

Comprehensive information on this Site is available through the public docket which is available for viewing at the Site Information Repositories at the following locations: U.S. EPA Region 5, Administrative Records, 77 W. Jackson Boulevard, Chicago, IL 60604 (312) 886-0900; the Henderson Memorial Library, 55 E. Jefferson, Jefferson, OH 44047 and the Ashtabula Public Library, 355 W. 44th St., Ashtabula, OH 44004.

**FOR FURTHER INFORMATION CONTACT:** Richard Boice, Remedial Project Manager, at (312) 886-4740 or Gladys Beard Associate Remedial Project Manager at (312) 886-7253, written correspondence can be directed to either Mr. Boice or Ms. Beard at U.S. Environmental Protection Agency, (SR-6J) 77 W. Jackson Blvd., Chicago, IL 60604.

**SUPPLEMENTARY INFORMATION:** For additional information, see the Direct Final Action which is located in the Rules section of this **Federal Register**.

**Authority:** 42 U.S.C. 9601-9657; 33 U.S.C. 1321(c)(2); E.O. 12777, 56 FR 54757, 3 CFR, 1991 Comp.; p. 351; E.O. 12580, 52 FR 2923, 3 CFR, 1987 Comp.; p. 193.

Dated: June 14, 2000.

**Gary Gulezian,**

*Acting Regional Administrator, Region V.*

[FR Doc. 00-16514 Filed 7-3-00; 8:45 am]

**BILLING CODE 6560-50-U**

## FEDERAL COMMUNICATIONS COMMISSION

### 47 CFR Part 73

[MM Docket No. 00-108; FCC 00-213]

### Broadcast Services; Radio Stations, Television Stations

**AGENCY:** Federal Communications Commission.

**ACTION:** Proposed rule.

**SUMMARY:** This document proposes to eliminate that section of the Commission's rules that that would prohibit affiliation with an entity maintaining one of the major television networks (ABC, CBS, Fox, and NBC) and the UPN or WB television network. Currently, this rule permits a television broadcast station to affiliate with an entity maintaining two or more broadcast television networks *unless* the two or more networks consist of two or more of the major networks (*i.e.*, ABC, CBS, NBC and Fox) or one of these four networks and either the UPN or WB television network. This rule was identified as one that should be modified in the Commission's Biennial Review Report.

**DATES:** Comments are due by September 1, 2000, and reply comments are due by October 2, 2000.

**ADDRESSES:** Federal Communications Commission, 445 12th Street, SW., Washington, DC 20554

**FOR FURTHER INFORMATION CONTACT:** Roger Holberg, Mass Media Bureau, Policy and Rules Division, (202) 418-2134 or Dan Bring, Mass Media Bureau, Policy and Rules Division, (202) 418-2170.

**SUPPLEMENTARY INFORMATION:** This is a synopsis of the *NPRM* in MM Docket No. 00-108, FCC 00-213, adopted June 8, 2000, and released June 20, 2000. The complete text of this *NPRM* is available for inspection and copying during normal business hours in the FCC Reference Center, Room CY-A257, 445 12th Street, SW., Washington, DC and may also be purchased from the Commission's copy contractor, International Transcription Service (202) 857-3800, 445 12th Street, SW., Room CY-B402, Washington, D.C. The *NPRM* is also available on the Internet at the Commission's website: <http://www.fcc.gov>.

### Synopsis of Notice of Proposed Rulemaking

#### I. Introduction

1. This *Notice of Proposed Rulemaking (NPRM)* proposes the amendment of Section 73.658(g) of the Commission's Rules (47 CFR 73.658(g)), the "dual network" rule applicable to broadcast stations. This rule permits a television broadcast station to affiliate with an entity maintaining two or more broadcast television networks *unless* the two or more networks consist of two or more of the major networks (*i.e.*, ABC, CBS, NBC and Fox) or one of these four networks and either the UPN or WB television network. These networks are not explicitly named in the rule. However, the statute and legislative history of the Telecommunications Act of 1996, which required the Commission to amend the dual-network to its current form make it clear that these are the networks intended to be described by the legislation. As a result of our analysis in our Biennial Review proceeding concerning broadcast ownership rules (*Biennial Review Report* in MM Docket No. 98-35 ("Biennial Report"), FCC 00-191 (Adopted May 26, 2000; Released June 20, 2000)), we made a preliminary determination that the current rule, as a result of competition, may no longer serve the public interest. Accordingly, we indicated that we would commence this rulemaking proceeding proposing to

amend the rule by eliminating the portion of the rule that precludes the ownership of the UPN or WB networks by the ABC, NBC, CBS, or Fox television networks.

#### II. Background

2. As we noted in the Biennial Review Report, the Commission first adopted a dual network rule for broadcast radio networks in 1941 following an investigation to determine whether the public interest required "special regulations" for radio stations engaged in chain broadcasting (6 FR 2282 (May 6, 1941)). The rule provided that no license would be issued to a broadcast station affiliated with a network organization that maintained more than one broadcast network. The Commission extended the dual network rule to television networks in 1946 (*Amendment of Part 3 of the Commission's Rules*, 11 FR 33 (Jan. 1, 1946)). The Commission believed that permitting an entity to operate more than one network might preclude new networks from developing and affiliating with desirable stations because those stations might already be tied up by the more powerful network entity. In addition, the Commission expressed concern that dual networking could give a network too much market power. The dual network prohibition, therefore, was intended to remove barriers that would inhibit the development of new networks, as well to serve the Commission's more general diversity and competition goals. The dual network rule for broadcast television remained unchanged until 1996, when the Commission amended the rule to conform with the provisions in Section 202(e) of the Telecommunications Act of 1996 (Public Law 104-104, 110 Stat. 56 (1996)).

3. Section 73.658(g) sets forth the Commission's current dual network rule. It directly reflects the provisions of the Telecom Act which permit a television broadcast station to affiliate with a person or entity that maintains two or more networks of television broadcast stations unless such networks are composed of: (1) Two or more persons or entities that were "networks" on the date the Telecom Act was enacted; or (2) any such network and an English-language program distribution service that on the date of the Telecom Act's enactment provided 4 or more hours of programming per week on a national basis pursuant to network affiliation arrangements with local television broadcast stations in markets reaching more than 75 percent of television households. Section 202(e) of

the 1996 Act defines a "network" with reference to § 73.3613(a)(1) of the Commission's Rules (47 CFR 73.3613(a)(1)). That Rule provides that a network is "any person, entity, or corporation which offers an interconnected program service on a regular basis for 15 or more hours per week to at least 25 affiliated television licensees in 10 or more states; and/or any person, entity, or corporation controlling, controlled by, or under common control with such person, entity, or corporation."

4. The Conference Report stated that the Commission was being directed to revise its dual network rule "to permit a television station to affiliate with a person or entity that maintains two or more networks unless such dual or multiple networks are composed of (1) two or more of the four existing networks (ABC, CBS, NBC, Fox) or, (2) any of the four existing networks and one of the two emerging networks (WBTN, UPN). The conferees do not intend these limitations to apply if such networks are not operated simultaneously, or if there is no substantial overlap in the territory served by the group of stations comprising each such networks" (S. Rep. No. 230, 104th Cong., 2d Sess. At 163).

### III. Discussion

5. In the Biennial Report we tentatively concluded that we should explore modifying the dual network rule by eliminating the prohibition on the ownership of either the UPN or WB network by one of the major television networks. We stated that neither competition nor diversity issues appeared to warrant retention of the rule in its current form.

6. Our proposal to relax the dual network rule to permit ownership of either the UPN or WB network by one of the major networks is based on a review of the current economics of the network broadcasting industry. The elements of our economic review are briefly summarized in the following paragraphs. We seek comment on our view of the current economics of network broadcasting both in general and with respect to particular conclusions derived from the review.

7. *Framework.* The dual network rule, as modified as a consequence of the 1996 Act, may be viewed as an anti-merger rule that constrains the current organization of the network broadcasting industry. This constraint on the organization of the contemporary network broadcasting industry may result in organizational inefficiencies that adversely affect industry

performance, including the type and quality of network programming available to viewers. One way to examine the network broadcasting industry for possible organizational inefficiencies is the application of concepts developed in the transaction cost economics (TCE) literature. From a TCE perspective, the economic organization of firms and industries reflects specific attributes of the contracting process between buyer and seller. The following discussion identifies key attributes of critical exchange relationships in the network television broadcasting industry, e.g., the relationship between program suppliers and broadcast networks, and how these attributes contribute to the efficiency or inefficiency of existing industry organization. The commercial television network broadcast industry today consists of a number of vertically-integrated firms. For example, ABC is vertically integrated with Disney as a program supplier; the Fox network is vertically integrated with 20th Century Fox as a program supplier; and UPN is vertically integrated with Viacom. Thus, an economic analysis of the effects of potential mergers between the major networks, *i.e.*, ABC, CBS, NBC, and Fox, or potential mergers between these entities and an emerging network, *i.e.*, UPN or WB, will in many cases involve mergers between vertically-integrated firms. To facilitate discussion, the analysis decomposes a hypothetical merger between two broadcast networks into two parts. First, we examine the relationship between a program supplier and a broadcast network to determine whether vertical integration is either more or less efficient than simply negotiating an arms-length contractual relationship between the program supplier and the broadcast network. The comparative assessment of the efficiency of contracting versus vertical integration relies extensively on TCE concepts. Second, we assess the effects of a horizontal merger between two broadcast networks by relying on antitrust measures of market concentration and an analysis of price competition in the national market for network television advertising. Finally, the gains or losses resulting from the analysis of vertical integration are integrated into the measurement of the efficiencies or inefficiencies resulting from the horizontal merger to determine the overall benefits and costs of a merger between two vertically-integrated firms. The merger of two vertically-integrated enterprises may have both horizontal and vertical economic effects. Horizontal effects

refer to the economies or diseconomies resulting from enlarging the size of the firm post-merger and include effects on consumers, such as higher or lower prices and changes in the quantity and quality of output produced. These effects can be assessed at each stage of production of the vertically-integrated firm. For a television network vertically-integrated into the production of network programming, the assessment of horizontal effects would include assessing the economies or diseconomies of increasing the size of the network and the economies or diseconomies of increasing the size and scale of program production, assuming that the network that is being acquired is also vertically-integrated into program production. The effects of the merger of two program production enterprises on competition in the network television program production market would also be included in the analysis of horizontal effects. Growth in the size of the vertically-integrated firm post-merger may either accentuate the economies of vertical integration post-merger or diminish the efficiencies of vertical integration as organizational complexity increases and coordination of decisionmaking within the larger firm becomes more difficult and costly. Vertical effects refer to the economies or diseconomies of integrated production as the size of the vertically-integrated firm increases. The analytical framework suggests a way to assess the relative significance of some of these horizontal and vertical effects that may result from the merger of two television networks that are both vertically integrated into the production of network television programming.

8. Standard economic analyses of the effects of a horizontal merger of two competing firms, such as two television networks, do not ordinarily include an assessment of the effects of the proposed merger on the efficiency of vertical integration within the acquiring firm, especially if the acquired firm is not vertically integrated. However, vertical relationships within the network television broadcasting business are endemic in the industry and virtually define its economic purpose and industry structure, especially the vertical relationship between a television network and its affiliated local broadcast stations. Increasingly, television networks, like cable television multiple system operators, are vertically integrated into the production of programming. Thus, television networks today are intrinsically vertically-integrated enterprises and to ignore the impact of a horizontal merger

on the efficiency of such integration is to ignore a critical dimension of the economic effects produced by the merger. Consequently, this unconventional approach seems appropriate to evaluate more completely the economic implications of a potential merger between two television networks.

9. *Overview of the Analysis.* The application of TCE concepts suggests that vertical integration between program suppliers and major networks may produce substantial economic efficiencies (compared to market contracting) that may benefit both advertisers and viewers. The analysis of horizontal mergers between broadcast networks suggests that the merger of two major networks would adversely affect competition in the national network television advertising market, while the merger of a major network and an emerging network may produce efficiencies benefiting both viewers and advertisers. Based on the aggregation of the costs and benefits from both the vertical and horizontal components of a proposed merger, the analysis concludes that the dual network rule should be retained as it relates to mergers between the major networks, but relaxed to permit mergers between a major network and an emerging network.

10. *Attributes of Television Network Output.* From an economic perspective, firms in the network broadcasting industry, such as ABC, NBC, CBS, and Fox, together with their local television station affiliates and their owned and operated (O&O) stations, are in the business of producing audiences. Access to network television viewers is sold to advertisers that want to reach a large, nationwide audience of potential customers. Network advertising provides audience reach unmatched by any other broadcasting medium. No single cable channel today provides the audience reach of any television network. Only network television is a mass-distribution venue for programming and advertising, notwithstanding the continuing erosion of network television audience attributable to the growth of cable and DBS viewership. Of the 27 prime time programs viewed in more than ten million households during the week of January 17–23, 2000, all 27 were aired by either ABC, CBS, NBC or Fox. The largest share for a UPN program was approximately 5 million homes and the most popular cable program (during any hour) was viewed in just under 5 million homes. Access to the mass audience produced by television networks is sold to advertisers in terms of thousands of viewers for a defined

interval of commercial time, such as 30 seconds.

11. Both a network television program and the over-the-air broadcast transmission that delivers the program to viewers have economic attributes of a pure public good, *i.e.*, a good or service with the property that one individual's viewing of the program does not diminish the quantity of the program available for any other individual who wishes to view the same program. By contrast, a pure private good, such as food, clothing, and many other consumer products and services, are "rivalrous" in consumption, *i.e.*, a good consumed by one individual is not available for consumption by a different individual. Thus, a network television program, having the property of a pure public good, is not "used up" once it is shown. Indeed, the same program may be aired repeatedly to the same or different audiences without physically "wearing out" the program as an asset that produces audiences. It is possible, of course, that new audiences for the program cannot be found or existing audiences tire of the program and will no longer watch it. The program becomes obsolete as an audience-producing asset, although the program itself is not physically depleted by repeated airings on television.

12. The public good attributes of a network television program imply several things about its cost as an audience-producing asset and its market value to the program producer and the network that broadcasts the program. First, broadcasting a network program represents, in substantial part, a fixed cost of production for the network with respect to the number of viewers produced by airing the program. Once the program is on the air, the cost of production for the network and its station affiliates is insensitive to the number of viewers "consuming" the program. In other words, the marginal cost of adding an additional viewer within the signal coverage area is zero for both the network and the station affiliate. This attribute of network program costs suggests that large audiences are always preferable to smaller ones, since a larger audience costs the network no more to produce than a smaller one for the same level of program quality, and network revenues derived from advertisers depend directly on the number of viewers produced. Expressed differently, the average fixed costs of production for the network, *i.e.*, total fixed cost divided by the number of viewers, declines as the size of the audience produced increases in size. To the extent that such economies are reflected in the pricing of

network advertising, then the marginal price of network advertising per viewer falls as audience size increases. Given the fixed cost attributes of network programming assets and the economies of spreading such costs over large audiences, economically viable television networks must be large rather than small as measured in terms of the number of affiliated stations and the viewers produced and sold to advertisers.

13. Second, not only are the costs of network programming fixed, they are also sunk. Typically, a sunk cost refers to an investment in highly specialized productive assets that cannot be redeployed to an alternative use. Sunk cost investments reflect asset-specificity and typically have little or no productive value in any other use beyond the intended application. While asset-specific investments often facilitate reductions in the cost of production or improvements in the quality of output produced compared to the use of less specialized assets, they involve substantially higher risks of capital recovery compared to non-specialized general purpose assets. General purpose assets can be redeployed to alternative uses should demand for the asset in its original application decline or disappear entirely, while asset-specific investments may become worthless. Once created, investments in network programming are asset-specific: an action movie targeted to a specific audience cannot be redeployed to attract a totally different audience that prefers, say, musical comedy. If the targeted audience does not like the movie, then much of the investment in the movie by the network may be unrecoverable.

14. Third, the public good and cost characteristics of network programs result in a multiplicity of rights that can be sold to television networks by program producers. Among these rights are the initial network exhibition rights; the right to renew those rights (options); and the right to earn revenues from the syndication of a successful network program, among other future revenue streams. As a result, contract negotiations between a program producer and a network for the sale and purchase of program rights are extremely complex, involving especially high stakes for the incumbent television networks. The growth of cable television and DBS have substantially increased the number of viewing options for viewers, resulting in a steady erosion in the size of audiences attracted to conventional, over-the-air network television programming. Additionally, program producers now have expanded

options for selling their programming beyond the networks or through syndication to local television stations. Increasingly, the continuing growth in cable networks provides significant competition to the incumbent television networks as purchasers of television programs. Additionally, some program suppliers, such as Warner Brothers and Viacom, have decided to integrate vertically into program distribution by creating their own television networks. This option for program suppliers introduces additional complexity in the contractual relationship between program suppliers and the incumbent television networks. As a result of these changes in industry structure over the past decade, the contracting environment between and among suppliers of network programming and the incumbent networks is both more complicated than before and somewhat more risky for the networks. It is imperative that networks obtain quality programming to stem audience erosion while dealing with suppliers that now have expanded options for the sale of their product.

15. *The Market for Network Programming.* From the business perspective of an incumbent television network, programs are a critical input in the process of producing a mass audience. Like any business firm, a network faces a "make or buy" decision, namely, either make the input of production itself or contract with an independent supplier to make the input according to specifications established in a contract. Prior to the expiration of the Commission's financial interest rule in 1995, which prohibited the networks from acquiring equity and profit rights in network programming produced by independent program suppliers, the Commission forced the network to contract with independent program suppliers rather than partially or fully integrate vertically with such firms. Following repeal of the Commission's financial interest and syndication rules, the networks have partially or fully integrated vertically with a number of program suppliers. This integration reflects, in part, the difficulties in negotiating a contractual relationship with program suppliers. These difficulties reflect the peculiar attributes of television network output previously described.

16. The economic complexities of contract negotiation between a television network and a program supplier may be illustrated by a specific example. Suppose a network wants to contract with a program supplier for a prime time program series, say, a situation comedy. Both the network and

the program supplier may be expected to approach contract negotiations from a self-interest maximizing point of view, although the inherent uncertainties of creating a successful program and forecasting audience acceptance probably makes it impossible to know what decisions are profit-maximizing. In the language of TCE, both parties approach contract negotiations with bounded rationality, *i.e.*, "intendedly rational, but limitedly so." As previously discussed, a program, or program series, once completed is "durable" and can be rebroadcast as a network re-run or put in syndication after its network run. The economic life of the program or series cannot be known a priori, ranging from months to decades. If the program producer believes that the planned program may have a long life in syndication, then the program producer may be willing to forego front-end profits in exchange for the profits expected to be earned in syndication. The network, however, may have very different expectations about the expected life of the program series and its long-term profitability which may pose a fundamental conflict to be resolved through negotiation.

17. If the program series becomes a "hit", then the program producer may wish to re-open the negotiated contract with the network in an effort to obtain a larger share of the anticipated large network revenues resulting from the success of the program in attracting viewers and advertisers. Since the program producer retains substantial control over the creative process that generates the programming, including how and when the star talent is utilized in the program, the program producer may attempt to "hold up" the network by threatening to adjust program quality that may benefit the program producer (*e.g.*, altering the compensation of key program talent) at the expense of the network (*e.g.*, reducing the value of the program as a network re-run). In the language of TCE, the program producer may behave opportunistically, *i.e.*, "self-interest seeking with guile." With respect to other aspects of contract negotiations, the network may also behave opportunistically, especially if such behavior is expected of the program producer. Moreover, both the network and the program producer recognize that attributes of contractual relationship between the program producer and the network involve certain external effects, *i.e.*, costs or benefits which may accrue to the parties to the contract that are largely outside the scope of the immediate transaction. For example, should the network

suddenly cancel the program series due to poor ratings rather than wait to see if the ratings eventually improve, the program producer's future revenues derived from its syndication rights may be reduced or virtually eliminated. Similarly, the network can vary the audience attracted to a network program by positioning the program in its program lineup so that it benefits from the audience attracted by the program appearing immediately before it. Thus, the network's manipulation of its program schedule to achieve its own current profit objectives will have a significant effect on the future revenues produced by the program in syndication. If the network is unable to capture some fraction of these future revenues, it has no incentive to consider the external effects of its program schedule decisions and may well behave opportunistically toward the program supplier's financial interests.

18. An especially difficult aspect of contract negotiations between a network and a program supplier concerns the allocation of the risks of program development between the two parties. Given the asset-specificity of every network program and the significant probability that the program will fail to attract an audience of sufficient size to attract advertisers, risk allocation between the parties is a difficult issue to negotiate, since attitudes toward risk aversion will differ between the network and the program producer. The advantages of sharing the risks of multiple program production will vary with different program producers and networks.

19. Given the substantial financial risks implied in the production and distribution of network programming, both the program supplier and the network have a mutual interest in maintaining a mutually beneficial, long-term contractual relationship, especially if (1) the program purchased is intended as a prime time series; and (2) the network and program producer expect to maintain ongoing contractual relationships for new programs in the future. Such expectations may, in fact, attenuate to some degree the possible incentives to pursue opportunistic behavior by either party. Nevertheless, writing a contract that resolves inherent conflicts between the parties, incorporates the consequences of external effects, discourages opportunism, and anticipates many future contingencies in the contractual relationship including dispute resolution, is both difficult and costly. As suggested by the TCE literature, transactions involving substantial asset specificity, uncertainty, and frequency

may be more efficiently effectuated by some other governance structure than contracting by two independent entities. Vertical integration of program production and network distribution whereby the former market transaction is made internal to the merged firms under unified ownership results in a major efficiency gain, namely, the ability to adapt more readily the (internal) relationship between the program supplier division of the merged enterprise with the network distribution division to unanticipated changes in the economic environment. As Williamson explains,

The advantage of vertical integration is that adaptations can be made in a sequential way without the need to consult, complete, or revise interfirm agreements. Where a single ownership entity spans both sides of the transaction, a presumption of joint profit maximization is warranted. Thus price adjustments in vertically integrated enterprises will be more complete than in interfirm trading. And, assuming that internal incentives are not misaligned, quantity adjustments will be implemented at whatever frequency serves to maximize the joint gain to the transaction.

Based on our analysis of the comparative transaction costs of effectuating exchange between program suppliers and television networks by market contracting versus vertical integration, we believe that partial or complete vertical integration between a broadcast network and a program producer may result in substantial efficiencies that may benefit network television advertisers and viewers. More specifically, advertisers may benefit from reduced rates if the efficiencies of vertical integration are reflected in reduced network costs of producing a mass audience. Similarly, viewers may benefit from the wider availability of diverse programming that a network may produce as a result from having available its own program production capability that may encourage new but riskier programming possibilities. Once fully or partially vertically-integrated into program production, the network has full or enlarged claim on revenue opportunities in all distribution windows which may enhance the network's incentive to invest in innovative programming.

20. *Tendency Toward Network Industry Concentration.* As explained above, most costs of producing and distributing programming are not sensitive to the number of viewers that actually watch a given program once broadcast facilities are in place. In effect, a television network shares the substantial fixed costs of network television programming among the

stations either owned by the networks or affiliated with the network. Often, a network affiliate shares the fixed costs of network programming by giving the network broadcast time which the network then sells to network advertisers. In some cases, network affiliates make cash payments to networks in addition to broadcast time. The larger the number of owned or affiliated stations belonging to a given television network, the lower is the average fixed cost of network programming that each affiliated station must recover and, all other things remaining the same, the lower is the effective price per viewer for an advertiser so long as the network faces some competition from other television networks. Given the fixed cost nature of the business, larger networks, in terms of the number of affiliated stations and viewers, tend to be more economically viable than smaller networks.

21. The number of economically viable television networks is presently severely constrained by the number of available local affiliates. The number of available station affiliates is constrained, in turn, by the amount of spectrum the Commission has allocated to broadcast television. A network must have a sufficient number of affiliated stations so that (1) a large enough percentage of national viewership is achieved so that national advertisers can be attracted, and (2) average fixed cost is reduced to a point where the competitive price of network advertising will produce network advertising revenues sufficient to cover the total cost of network operations. Television networks today compete in a national market and need, therefore, an affiliated station in most local markets across the country. If stations are unavailable in too many local markets, or the available stations have poor signal coverage, then the network can neither attract sufficient national advertisers nor drive average fixed costs low enough such that competitive rates for network advertising will cover total network operating costs. Both the fixed cost attributes of network costs and the Commission's limited allocation of spectrum to broadcast television present obstacles to new broadcast networks.

22. *National Television Advertising Market.* Within the national television advertising market that includes national spot sales by affiliated and independent stations, a strategic group consisting of the major networks, *i.e.*, ABC, NBC, CBS, and Fox, can be identified. (A strategic group refers to a cluster of independent firms within an industry that pursue similar business strategies. For example, the major

networks supply programming to their affiliated local stations that is intended to attract mass audiences and advertisers that want to reach such large, nationwide audiences. By contrast, the emerging networks target more specialized, niche audiences similar to cable television networks. The conceptual basis for a strategic group is developed in R. E. Caves and M. E. Porter, "From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New Competition," *Quarterly Journal of Economics* 91 (May 1977): 241-261. Also see Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competition* (New York: The Free Press, 1980), Chapter 7. For additional references on the application of the strategic group concept, see F. M. Scherer and David Ross, *Industrial Market Structure and Economic Performance*, 3rd Edition, (Boston: Houghton Mifflin, 1990), pp. 284-85. When properly applied, the concept of a strategic group ordinarily implies that only a relatively few firms will be included within its boundaries so that competitive rivalry will be oligopolistic in nature, although the number of firms actually populating the industry aggregated over all strategic groups may be quite numerous.) At present, the network firms comprising this strategic group provide the greatest reach of any medium of mass communications. Since delivering a mass audience is becoming more difficult for all media, media that can still produce mass audiences become more valuable. As a result, broadcast networks have achieved double-digit gains in revenues in recent years despite their loss of audience relative to years past. The major mobility barrier impeding entry into the major network strategic group is the availability of affiliated stations. Notwithstanding some growth in the number of stations over the last decade, obtaining sufficient affiliated stations remains a major obstacle to developing a new network that can achieve sufficient national reach to be attractive to national advertisers.

23. At present, mobility barriers protecting the major network strategic group result in an oligopoly of established networks where prices for network advertising will also depend on the number of networks. (Mobility barriers are barriers to entry that deter the movement of a firm within a given industry from shifting from one strategic group to another. Differed strategic groups will be defended by different mobility barriers that vary in the effectiveness in restricting entry into a

given strategic group. In general, firms protected by high mobility barriers will have greater profit potential than firms in other strategic groups protected by low mobility barriers.) In general, as the number of independently-owned networks in the strategic group decreases, the equilibrium price for network advertising will increase. Pricing and output behavior by the major networks may be conceptualized as Cournot competition in quantities. In other words, the networks by contractual arrangement with their affiliated stations produce capacity output at all times, representing the profit-maximizing quantity of programming that affiliated stations are expected to "clear" over all dayparts. As a result, each network in the strategic group is expected to maximize profit assuming that the quantity of output produced by its rival networks is not affected by its own output decisions.

24. *Economic Effects of Network Mergers.* So long as mobility barriers deter entry into the major network strategic group, the pricing of network advertising will be sensitive to the number of network competitors. Thus, horizontal mergers between the major networks will increase the unit price of network advertising, all other things remaining the same. (The merger may, of course, result in some scale economies as the post-merger network increases in size. The extent of such possible economies, if any, is not known.) Although network advertisers may be harmed by such mergers, viewers of network television may benefit if the duplication of similar types of network programming is reduced and more programming for specialized audiences is offered. Whether the welfare gains to viewers—if any—exceed the welfare loss to network advertisers is not known.

25. Given our analysis of the potential effects of a merger of networks in the major networks strategic group, the dual network rule as applied to the four major networks should not be relaxed until the mobility barriers defending the major network strategic group are lowered. An analysis by Commission staff suggests that economic concentration within the major network strategic group as measured by the Herfindahl-Hirschman Index (HHI) presently exceeds 2600, indicating a "highly concentrated" market. Any merger between or among the four major networks would exceed 100 points, suggesting that such a merger would enhance market power or facilitate its exercise. As noted above, the major barrier impeding entry into the broadcast networking industry is the

availability of affiliated stations created by the amount of spectrum the Commission allocated to broadcast television. In the near future, we expect that deployment of digital television may lower barriers to new broadcast networks by enabling broadcast stations to carry multiple program streams. Our biennial reviews of the dual network rule will enable us to periodically evaluate the impact of DTV on existing barriers to new broadcast networks.

26. While retaining a prohibition on mergers between major broadcast networks, we believe a merger between an emerging network, such as WB or UPN, and a major network may produce net benefits. Such a merger may produce significant efficiencies by internalizing the contentious issue of program production risk-sharing within a vertical relationship. For example, an emerging network acquired by a major network provides the major network with an additional "window" for the distribution of network programming. In effect, this additional window allows the merged network to broadcast the same program in different time slots in the same market if both the major and emerging networks have affiliates in the same city. Alternatively, if the emerging and major network do not have affiliates in the same city, then the merged network entity will now reach more households than before the merger. In either case, the fixed costs of program production are spread over additional viewers in different time slots or additional cities. As a result, the effective program cost per viewer is reduced in either case. Similarly, a network program that fails, or is only marginally successful, on the major network's affiliated station might succeed, however, when broadcast to the niche audience reached by the affiliates of the emerging network. The risks of network program development are clearly attenuated for the merged networks as a consequence of reaching additional viewers at different times or in additional cities or with audience attributes that may differ from the mass audience ordinarily targeted by a major network. Moreover, since the emerging networks, such as WB, UPN, or Pax Net are *not* in the major network strategic group, there should be little or no adverse effect on the price for network television advertising as a result of such a merger. From an economic perspective, the emerging networks strategic group would include WB, UPN, Pax Net, Univision, Telemundo, and possibly some national syndicators. From a legal perspective, the 1996 Act restricted the membership of the

emerging networks strategic group to include only WB and UPN. Accordingly, we are proposing to eliminate that portion of the dual network that would prohibit the merger of a network in the major network strategic group with the WB or UPN networks.

27. While we believe that relaxing the dual network rule will result in net benefits to both viewers and advertisers as shown by our economic analysis, such relaxation of the rule may adversely affect our goal of diversity in broadcasting. Clearly, the merger of an emerging network with a major network results in the loss of an independent network "voice" and thus diminishes source diversity. Such a result runs counter to the Commission's long-standing goal to foster the entry of additional broadcast television networks as a means of promoting diversity. So long as substitutes for network television remained limited, the entry of additional television networks was crucial to increasing viewer choices of diverse television programming. With the growth of cable television networks, direct broadcast satellite services, and the ongoing deployment of digital television, however, encouraging the entry of new, over-the-air broadcast networks may have diminished in importance relative to twenty years ago. In other words, rivalry between and among direct competitors (*i.e.*, the major networks), which still remain relatively few in number even after twenty years, has been augmented by the growth of partial substitutes, such as cable television and direct broadcast television, supplied by firms outside the major networks strategic group. This growth in partial substitutes dilutes to some degree the market power of major networks relative to their market power in the absence of such substitutes. Moreover, our local broadcast ownership rules will continue to ensure outlet diversity in local broadcasting markets. In short, circumstances may have so changed in broadcast markets that our diversity goals may no longer preclude the realization of the beneficial effects resulting from the relaxation of the dual network rule proposed in this *NPRM*. We seek comment on the possible effects of relaxing the dual network rule on our diversity goals and our tentative conclusion that such effects are outweighed by the benefits identified in our economic analysis.

28. We invite comment on any or all aspects of our economic analysis of the possible effects of relaxing the dual network rule to permit the merger of an emerging network with a major network. In particular, we seek comment on (1)

our analysis of the difficulties of negotiating long term contracts between a program supplier and a television network; (2) the likely benefits of vertical integration between program producers and networks for network advertisers and viewers; (3) our application of the concept of a major network strategic group; (4) the likely effects on the price of network advertising resulting from (a) a merger of incumbent networks within the major network strategic group and (b) a merger of a major network and an emerging network; and (5) the effects of the merger of an incumbent network and an emerging network on a viewer's choice of programming options (mass audience vs. niche audience programming) and the likely quality of such program options. Comments supplying empirical evidence that is consistent or inconsistent with our economic analysis will be especially useful. Theoretical analysis that further refines our economic analysis or identifies critical weaknesses will also be useful.

29. We also seek comment on possible merger conditions that might help safeguard our broadcast diversity goals while partially relaxing the dual network rule to achieve the potential net benefits identified in our economic analysis. Are there conditions that could maintain separation between the programming decisions of the two networks while still allowing them to achieve the efficiencies described in our economic analysis?

#### IV. Administrative Matters

30. *Comments and Reply Comments.* Pursuant to §§ 1.415 and 1.419 of the Commission's rules, 47 CFR 1.415, 1.419, interested parties may file comments on or before September 1, 2000 and reply comments on or October 2, 2000. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies. See *Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (May 1, 1998).

31. Comments filed through ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment via e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to [ecfs@fcc.gov](mailto:ecfs@fcc.gov), and should include the following words in the body of the message, "get form <your e-mail

address>." A sample form and directions will be sent in reply.

32. Parties who choose to file by paper must file an original and four copies of each filing. All filings must be sent to the Commission's Secretary, Magalie Roman Salas, Office of the Secretary, Federal Communications Commission, 445 Twelfth Street, SW., TW-A325, Washington, DC 20554.

33. Parties who choose to file paper should also submit their comments on diskette. These diskettes should be addressed to: Wanda Hardy, Paralegal Specialist, Mass Media Bureau, Policy and Rules Division, Federal Communications Commission, 445 Twelfth Street, SW., 2-C221, Washington, DC 20554. Such a submission should be on a 3.5 inch diskette formatted in an IBM compatible format using Word 97 or compatible software. The diskette should be accompanied by a cover letter and should be submitted in "read only" mode. The diskette should be clearly labeled with the commenter's name, proceeding (including the lead docket number in this case (MM Docket No. 00-108), type of pleading (comment or reply comment), date of submission, and the name of the electronic file on the diskette. The label should also include the following phrase "Disk Copy—Not an Original." Each diskette should contain only one party's pleadings, preferably in a single electronic file. In addition, commenters must send diskette copies to the Commission's copy contractor, International Transcription Service, Inc., 445 Twelfth Street, SW., CY-B402, Washington, DC 20554.

34. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center, Federal Communications Commission, 445 Twelfth Street, SW., CY-A257, Washington, DC 20554. Persons with disabilities who need assistance in the FCC Reference Center may contact Bill Cline at (202) 418-0270, (202) 418-2555 TTY, or [bcline@fcc.gov](mailto:bcline@fcc.gov). Comments and reply comments also will be available electronically at the Commission's Disabilities Issues Task Force web site: [www.fcc.gov/dtf](http://www.fcc.gov/dtf). Comments and reply comments are available electronically in ASCII text, Word 97, and Adobe Acrobat.

35. This document is available in alternative formats (computer diskette, large print, audio cassette, and Braille). Persons who need documents in such formats may contact Martha Contee at (202) 4810-0260, TTY (202) 418-2555, or [mcontee@fcc.gov](mailto:mcontee@fcc.gov).

36. *Ex Parte Rules.* This proceeding will be treated as a "permit-but-disclose" proceeding, subject to the "permit-but-disclose" requirements under 47 CFR 1.1206(b), as revised. *Ex parte* presentations are permissible if disclosed in accordance with Commission rules, except during the Sunshine Agenda period when presentations, *ex parte* or otherwise, are generally prohibited. Persons making oral *ex parte* presentations are reminded that a memorandum summarizing a presentation must contain a summary of the substance of the presentation and not merely a listing of the subjects discussed. More than a one or two sentence description or the views and arguments presented is generally required. See 47 CFR 1.1206(b)(2), as revised. Additional rules pertaining to oral and written presentations are set forth in 47 CFR 1.1206(b).

37. *Initial Regulatory Flexibility Analysis.* As required by the Regulatory Flexibility Act, see 5 U.S.C. 603, the Commission has prepared an IRFA of the possible economic impact on small entities of the proposals contained in this *NPRM*. Written public comments are requested on the IRFA. In order to fulfill the mandate of the Contract with America Advancement Act of 1996 regarding the Final Regulatory Flexibility Analysis, we ask a number of questions in our IRFA regarding the prevalence of small businesses in the television broadcasting industry. Comments on the IRFA must be filed in accordance with the same filing deadlines as comments on the *NPRM*, and must have a distinct heading designating them as a response to the IRFA. The Reference Information Center, Consumer Information Bureau, will send a copy of this *NPRM*, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.

38. As required by the Regulatory Flexibility Act ("RFA") (5 U.S.C. 601 *et seq.*), the Commission has prepared this present Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in this *NPRM*. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *NPRM* provided above. The Commission will send a copy of the *NPRM*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration. See 5 U.S.C. 603(a). In addition, the *NPRM* and the IRFA (or summaries thereof) will be published in the **Federal Register**.



## A. Need for, and Objectives of, the Proposed Rules

39. Section 202(h) of the Telecom Act requires the Commission to review its broadcast ownership rules every two years, beginning in 1998, and to “determine whether any of such rules are necessary in the public interest as the result of competition.” It instructs the Commission to repeal or modify any regulation it determines to be no longer in the public interest. In its first Biennial Report, issued as a result of Section 202(h) of the Telecom Act, the Commission determined that the dual network rule, as it currently exists, appeared to no longer be in the public interest. Accordingly, in compliance with the provisions of Section 202(h) of the Telecom Act, the Commission is commencing this proceeding in order to modify § 73.658(g).

## B. Legal Basis

40. This *NPRM* is adopted pursuant to sections 1, 2(a), 4(i), 303, 307, 309, 310, of the Communications Act, 47 U.S.C. 151, 152(a), 154(i), 303, 307, 309, 310, and Section 202(h) of the Telecommunications Act of 1996.

## C. Description and Estimate of the Number of Small Entities To Which the Proposed Rules Will Apply

41. The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted. The Regulatory Flexibility Act defines the term “small entity as having the same meaning as the terms “small business,” “small organization,” and “small business concern” under section 3 of the Small Business Act. A small business concern is one which: (1) Is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.

42. Pursuant to 5 U.S.C. 601(3), the statutory definition of a small business applies “unless an agency after consultation with the Office of Advocacy of the SBA and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the **Federal Register**. A “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.” Nationwide, as of 1992, there were approximately 275,801 small organizations. “Small governmental jurisdiction” generally means

“governments of cities, counties, towns, townships, villages, school districts, or special districts with a population of less than 50,000.” As of 1992, there were approximately 85,006 such jurisdictions in the United States. This number includes 38,978 counties, cities, and towns; of these, 37,566, or 96 percent, have populations of fewer than 50,000. Thus, of the 85,006 governmental entities, we estimate that 81,600 (91 percent) are small entities.

43. *Small TV Broadcast Stations*. The SBA defines small television broadcasting stations as television broadcasting stations with \$10.5 million or less in annual receipts. According to Commission staff review of the BIA Publications, Inc., Master Access Television Analyzer Database, fewer than 800 commercial TV broadcast stations (65%) subject to our proposal have revenues of less than \$10.5 million dollars. We note, however, that under SBA’s definition, revenues of affiliates that are not television stations should be aggregated with the television station revenues in determining whether a concern is small. Therefore, our estimate may overstate the number of small entities since the revenue figure on which it is based does not include or aggregate revenues from non-television affiliated companies. It would appear that there would be no more than 800 entities affected.

## D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

44. Currently, § 73.3613 of the Commission’s rules requires TV broadcast licensees to file network affiliation contracts. The *NPRM* proposes no change to that requirement or any new recordkeeping or other compliance requirements.

## E. Significant Alternatives Considered Steps Taken To Minimize Significant Impact on Small Entities, and Significant Alternatives Considered

45. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives: (1) The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.

46. As indicated above, the *NPRM* proposes to allow licensees to affiliate with a network entity that maintains two or more networks unless such multiple networks consist of more than one of the “big four” networks (NBC, ABC, CBS and Fox). This would eliminate the bar on affiliation with an entity that maintains one of the “big four” networks and the UPN and/or WB networks. All significant alternatives, *i.e.*, retention of the existing rule, modification of the existing rule, and elimination of the dual network rule altogether, were recently considered in the Commission’s 1998 biennial review of its broadcast ownership rules (MM Docket No. 98–35). In that proceeding the Commission tentatively determined that elimination of the subject provision would be in the public interest. The Commission considered the results of this top-to-bottom review of the subject rule in its consideration of alternatives to the course proposed herein in the instant proceeding. The proposed action will provide television licensees, including those considered to be “small businesses,” to have increased flexibility with regard to the broadcast networks with which they may affiliate.

## F. Federal Rules That May Duplicate, Overlap, or Conflict With the Proposed Rules

47. None.

48. *Initial Paperwork Reduction Act Analysis*. This *NPRM* proposes no new information collection requirements.

49. *Additional Information*. For additional information on this proceeding, please contact Roger Holberg, Policy and Rules Division, Mass Media Bureau, (202) 418–2130, or Dan Bring (202) 418–2164, (202) 418–1169 TTY.

## V. Ordering Clauses

50. Accordingly, pursuant to the authority contained in sections 1, 2(a), 4(i), 303, 307, 309, and 310 of the Communications Act, as amended, 47 U.S.C. 151, 152(a), 154(i), 303, 307, 309, and 310, and Section 202(h) of the Telecommunications Act of 1996, this *Notice of*

51. *Proposed Rulemaking is adopted*.

52. The Commission’s Consumer Information Bureau, Reference Information Center, shall send a copy of this *NPRM*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

## List of Subjects in 47 CFR Part 73

Radio, television broadcasting.



Federal Communications Commission.

**Magalie Roman Salas,**

*Secretary.*

[FR Doc. 00-16820 Filed 7-3-00; 8:45 am]

BILLING CODE 6712-01-U

## FEDERAL COMMUNICATIONS COMMISSION

### 47 CFR Part 73

[DA 00-1394; MM Docket No. 00-55; RM-9836]

#### Radio Broadcasting Services; Falconer and Fredonia, NY

**AGENCY:** Federal Communications Commission.

**ACTION:** Proposed rule; dismissal.

**SUMMARY:** The Commission, at the request of North Country Broadcasting, Inc., licensee of Station WCQA, Fredonia, NY, dismisses its petition to reallocate Channel 243A from Fredonia to Falconer, NY, and modify Station WCQA's license accordingly. See 65 FR 17618, April 4, 2000.

**FOR FURTHER INFORMATION CONTACT:** Leslie K. Shapiro, Mass Media Bureau, (202) 418-2180.

**SUPPLEMENTARY INFORMATION:** This is a synopsis of the Commission's Report and Order, MM Docket No. 00-55, adopted June 14, 2000, and released June 23, 2000. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Reference Center (Room 239), 445 12th Street, SW, Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractor, International Transcription Services, Inc., (202) 857-3800, 1231 20th Street, NW, Washington, DC 20036.

Federal Communications Commission.

**John A. Karousos,**

*Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.*

[FR Doc. 00-16868 Filed 7-3-00; 8:45 am]

BILLING CODE 6712-01-U

## FEDERAL COMMUNICATIONS COMMISSION

### 47 CFR Part 74

[MM Docket No. 00-105; FCC 00-203]

#### Broadcast Services; Radio Stations, Television Stations

**AGENCY:** Federal Communications Commission.

**ACTION:** Proposed rule.

**SUMMARY:** This document proposes to eliminate the Commission rule that prohibits an entity from controlling more than one experimental broadcast station license absent a showing of need. As a result of the preliminary determination in the Commission's biennial review proceeding that this rule is no longer necessary in the public interest as a result of competition, this document proposes to eliminate the subject provision.

**DATES:** Comments are due by September 1, 2000, and reply comments are due by October 2, 2000.

**ADDRESSES:** Federal Communications Commission, 445 12th Street, S.W., Washington, D.C. 20554

**FOR FURTHER INFORMATION CONTACT:** Roger Holberg, Mass Media Bureau, Policy and Rules Division, (202) 418-2134.

**SUPPLEMENTARY INFORMATION:** This is a synopsis of the Commission's *Notice of Proposed Rule Making (NPRM)* in MM Docket No. 00-105, FCC 00-203, adopted June 5, 2000, and released June 20, 2000. The complete text of this *NPRM* is available for inspection and copying during normal business hours in the FCC Reference Center, Room CY-A257, 445 12th Street, S.W., Washington, D.C. and may also be purchased from the Commission's copy contractor, International Transcription Service (202) 857-3800, 445 12th Street, S.W., Room CY-B402, Washington, D.C. The *NPRM* is also available on the Internet at the Commission's website: <http://www.fcc.gov>.

#### Synopsis of Notice of Proposed Rule Making

1. By this *NPRM* the Commission proposes to eliminate the multiple ownership rule for experimental broadcast stations which now provides that no entity may control more than one experimental license absent a showing of need (47 CFR 74.134). We seek comment on whether this rule remains necessary to achieve goals of competition and diversity in the broadcast market. The Commission stated in the Biennial Review *Notice of Inquiry (Notice of Inquiry, In the Matter of 1998 Biennial Regulatory Review, Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996, 13 F.C.C.R. 11276, 11293-94 (1998) (NOI))* a tentative belief that this rule has a negligible impact on these goals and sought comment on whether this rule remains necessary in the public interest. Accordingly, this *NPRM* seeks comment on the repeal of § 74.134. Commenters

advocating less than the outright repeal of the rule are encouraged to propose alternatives to the current restriction.

#### I. Background

2. The multiple ownership rule for experimental broadcast stations was adopted in 1946 and generally limited ownership to one station. In 1963 this rule was redesignated as part 74 (74.134) with no changes. In 1984 the Commission combined parts 74 A (Experimental TV), 74 B (Experimental Facility) and 74 C (Developmental Broadcast Stations) into the present subpart 74 A (Experimental Broadcast Stations) without changing the ownership limit.

3. By Section 202(h) of the Telecommunications Act of 1996 (Public Law 104-104, 110 Stat. 56 (1996)), Congress directed the Commission to review its broadcast ownership rules as part of the biennial ownership review. That section requires the Commission to review its broadcast ownership rules biennially and to determine whether any of these rules are necessary in the public interest as the result of competition. Furthermore, it requires the Commission to "repeal or modify any regulation it determines to be no longer in the public interest."

4. Subpart A of part 74 of the Commission's Rules<sup>1</sup> sets forth the rules for licensing "experimental broadcast stations," which are defined as stations "licensed for experimental or developmental transmission of radio telephony, television, facsimile, or other types of telecommunication services intended for reception and use by the general public." Experimental broadcast facilities are used to carry on "research and experimentation for the development and advancement of new broadcast technology, equipment, systems or services which are more extensive or require other modes of transmission than can be accomplished by using a licensed broadcast station under an experimental authorization." The rules governing experimental broadcast stations encourage innovation while protecting existing services from interference. Licensees are subject to operating and reporting requirements and are prohibited from using the experimental broadcast facility in a commercial manner.

5. Currently, § 74.134 states that "[n]o persons (including all persons under common control) shall control, directly or indirectly, two or more experimental broadcast stations unless a showing is made that the program of research requires a licensing of two or more separate stations." This *NPRM* proposes