



in Ocean, Sea and Coastal areas within the foot print of licensed such satellite systems.<sup>1</sup> In support of this Request, the following are shown:

CruiseCom International, Inc.

CruiseCom International, Inc. is a company incorporated in 1991 in Miami, Florida, U.S.A. The company, which is currently fully owned by Veracom Inc. based in Washington, D.C., will have operational responsibility for service in the Caribbean, the Atlantic and Pacific Oceans. Developing CruiseCom on a global basis, VERACOM Inc. has developed an integrated technical approach for providing international satellite coverage.<sup>2</sup> CruiseCom service will provide communications over existing satellite links and modern, improved earth stations on ships at sea. CruiseCom will offer domestic and international high quality voice communications and video conferences at a price never before possible. This development will assist ship management and operations by providing seamless continuous communications between ships at sea and facilities, computers and staff on shore, giving the ship owners

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<sup>1</sup> Pursuant to Commission Public Notice dated March 11, 1992, the Commission set out for comment the Pioneers Preference request of Crescomm also for DSES earth station licenses aboard ships. While CruiseCom has no reason to oppose Crescomm's request, CruiseCom wishes to emphasize that it would be most unfair to grant Crescomm's request ahead of other applicants, such as CruiseCom, which have been pursuing the identical markets and technology over roughly the same period as Crescomm. Similarly, it would be unfair and have anticompetitive consequences were the Commission to extend any kind of market exclusivity to Crescomm's, or in any other way favor the processing of any license which Crescomm might file for DSES earth stations over other similarly deserving applicants, including CruiseCom.

<sup>2</sup> In anticipation of this approach the "CruiseCom" name has been registered as a Service Mark.

and operators the potential to more efficiently operate their fleets while creating a significant new profit center by reselling volume telephone service to passengers and crew.

The all digital communications service to be provided by CruiseCom will include an end-to-end service package for voice, data and video conferencing between a ship and a shore location. It will be a turnkey service consisting of satellite circuits, ships' earth stations, multiplexing equipment, and the necessary systems integration. At the terrestrial end, the CruiseCom service will include the connection through a teleport or earth station to the customer's dialed number into the PSTN. The communications channel provided may be either a full or partial period service channel at 64 kbps. Single or dual carriers are supported by the service as well as multiple bands in one ship's earth station. Being able to receive both C and Ku band service, CruiseCom service will be able to provide seamless, continuous communications to anywhere in the world with emphasis on the European and Caribbean ocean regions.

CruiseCom is a new entry into the emerging satellite communications market; i.e. providing mass telecommunications, telephones, data, telefax and video conferencing to passenger cruise ships just as large hotel and convention complexes do on shore. Innovative shipping companies, changing regulations and creative telecommunications applications are making this opportunity a reality now.

The Rule Making Petition:

CruiseCom supports the adoption of new rules for licensing of DSES's on board ships as proposed in the Petition for Rulemaking, RM-7912, filed on December 12, 1991 by Crescomm Transmission Services. There is both technical merit to Crescomm's proposal, and a very definite need for an accommodation in this field. CruiseCom agrees with Crescomm that there has been substantial progress made in earth station technology which enable smaller shipboard earth stations to communicate effectively with geostationary satellites other than Inmarsat without causing interference to either fixed earth stations or other nearby orbiting satellites.

While, like Crescomm, CruiseCom is neither a manufacturer or designer of earth station terminals, it has undertaken over one year's effort and a couple of hundred thousand dollars to investigate, worldwide, suitable earth station technology and vendors with earth station products or designs suitable of meeting CruiseCom's requirements. It has recently located such sources, placed down payments for construction and placement of two ship board earth stations, and is negotiating for several others. In the very near future CruiseCom expects to file an application for an experimental license to test and demonstrate the technical feasibility, quality and market response to its integrated ship board earth station concept.

Briefly, a modern ship board DSES of the type contemplated by CruiseCom and which would be used under the

proposed new DSES rules, will operate as follows:

The DSES stabilized antenna platform, combined with a radio and digital multiplexor, enables vessels at sea to enjoy telephone, facsimile and data transmission services normally only available on land. The DSES's function is to keep the antenna pointed with relative accuracy at the satellite independent of the vessel's movement. With the antenna stabilized, the communications equipment is able to operate just as it would in a land based installation.

On a typical ship the DSES system is installed in a radome on an upper deck of the ship usually on top of a base mounting unit designed for the application. Inside the radome, the DSES mechanical platform assembly supports a standard parabolic antenna. The orientation of the platform is controlled by a microcomputer, which receives instructions from a control console normally located in the vessel's radio room. A small control console and an optional vessel's position system (GPS) interface will normally be located in the vessel's radio room. A DSES will generally operate without any input from the operator, adjusting to the orientation of the ship relative to the satellite automatically.

Its high performance capabilities will make it possible for the DSES contemplated by CruiseCom to use commercial Ku and C band satellite services. For high volume users this means immediate and very substantial communications costs savings. It also means independence; all aspects of the communications system

can now be controlled by the vessel's radio operator.

As for the tracking system, a DSES will use an antenna platform mounted on a gimbal assembly, designed to keep the antenna pointed at the selected satellite, while the ship or vessel moves across the surface of the sea. The gimbal assembly gives the platform the flexibility and freedom to track the satellite independently of the motion of the base on which it is mounted.

During operation, the DSES will use an innovative electro-mechanical feedback system under the control of an on-board microcomputer to track the satellite and minimize the antenna pointing error. The technique involves moving the antenna in a reset, square tracking pattern while monitoring a 'signal strength' voltage from the satellite. The variation in signal strength provides an indication of whether the pointing accuracy is improving or worsening.

The tracking system does not use any form of gyroscope or balance wheels, but instead uses solid state inertial sensors as inputs to the control system. The orientation of the antenna during its scan will be determined by the control system sensors. Output from the inertial sensors is the primary feedback. The signal strength advantage is used as the secondary feedback to correct the tendency of the center point of the square scan to drift away from optimum in both azimuth and elevation which would otherwise occur. The system continually adjusts the calculated position of the satellite's true azimuth and elevation, based on the observed antenna orientation at the moment of maximum signal

strength voltage. It uses this revised estimate to re-center the square scan on the satellite. Thus, this technique allows the system to track the satellite with a high degree of accuracy, regardless of the motion of the vessel beneath it, without fear of interference to either other satellites or other earth stations.

Accordingly, specific accommodations within the Commission's rules are needed to reflect the state-of-the-art in this new field and to facilitate the extension of improved telecommunications services to ships at sea.

CruiseCom submits that the public interest will be well served by such rule changes.

CruiseCom has done extensive research on the market and business of providing shipboard communications service, including extensive contact with shipping companies. Operators in Scandinavia and the United States have shown tremendous interest in the CruiseCom concept.<sup>3</sup> Research has verified a strong unfulfilled need for the services of CruiseCom. The International Cruise Line Association indicates that the cruise passenger industry is the fastest growing segment of the tourism market, and is enjoying exceptional growth, notwithstanding the world's economy.

In many respects technology has rapidly changed the shipping industry in all but one critical area --

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<sup>3</sup> The Swedish shipping company EUROWAY has engaged CruiseCom's parent, VERACOM International, to define and develop the business, leading to EUROWAY's placing a \$3.5 million contract with VERACOM for shipboard telecommunications services over 5 years for their next two luxury passenger cruise ships.

telecommunications. Until now the benefits and economies of modern communications has largely been denied ship owners and operators due to:

- Restrictive Regulation
- Inmarsat's Monopoly
- High Costs
- Poor Reliability
- Severe Limitations of Capacity and throughput

Until recently we have had to think of ships at sea as isolated island cities only to be contacted upon arrival in ports or, while at sea, using very limited record-type communications. This limitation has inhibited the development of telecommunications capability for efficient shipboard management, causing increased costs in inventory, duplication of functions on land and sea, with resulting increased personnel requirements.

Inmarsat practically monopolizes telecommunications available to ships at sea. At \$10 to \$20/minute with Inmarsat for either voice or low speed data, the market has not and will not reach its potential. Significantly lower transmission costs and higher data speeds will create a tremendous increase in market demand for domestic and international voice and data communications, as costs for shipboard equipment have come down and applications have increased significantly and steadily. The current market, therefore, is not defined by need, but rather is being artificially constrained by monopoly pricing. A change in the Commission's rules as proposed will serve to relieve this

condition.

If passenger cruise ship owners and operators are to increase the number of available voice channels and other shipboard communications services for use by their passengers, they must have access to better communications services from the satellite provider and an opportunity to offset higher costs with corresponding sources of additional revenues. CruiseCom believes that its shipboard concept will permit telecommunications to become a significant profit center without the unnecessary gouging experienced over the past decade by for example, hotel patrons. To the contrary, passengers will enjoy a substantial savings in shipboard communications charges while realizing a much higher quality of service.

Other important benefits however, include those related to the management and operation of the ships themselves. Reducing personnel and redirecting job functions from the ship to shore will help control ship operating costs. Shipping executives can save up to \$75,000 in operating costs for each job which can be displaced from ship to shore. Reduction in repair costs and improvement in engineering and maintenance of ships will be a natural result of improved and lower cost communications. Containers, refrigeration ships and tankers have a need to better control their inventories on board ship. Improved communications will yield more efficient operation at ports upon arrival. The benefit of improved scheduling and, especially in the case of oil tankers, using modern communications could yield improvements in time spent getting to

and waiting at port, which alone can cost justify CruiseCom or other improved ship board communications.

CruiseCom's Pioneer's Preference Request:

CruiseCom submits that it has developed a new service, namely, the provision and integration of shipboard digital earth stations with geostationary satellite services having the capability for the provision of video, audio and high speed digital data communications links with Fixed and Temporary-Fixed Earth Stations. It is also very close to bringing this new service to a more advanced state, namely to that of providing such stations on several cruise line ships in a commercial, experimental environment. CruiseCom intends, very shortly, to apply for an experimental license which it believes will serve to demonstrate the complete feasibility and superiority of its integrated approach to ship board communications.

The Commission has stated in its Report and Order<sup>4</sup> that a party seeking a preference would be required to file a request for a pioneer's preference and a separate petition for rule making requesting either that spectrum be allocated for its proposed new service, or that the rules be amended to accommodate its proposed new technology in an existing service. The Commission also stated that in most cases it anticipated that a preference applicant would perform an experiment to provide sufficient information for the

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See Report and Order, GEN Docket No. 90-217, 6 FCC Rcd 3488, 1991.

Commission to make its determination regarding award of the preference.

More recently, however, the Commission expressed that it continues to believe that while performance of an experiment generally will be extremely beneficial, since in most cases a substantially different technology or service will be proposed, it should not be absolutely required as a prerequisite to obtaining a preference.<sup>5</sup> While the Commission intends to analyze technical showings rigorously on the basis of the results of experiments to ensure that a preference applicant's proposed new service or technology is viable and worthy of a preference, the information for such an analysis does not have to be supplied contemporaneously with the Pioneers Preference application. A preference applicant, such as CruiseCom, relying upon an experiment rather than a written technical submission is, however, only required to commence its experiment and report its preliminary results prior to and in order to be eligible for award of a conditional preference:

"If the applicant conducts an experiment to demonstrate the technical feasibility of its proposal, the findings of that experiment will be one of the major components that we will use in determining whether a tentative preference is warranted. If no experimental results are available we would not have the information needed to award a tentative preference."<sup>6</sup>

While it is recognized that an experimental license applicant may

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<sup>5</sup> *In the Matter of Establishment of procedures to Provide a Preference to Applicants Proposing an Allocation for New Services, Memorandum Opinion and Order*, Gen. Docket No. 90-217, released February 26, 1992 (FCC 92-57).

<sup>6</sup> Id.

have to wait 90 or more days to have its application approved, there is to be a time period between the submission of a preference request and the award of a tentative preference. The preference applicant is now permitted within this time to initiate its experiment and obtain at least preliminary results. This is how CruiseCom intends to proceed.

With respect to the issue of the necessity of filing a rule making petition for a new service or technology that is already under consideration by the Commission in an existing proceeding, the Commission has also amended the policy adopted in the original pioneer's preference Report and Order. As the Commission has recognized, in some situations several parties may independently be exploring similar new communications services or technologies. This is exactly what has occurred in the cases of CruiseCom and Crescomm. It would be an unnecessary burden to require both CruiseCom and Crescomm to file its own rule making petition. Under the Commission's new practice, when a new radio service or technology is under consideration by the Commission in an existing proceeding that has not reached the NPRM stage, and a party that has not filed a rule making petition believes that it is the pioneer of a new service or relevant technology, the Commission will not require that it file a rule making petition.<sup>7</sup>

Accordingly, CruiseCom seeks to be relieved of any requirement to replicate the filing of a petition for rule making,

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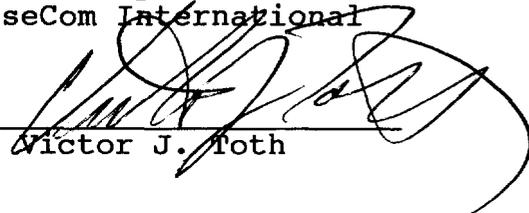
<sup>7</sup>

Id.

but, instead, wishes to be considered in the context of pending RM-7912.

WHEREFORE, in view of the above, CruiseCom International, Inc. submits this Request for Pioneer Preference and requests a grant under Section 1.402 of the Rules of the above described Pioneer Preference in the issuance of new licenses for shipboard DSES earth stations under the proposed new rule.

Respectfully submitted,  
CruiseCom International

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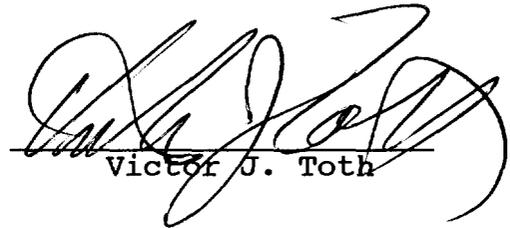
(703) 476-5515

April 10, 1992

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing Application for Pioneer's Preference and Comments In Support of Rule Making have been served this date on counsel for Crescomm Transmission Services, Inc., by depositing the same in the U.S. Mails, First Class postage prepaid, addressed as follows:

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