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FEDERAL TRADE COMMISSION

WASHINGTON, D. C. 20580

AUTHORIZED

BUREAU OF ECONOMICS

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October 29, 1986

Mark S. Fowler, Esq.  
Chairman  
Federal Communications Commission  
Washington, DC 20554

Dear Chairman Fowler:

The Bureaus of Competition, Consumer Protection, and Economics of the Federal Trade Commission ("FTC Bureaus") appreciate this opportunity to review legislation proposed by the Federal Communications Commission ("FCC").\* This proposal would permit the FCC to auction certain unassigned frequencies in the radio spectrum.<sup>1</sup> The proposal would not affect the uses to which frequencies would be put; the FCC would continue to allocate portions of the spectrum to different uses administratively. Auctions would be employed only to assign licenses for frequencies to competing users after the FCC has determined the appropriate use of a portion of the spectrum.<sup>2</sup> Because auctions have substantial advantages over the methods currently used to allocate frequencies, the FTC Bureaus recommend that the FCC be permitted to assign licenses by auction.

The FCC proposes that auctions be used in place of the two existing methods of assigning frequencies: comparative hearings

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\* These comments represent the views of the Bureaus of Economics, Consumer Protection and Competition and do not necessarily reflect the views of the Federal Trade Commission or any individual Commissioner. The Commission, however, has authorized the filing of these comments. Inquiries regarding these comments should be directed to Jon Ogur, Bureau of Economics.

<sup>1</sup> See letter from Chairman Fowler to Senator Danforth, dated May 1, 1985.

<sup>2</sup> Under the FCC proposal, auctions would be used only for the initial assignment of a license; subsequent transfers of the license could be made in existing resale markets. Current rights and FCC regulations pertaining to licenses would be unaffected. Mass media, public safety, and amateur services would be exempted from initial assignment by auction. Examples of services that could be covered are land mobile services, such as one-way paging and two-way conventional radio telephone; special mobile services; general mobile services; and fixed and mobile domestic satellite services.

and lotteries.<sup>3</sup> In our view, the substitution of a market method for these non-market methods would yield several benefits. First, auctions would reduce the substantial delays that existing methods create before consumers receive services from licensees.<sup>4</sup> Second, auctions would reduce the governmental and private costs imposed by current licensing procedures. Third, compared to both administrative assignment methods, auctions are more likely to result in license awards to those users who can best satisfy consumer demands. Fourth, auctions would provide information to the FCC on the value of the spectrum in various uses, thereby assisting the agency in its allocation of the spectrum among uses. Finally, auctions would raise substantial revenues for the U.S. Treasury. In sum, auctioning unassigned frequencies would yield benefits to consumers, firms, and taxpayers.

Auctions will reduce the substantial delays in providing service to consumers, and the substantial application and processing costs, which now result from license assignment by non-market methods. Comparative hearings force firms seeking licenses to hire legal and engineering consultants to prepare applications. Because the limited supply of spectrum makes these rights valuable, firms compete for them by incurring added consulting costs to increase the probabilities that their applications will win. To evaluate the applications and select the winners, the government employs expertise similar to that used by the applicants. The evaluation process takes months or even years, during which time consumers do not receive the proposed services.

To the individual firm seeking a license, the cost of an application for a lottery is lower than the cost of an application for a comparative hearing. However, the lottery's lower application cost yields a larger number of applicants. Given the value of the license, one would expect the total cost to all applicants to be the same for both methods. In addition, the government incurs costs to process the greater number of applications. The resulting delays deprive consumers of desired services for months.

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<sup>3</sup> In comments filed May 7, 1984, before the FCC, the FTC Bureau of Economics, Consumer Protection, and Competition proposed the auction of satellite orbital slots and frequencies because of the superiority of this method to hearings and lotteries (In the Matter of: The Processing of New Domestic Satellite Applications, Report No. DS-265). Orbital slots would not be auctioned under the FCC's proposal.

<sup>4</sup> In these comments, we use the term consumer to refer to the buyer of services produced with spectrum as an input. Some buyers of the services are firms.

A possible way to reduce the costs imposed by the large number of applications for licenses awarded by a lottery is for the government to charge an application fee. The correct fee would eliminate all applicants except the firms that would use the available spectrum most productively in satisfying consumers' wants. Determining the correct fee administratively would be an extremely difficult task, requiring detailed knowledge of consumers' demand for services and the costs of different firms that seek spectrum to supply those services. An auction would accomplish precisely this task at relatively low cost.

An FCC staff study suggests that auctions would substantially reduce the total costs of assigning licenses, including both the costs to government and private firms, and the delays in serving consumers.<sup>5</sup> For a hypothetical cellular telephone market, the authors estimate that an auction would reduce costs to approximately one sixth of the costs of either a comparative hearing or a lottery. The estimated savings are approximately half a million dollars per cellular market.

Comparative hearings and lotteries are unlikely to award licenses to the firms that will best use them to serve consumers. Hearings reward firms that, among other things, hire the best consultants to prepare applications. These firms are not necessarily the ones that will most efficiently combine the spectrum with other inputs to produce the goods and services that consumers desire most. We agree with your assertion that hearings may not provide the FCC with the information needed to identify the firms that will best serve consumers.<sup>6</sup> Lotteries reward firms that can file applications within a fixed time period and that are lucky. Neither of these attributes is likely to be related to efficiency in using the spectrum to serve consumers.<sup>7</sup> As a result, the initial assignment of licenses by hearings or lotteries is likely to be inferior to the initial assignment by auctions.

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<sup>5</sup> See Kwerel and Felker, "Using Auctions to Select FCC Licensees," FCC Office of Plans and Policy Working Paper No. 16, May 1985.

<sup>6</sup> Letter from Chairman Fowler to Senator Danforth.

<sup>7</sup> The FCC has attempted to reduce the number of applicants for lotteries by restricting the time period during which applications may be filed. Such a restriction could exclude firms that would use spectrum more productively to serve consumers than would some successful applicants.

The consumer losses caused by the misallocation of licenses by non-market methods will take the form of transactions costs required to transfer the misassigned licenses in existing resale markets.<sup>8</sup> These transactions costs would be avoided if auctions were used to assign licenses correctly in the first place. In an auction, firms will bid what they think they can recover (including a return on their investment) from consumers of the services that will be provided with the licenses. Firms that expect to provide more valuable services to consumers will bid more for licenses. Firms that are more efficient at combining the spectrum with other inputs to provide services will tend to bid more than will less efficient firms. In sum, auctions will assign licenses to firms that are efficient at using the spectrum to supply the goods and services that consumers desire most.

Absent auctions, the FCC has relatively little hard data to guide its allocation of unused spectrum to new uses. The bids obtained through auctions would help fill this gap. Firms seeking licenses will bid what they think they can recover (including a return on their investment) from consumers of the services that will be provided. Thus, the bids reflect firms' estimates of the value of the services to consumers. If the bids for new use A are higher than the bids for new use B, that indicates that, at the margin, consumers of A value the services of the spectrum more than do consumers of B. We believe that such information would be useful to the FCC in its future decisions regarding the allocation of unused spectrum between such new uses.

We agree with your assertion that auctions would raise substantial revenues for the Treasury, thereby reducing the budget deficit.<sup>9</sup> The initial assignment of licenses currently brings in no government revenues. Subsequent resale of the licenses provides the initial holder with the equivalent of the revenues that an auction would earn for the Treasury.

What disadvantages might auctions entail? We are aware of three concerns. First, it has been suggested that auctions could enable firms to pursue a strategy of monopolizing the radio

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<sup>8</sup> Transfers are subject to approval by the FCC and in some instances to other restrictions, such as a minimum holding period by the original licensee before transfer (see Kwerel and Felker, p. 8).

In some instances, the transactions costs may be greater than the gains, and thus some beneficial transfers may not be made.

<sup>9</sup> Letter from Chairman Fowler to Senator Danforth.

spectrum. Second, it has been argued that auctions could reduce minority ownership of licenses. Finally, some have hypothesized that auctions could enable large firms to bid licenses away from small firms. In our view, these concerns can be laid to rest.

The purchase of licenses to obtain market power does not appear to be a feasible business strategy. If such a strategy were possible, we would expect to see attempts to implement it in existing resale markets. However, we are aware of no evidence of such attempts, and we see no reason why auctions would make them more likely.<sup>10</sup> Even if a spectrum monopolization strategy were tried, antitrust review of resale market transfers and of auction assignments could easily detect it and prevent its success.<sup>11</sup>

Because of the existence of resale markets, auctions will have no significant effect on the ultimate minority ownership of licenses. Regardless of the method of initial assignment of licenses, resale market transfers largely determine the final holders of those licenses. Those holders tend to be the firms that are most efficient at serving consumers' wants.

With regard to small firms, we are aware of no evidence that efficiency in the use of the spectrum to serve consumers is related to firm size. Absent such a relationship, small firms will be able to compete effectively with large firms in auctions, as they now do in resale markets. The market for satellite transponder services currently provides an example of such competition.<sup>12</sup> In that market, firms of different sizes currently compete effectively. This competition suggests that small firms would be able to obtain licenses in an auction.

If Congress wishes to assign licenses to small firms, or to minority owners, at a level greater than that yielded by the resale market, then a relatively efficient way to implement that

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<sup>10</sup> Kwerel and Felker, pp. 10-11.

<sup>11</sup> In the production of some services, coaxial cable and fiber optic cable are substitute inputs for the spectrum. These alternatives make the achievement of significant market power through the purchase of licenses even less likely.

<sup>12</sup> A transponder is the device on a satellite that receives a weak radio signal transmitted from an earth station on a particular frequency, amplifies the signal, and then transmits it back to the earth on a different frequency (FTC Bureaus' Comments Before the FCC, p. 14).



desire is by subsidy. Small firms, or minority-owned firms, could be given subsidies to purchase the desired number of licenses.<sup>13</sup>

We agree with the FCC that existing licenses should not be subject to auction as part of the renewal process. Auctions of existing licenses are not necessary to correct any inefficient initial license assignment. Resale markets can be relied upon to improve the ownership pattern of licenses if changing conditions make the initial pattern inefficient. For example, changing demand and cost conditions could make other patterns of ownership more efficient than the initial pattern. Resale market transfers shift ownership to such a more efficient pattern. In these transfers, license holders sell their licenses to firms that will more efficiently serve consumers.<sup>14</sup>

The voluntary aspect of resale market transfers ensures that all parties are made better off. The buyer is willing to pay more than the value of the license to the current licensee. This greater willingness to pay results because the buyer expects to use the license more productively to serve consumers' wants. To the seller, the money obtained from the sale of the license would be more profitably invested elsewhere.<sup>15</sup>

Moreover, auctioning existing licenses could impose costs on consumers. Initial holders of licenses make investments in the development of markets for the services produced with the spectrum. Some examples of such investments are research into

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<sup>13</sup> Tax certificates are a form of subsidy that currently encourages the sale of licenses to minorities and to women.

<sup>14</sup> Because of the benefits of a resale market, FTC staff has supported the creation of such a market for airport take-off and landing rights (slots). See D. Koran and J. Ogur, Airport Access Problems: Lessons Learned from Slot Regulation by the FAA, Bureau of Economics Staff Report to the Federal Trade Commission, May 1983.

It is worth noting that the existence of auctions and resale markets will not affect the prices paid for the services produced using the spectrum. Those prices reflect the scarcity value of the spectrum even in the absence of such market mechanisms (see Koran and Ogur, pp. 32-34, for a discussion of this point in regard to cash sales of airport slots).

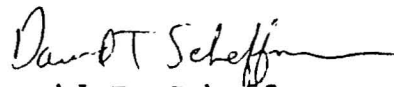
<sup>15</sup> Our conclusion that voluntary license transactions benefit consumers holds whether or not there is speculation in licenses. If a speculator purchases a license, he can earn a profit only if he sells the license to a firm that will use spectrum more productively to serve consumers.

the type of services that consumers want and communication of information to consumers regarding the services to be offered. These investments provide benefits to consumers and yield returns to the initial licensee. If existing licenses were subject to auction at the time of renewal, the government, rather than the original licensee, could capture a portion of the return from these investments. In that case, the firm would be discouraged from making such investments, and consumers would lose the benefits.

By contrast, absent such an auction, the original licensee has a better chance of recouping its investment. To the extent that prospective buyers in the resale market can earn a portion of the returns, they will be willing to pay more for the license because the original license holder made the investment. In sum, limiting auctions to the original assignment of a license will encourage investments that benefit consumers.

The FCC's proposed use of auctions to assign unused frequencies would substitute an efficient market mechanism for the existing inefficient non-market assignment procedures. Taxpayers, firms that seek spectrum licenses, and consumers of services produced with the spectrum would all gain. The use of auctions to assign spectrum licenses would add to the growing list of scarce commodities allocated by the government using efficient market mechanisms. This list currently includes outer-continental-shelf oil leases, federal coal leases, Treasury bills, geothermal leases, and airport slots. The FTC Bureaus recommend that Congress enact the FCC's proposed legislation.

Respectfully,



David T. Scheffman  
Director