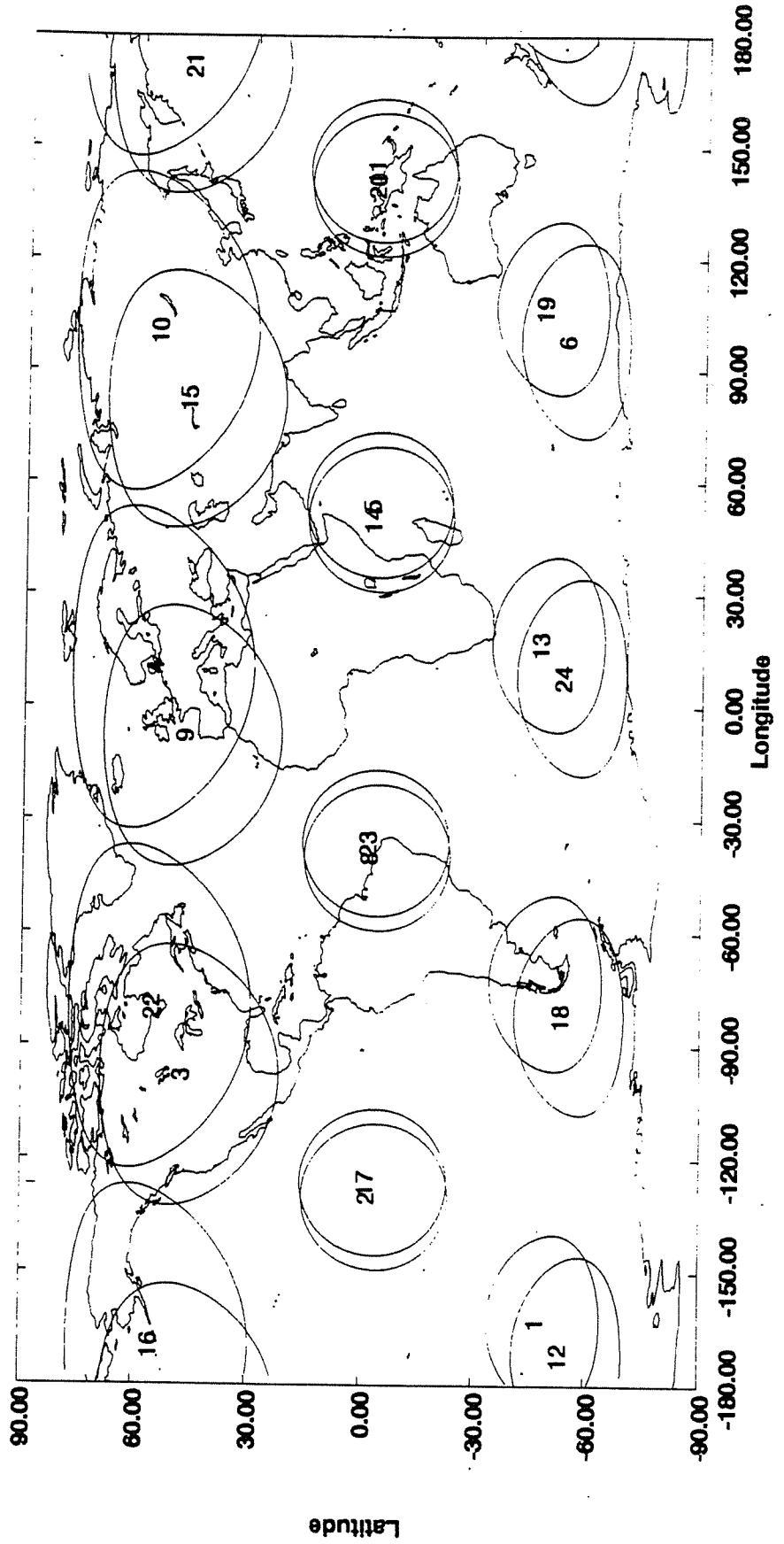
Cylindrical Equidistant Projection



TIME = 50 MINUTES

FIGURE 6

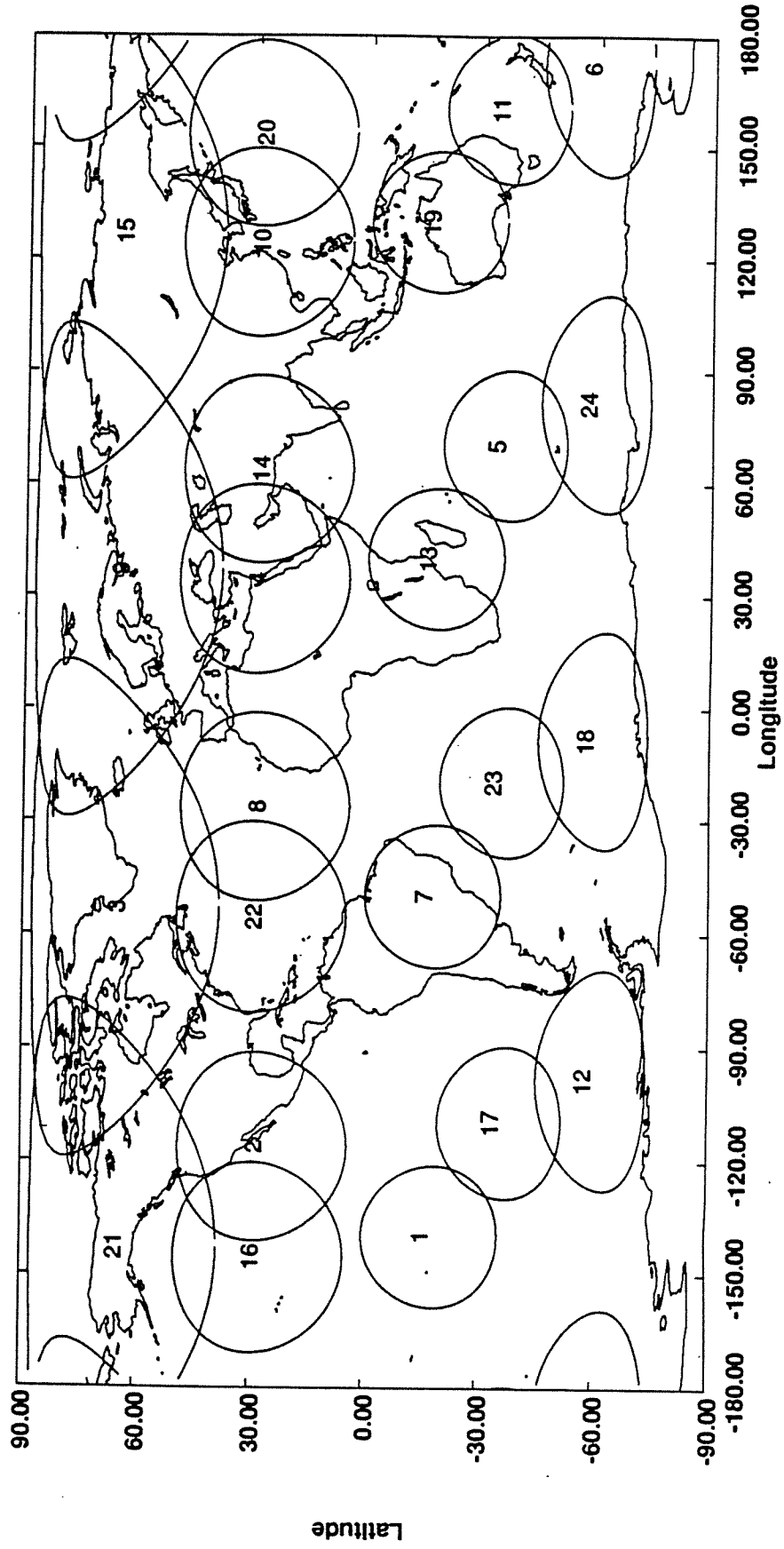
Cylindrical Equidistant Projection



TIME = 60 MINUTES

FIGURE 7

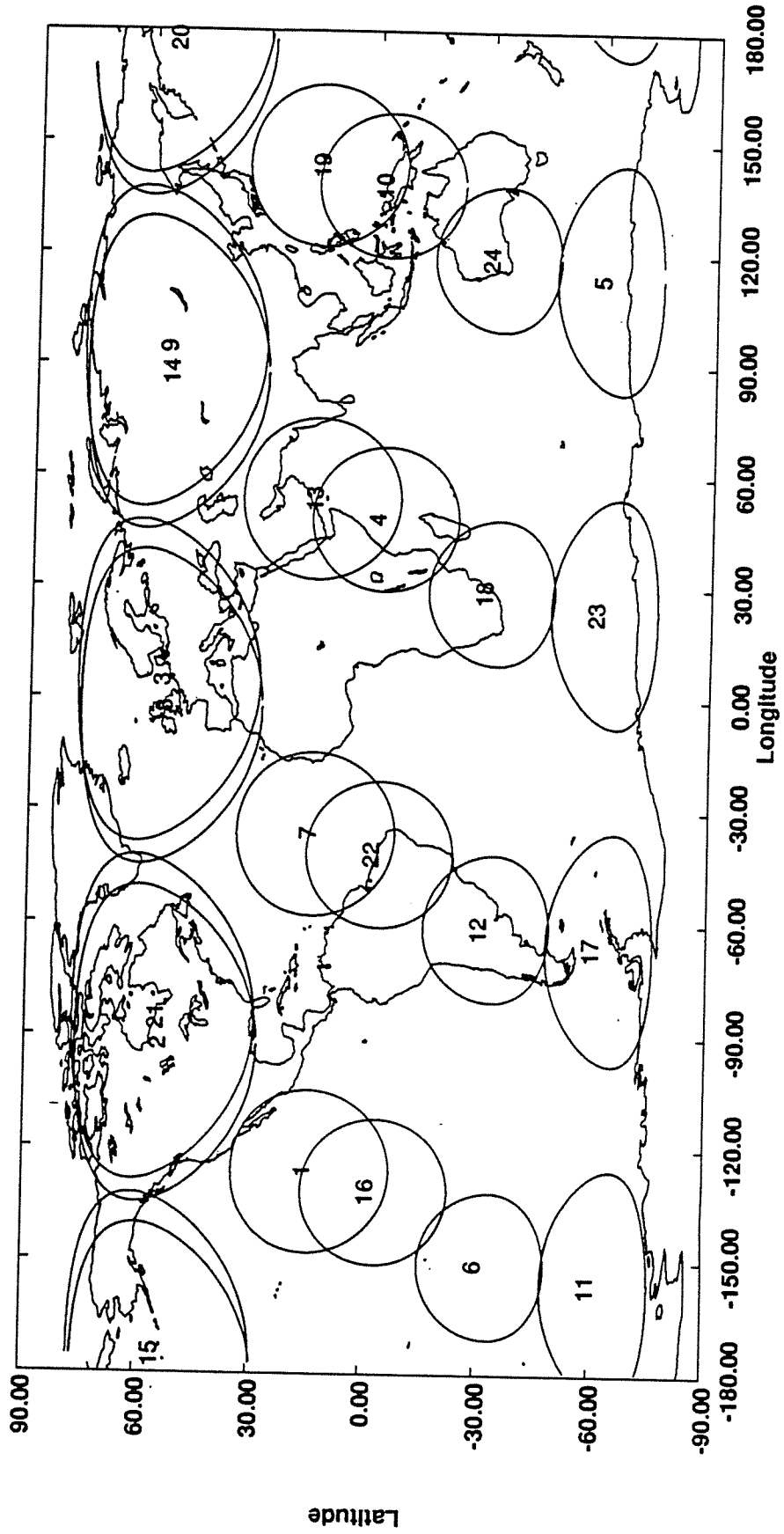
Cylindrical Equidistant Projection



TIME = 70 MINUTES

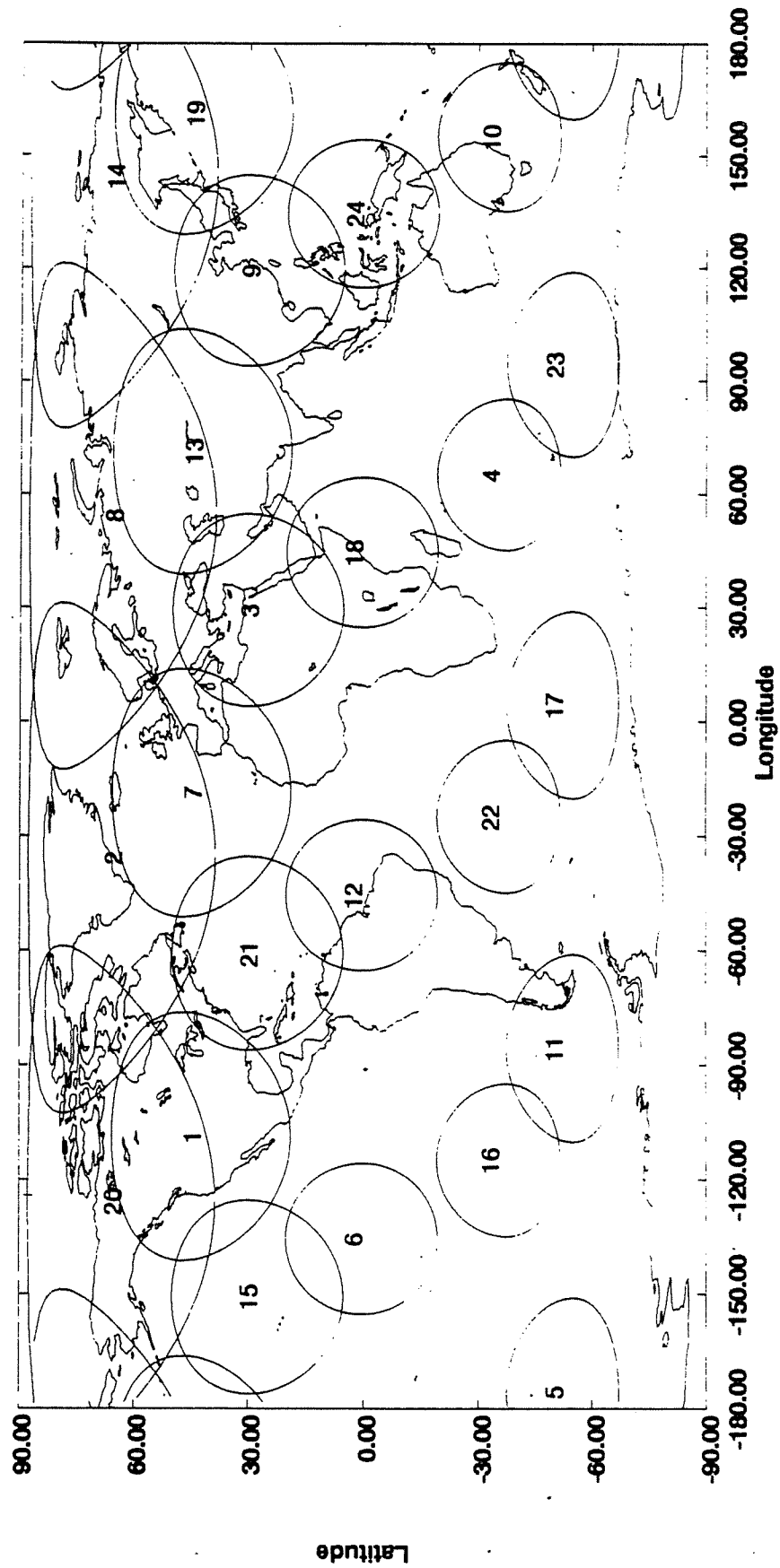
FIGURE 8

Cylindrical Equidistant Projection



TIME = 80 MINUTES
FIGURE 9

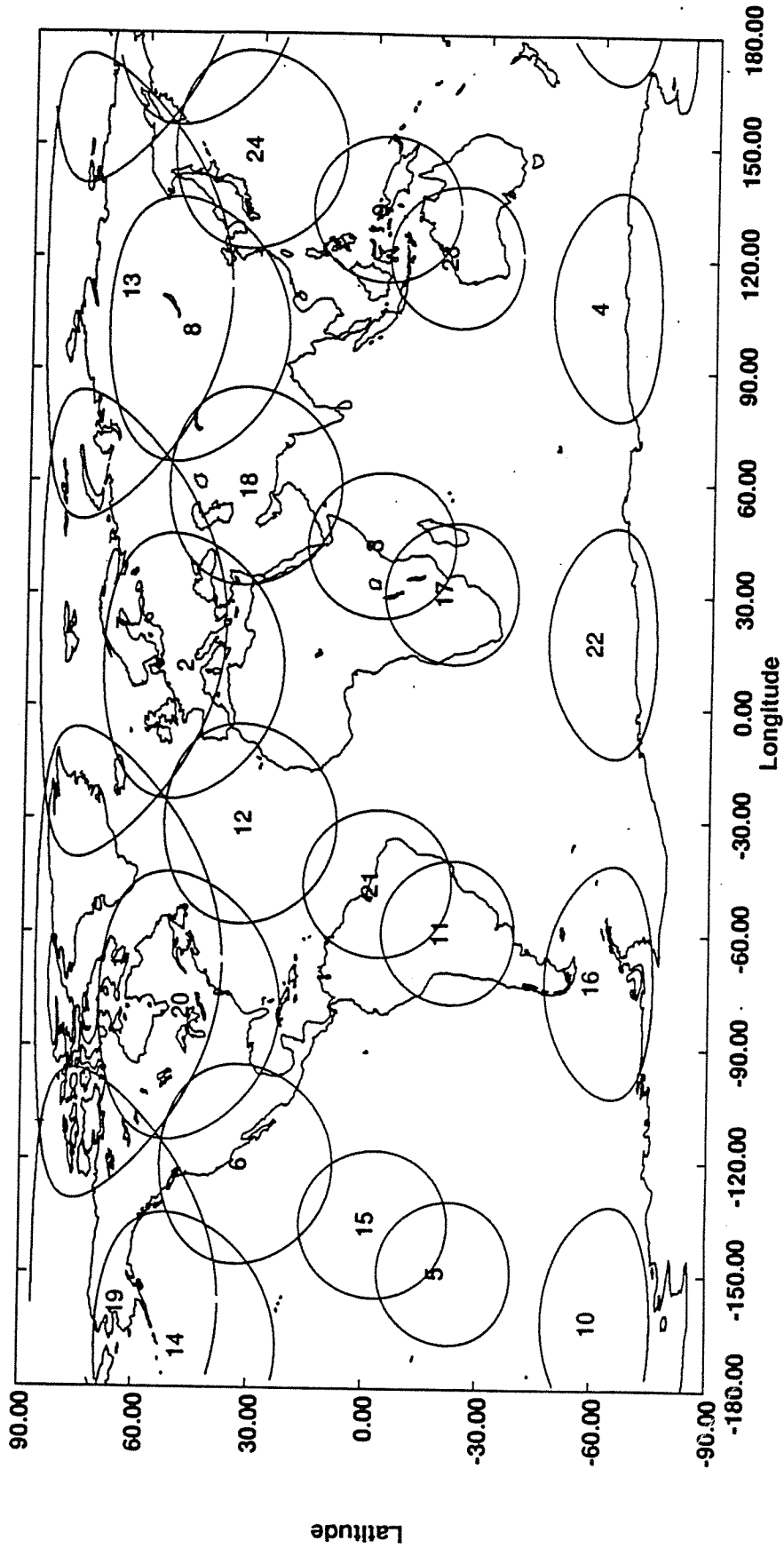
Cylindrical Equidistant Projection



TIME = 90 MINUTES

FIGURE 10

Cylindrical Equidistant Projection



TIME = 100 MINUTES

FIGURE 11