

FEDERAL TRADE COMMISSION

Cigarette Testing; Request for Public Comment

AGENCY: Federal Trade Commission.

ACTION: Request for public comment on proposed revisions to the Federal Trade Commission methodology for determining tar, nicotine, and carbon monoxide yields of cigarettes, and a proposed format for disclosing the resulting ratings in advertising.

SUMMARY: The Federal Trade Commission ("FTC" or "Commission") is soliciting comments on proposed revisions to the testing method used to determine the tar, nicotine, and carbon monoxide ratings of cigarettes, and the disclosure of those test results.

DATES: Written comments must be received by November 17, 1997.

INSTRUCTIONS: Six paper copies of each written comment should be submitted to the Office of the Secretary, Federal Trade Commission, Room 159, Sixth Street and Pennsylvania Avenue, N.W., Washington, D.C. 20580. To encourage prompt and efficient review and dissemination of the comments to the public, all comments also should be submitted, if possible, in electronic form, on either a 5¼ or a 3½ inch computer diskette, with a label on the diskette stating the name of the commenter and the name and version of the word processing program used to create the document. (If possible, documents in WordPerfect 6.1 or Word 6.0, or earlier generations of these word processing programs, are preferred. Files from operating systems other than DOS or Windows should be submitted in ASCII text format to be accepted.) Submissions should be captioned: "FTC Cigarette Testing Methodology," FTC File No. P944509.

FOR FURTHER INFORMATION CONTACT: Shira D. Modell, Division of Advertising Practices, Federal Trade Commission, Sixth Street and Pennsylvania Avenue, N.W., Washington, D.C. 20580, (202) 326-3116.

SUPPLEMENTARY INFORMATION: Cigarette ratings for tar, nicotine, and carbon monoxide are determined through testing conducted pursuant to what is generally referred to as the "FTC cigarette testing methodology" or, more simply, the "FTC method"—a reference to a smoking machine testing protocol that the Commission adopted in 1967.

The Commission is seeking comment on proposed changes to that methodology. The proposed methodology would require that each cigarette variety be tested under two different sets of smoking conditions,

rather than the single set used under the current system. The revised test method would produce tar, nicotine, and carbon monoxide yields using both the current testing parameters and more intensive smoking conditions, thus producing a range of potential yields for each cigarette. In addition, the Commission is requesting comment on the feasibility of generating the upper tier of tar, nicotine, and carbon monoxide ratings through mathematical formulas, rather than actual testing on a smoking machine. The Commission is also placing on the public record two different legends that could be used in advertising to disclose the ratings and is seeking comment on the usefulness and feasibility of these potential disclosure formats. Finally, the Commission is requesting comment on alternative approaches that were considered but are not being proposed by the Commission.

I. Cigarette Testing Methodology**A. History and Purpose of the Current Test Method**

The current FTC system for tar and nicotine testing is an outgrowth of the Commission's authority to prohibit deceptive or unsubstantiated claims in advertising. See 15 U.S.C. 45. The Commission's earliest involvement in this area was in cases addressing competing tar and nicotine claims in cigarette advertising. One problem with these early claims was that the tar and nicotine numbers reported by different manufacturers were obtained using varying methodologies, and therefore were not comparable. In 1966, to provide a uniform basis for advertising claims, the Commission authorized establishment of a laboratory to analyze mainstream cigarette smoke (i.e., the smoke that is drawn through the cigarette rod during puffing), and invited public comment on what modifications, if any, should be made to the "Cambridge Filter Method" for purposes of the laboratory's procedures, and how the test results should be expressed.¹

The Commission's cigarette testing laboratory began operation in 1967.² The testing methodology adopted by the Commission called for cigarettes to be smoked by a smoking machine that was calibrated to take one puff of two seconds' duration and 35 milliliters

volume every minute. Cigarettes were to be smoked to a butt length of 23 millimeters or the length of the filter and overwrap plus 3 millimeters, whichever was longer. One hundred cigarettes of each variety were to be smoked to determine the tar and nicotine ratings.³

In 1970, the Commission proposed a trade regulation rule that would have required disclosure of tar and nicotine ratings in all cigarette advertising.⁴ The rulemaking was suspended indefinitely a short time later, when five of the major cigarette manufacturers and three small companies agreed voluntarily among themselves to disclose clearly and prominently the ratings produced by the Commission's protocol in certain types of advertising. That voluntary agreement, modified to reflect the closing of the Commission's laboratory in 1987, remains in effect today, and it forms the basis for current disclosure of tar and nicotine yield.⁵

The Commission's test method was not designed "to determine the amount of 'tar' and nicotine inhaled by any human smoker, but rather to determine the amount of tar and nicotine generated when a cigarette is smoked by a machine in accordance with the prescribed method."⁶ The purpose of the program was to provide smokers seeking to switch to lower tar cigarettes with a single, standardized measurement with which to choose among the existing brands.⁷ This goal was consistent with the then-consensus of the scientific community that lower tar and nicotine cigarettes should be less harmful than higher tar and nicotine brands.⁸

³ Testing for carbon monoxide was added to the protocol in 1980.

⁴ 35 FR 12671 (Aug. 8, 1970).

⁵ In early 1987, the Commission decided to close its cigarette testing laboratory. Since then, most of the tar, nicotine, and carbon monoxide ratings reported by the Commission are determined through testing conducted by the Tobacco Institute Testing Laboratory using the Commission's testing parameters. Thus, although some changes have been made, the modified Cambridge Filter Method adopted by the Commission in 1967 remains essentially in place today.

⁶ FTC Press Release—Statement of Considerations 2 (Aug. 1, 1967).

⁷ Indeed, since the adoption of the FTC test method, the sales-weighted average tar rating of cigarettes sold in the United States has declined from 21.6 mg. in 1968 to 12.1 mg. in 1994. Federal Trade Commission, *Tar, Nicotine and Carbon Monoxide of the Smoke of 1206 Varieties of Domestic Cigarettes for the Year 1994* Table 1 (1997).

⁸ The year before the Commission's laboratory began cigarette testing, the Public Health Service stated that "The preponderance of scientific evidence strongly suggests that the lower the tar and nicotine content of cigarette smoke, the less harmful would be the effect." U.S. Dept. of Health and Human Services, *The Health Consequences of*

¹ 31 FR 14278 (Nov. 4, 1966). The Cambridge Filter Method had been described in Ogg, *Determination of Particulate Matter and Alkaloids (as Nicotine) in Cigarette Smoke*, 47 J. Ass'n. Official Agric. Chemists 356 (1964), although the actual parameters appear to have been identified 30 years earlier by researchers for The American Tobacco Company.

² 32 FR 11178 (Aug. 1, 1967).

B. Current Concerns About the FTC Cigarette Testing Methodology

Changes in cigarette design and increased knowledge about human smoking behavior have highlighted the limitations of the existing test method. In particular, research indicates that smokers switching to cigarettes at the lower end of the range of machine measured nicotine yields tend to take larger and more frequent puffs to satisfy their need for nicotine. This compensatory smoking behavior substantially reduces the informative value of the current ratings. As a result, public and private health groups and others have questioned the usefulness of the FTC ratings over the past few years, suggesting that they may mislead consumers with respect to the relative risks of smoking cigarettes with various levels of tar and nicotine ratings.

The Commission has been especially concerned that some consumers may believe that the existing machine measured yields are literal indicators of how much tar and nicotine they will get from particular brands of cigarettes. To the extent that smokers interpret current tar and nicotine disclosures in this manner, they may fail to understand that the amount of tar and nicotine they get from a cigarette depends in part on how that cigarette is smoked. In addition, smokers—especially those who engage in compensatory smoking—may underestimate the risk associated with lower rated brands by assuming that a very low tar yield necessarily translates into a correspondingly low health risk. In fact, even the lowest rated cigarette represents an important adverse health risk.

C. National Cancer Institute Conference: Its Conclusions and Recommendations for the FTC Cigarette Testing Methodology

In July 1994, due to many of these same concerns, the Commission requested that the National Cancer Institute ("NCI") convene a consensus conference to address certain issues concerning the FTC's cigarette testing methodology and ratings system. On December 5 and 6, 1994, NCI conducted the requested conference before an Ad Hoc Committee of the President's Cancer Panel.

The Ad Hoc Committee heard presentations on such issues as changes in cigarette design over time, attitudes and beliefs about low-yield cigarettes, the relationship between tar and nicotine yields and the incidence of smoking related diseases, and smokers'

perceptions of the meaning of the ratings produced by the current test method. Before adjourning, the Ad Hoc Committee issued a summary of its conclusions and recommendations.⁹ The Committee concluded that significant changes should be made to the current FTC protocol and specifically reached the following conclusions, among others:

I. * * *

A. The smoking of cigarettes with lower *machine-measured* yields has a small effect in reducing the risk of cancer caused by smoking, no effect on the risk of cardiovascular diseases, and an uncertain effect on the risk of pulmonary disease. A reduction in *machine-measured* tar yield from 15 mg. to 1 mg. tar does not reduce relative risk from 15 to 1.

B. The FTC protocol was based on cursory observations of human smoking behavior. Actual human smoking behavior is characterized by wide variations in smoking patterns which result in wide variations in tar and nicotine exposure. Smokers who switch to lower tar and nicotine cigarettes frequently change their smoking behavior which may negate potential health benefits.

C. Accordingly, the committee recommends the following changes to the FTC protocol:

1. This system should also measure and publish information on the range of Tar, Nicotine, and Carbon Monoxide yields that most smokers should expect from each cigarette sold in the U.S.

2. This information should be clearly communicated to smokers.

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4. The system must be accompanied by public education to make smokers aware that individual exposure depends on how the cigarette is smoked and that the benefits of switching to lower yield cigarettes are small compared with quitting.

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F. The system should be re-examined at least every five years to evaluate whether the protocol is maintaining its utility to the smoker.

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II. [T]he committee recommends that in order to avoid confusing smokers, no smoke constituents other than tar, nicotine and carbon monoxide be measured and published at the present time. * * *

III. * * *

C. The available data suggest that smokers misunderstand the FTC test data. This underscores the need for an extensive public education effort.¹⁰

D. The Proposed New Method

Consistent with the Ad Hoc Committee's conclusion that a ratings

⁹The proceedings of that conference have been published by the National Institutes of Health. *Smoking and Tobacco Control Monograph 7—The FTC Cigarette Test Method for Determining Tar, Nicotine, and Carbon Monoxide Yields of U.S. Cigarettes: Report of the NCI Expert Committee* (1996) ("NCI Monograph").

¹⁰NCI Monograph at vi–viii.

range would provide superior information to consumers than the unitary ratings generated by the current test method, the Commission seeks comment on a proposal to replace the existing FTC cigarette test method with a system that would provide information on the tar, nicotine, and carbon monoxide yields obtained under two different smoking conditions. As with the current system, these ratings would not be intended to convey to any individual smoker what he or she would get from any particular cigarette. Instead, they would be intended to convey: (1) That a cigarette's yield depends on how it is smoked; and (2) a range of yields for individual cigarettes smoked under less intensive and more intensive smoking conditions. In addition, the Commission intends to accompany the revised testing methodology with a consumer education campaign.

1. Proposed Testing Parameters for the New Test Method

The Commission is proposing the following modifications to its cigarette testing methodology:

(1) All current procedures for the collection, storage, and conditioning of cigarettes would remain in place, except that the 100 cigarettes selected for testing would be randomly divided into two groups of 50 cigarettes each;

(2) 50 cigarettes of each variety would be tested under the conditions called for by the current FTC test method (*i.e.*, a 2.0 second, 35 milliliter puff every 60 seconds);

(3) 50 cigarettes of each variety would be tested under conditions identical to those currently used, except that smoking machines would be calibrated to take a puff of 2.0 seconds duration and 55 milliliters volume every 30 seconds.

The puffing parameters used in the current test method would be retained as the less intensive of the two testing conditions. Retaining these parameters would preserve the historical continuity of the existing test method, and thus permit long term trends in ratings to be identified. Furthermore, because they reflect relatively low intensity smoking, at least for most of today's cigarettes,¹¹ they should—when coupled with

¹¹The Surgeon General's 1988 report reviewed 33 smoking studies, determined the average puffing parameters observed in each study and then determined the medians of those averages: a 1.8 second, 43 milliliter puff every 28 seconds. U.S. Dept. of Health and Human Services, *The Health Consequences of Smoking: Nicotine Addiction* 156–57 (1988). The average puff volume seen in those surveys ranged from 21 milliliters to 66 milliliters; the average interpuff interval ranged from 18 to 64 seconds. See also NCI Monograph at 154 (Table 1).

additional ratings reflecting testing under more intensive smoking conditions—provide consumers meaningful information about the potential variability of their own tar and nicotine exposure.

The Commission and its staff considered whether the smoking conditions that would be used to generate the ratings at the upper end of the range should reflect the median puffing parameters identified in the Surgeon General's 1988 report. The Commission is proposing, however, that insofar as its goal is to provide meaningful information about the "yields most smokers should expect," (see *NCI Monograph* at vii), the upper tier ratings should be determined using puffing parameters substantially more intensive than the "average" smoking conditions identified by the Surgeon General; a revised cigarette test method that had as its upper endpoint ratings produced by using the parameters identified in the Surgeon General's report would be skewed too low.

At the same time, the Commission does not believe the upper tier of its proposed two-tier test method needs to incorporate puffing conditions designed to produced the maximum yield possible from individual cigarettes, in order to inform consumers about the importance of their own smoking behavior in influencing what they get from their cigarettes. Even if some smokers might take even deeper and more frequent puffs than those reflected in the Commission's proposed upper tier smoking conditions (*i.e.*, a 2 second, 55 milliliter puff every 30 seconds), the dual ratings produced by the revised test method will still effectively communicate the impact of a smoker's own behavior in determining what he or she gets from any given cigarette.

The primary objective of the proposed parameters is to provide smokers with a strong message that the amount of tar and nicotine they get from a particular cigarette is not fixed, but rather can vary greatly according to the way they smoke. Coupled with an appropriate legend in advertising and public education, the new system is intended to alert smokers to the phenomenon of compensatory smoking and to reinforce the message that smoking even the lowest rated cigarettes poses a significant health risk.

2. Communication of Ratings Through Advertising

The Commission is also seeking comment on ways to improve the communication to consumers of tar and nicotine ratings, as well as the importance of individual smoking

behavior. The Commission is also publishing two alternative disclosures for cigarette advertising (see Attachments A and B). Each would set out the ratings produced by the Commission's proposed new test method; the disclosures differ in the additional information they provide consumers about the importance of their own smoking behavior.¹² The Commission seeks comment on the merits of these two alternative disclosures, as well as comment on any other statements that commenters might deem appropriate for communication of this information.

3. Carbon Monoxide Ratings

The proposed disclosures do not include carbon monoxide ratings. The carbon monoxide ratings produced by the revised test method would continue to be published in the Commission's tar and nicotine report, however, and would be included in smoker education efforts. The Commission solicits comment on whether tar and nicotine ratings can serve as proxies for carbon monoxide ratings.

4. Use of "Multipliers" To Generate the Upper-Tier Ratings

An alternative to actual cigarette testing under the upper-tier parameters would be to approximate the ratings that would be produced under those new conditions by use of mathematical models or "multipliers." The four largest cigarette manufacturers (Philip Morris Incorporated, R.J. Reynolds Tobacco Company, Brown & Williamson Tobacco Corporation, and Lorillard Tobacco Company) have done exploratory testing of a number of cigarette varieties using the Commission's proposed upper-tier smoking parameters, have plotted the resulting tar, nicotine, and carbon monoxide yields against the yields obtained for the same cigarettes using the current FTC method, and have computed quadratic equations that they believe define the resulting curves. A report summarizing this work is being placed on the public record.¹³

Based on its review of the report, the Commission believes that the equations proposed by the companies produce results that closely approximate the results of actually testing cigarettes

¹² The Commission is focusing at this time primarily on the contents of the disclosure, and not specifically on such questions as what types of advertising it should be included in and what size it should be in those advertising media.

¹³ The report is entitled *An Experiment to Determine the General Relationship Between Cigarette Smoke Yields using an Alternative Puffing Regimen (55/30/2) and the Standard FTC Method* (June 23, 1997).

under the new upper-tier parameters. Accordingly, the Commission proposes that the companies be permitted to use these equations to calculate the tar, nicotine, and carbon monoxide yields that otherwise would be obtained by testing under the new method. The Commission solicits comment on this issue.

5. Alternative Approaches That Were Considered

Under the Commission's proposed test method, all cigarettes are tested at the same puff intensities, even though smokers of lower rated cigarettes tend to smoke more intensively than smokers of higher rated brands and may engage in other behavior, such as filter vent blocking, that increases tar and nicotine yields. The Commission considered incorporating compensatory smoking behavior into its proposed protocol for the upper-tier by varying the puff parameters according to the type of cigarette being tested. Such a plan would use higher puffing parameters for lower tar cigarettes and lower puffing parameters for higher tar cigarettes. As a result, rating ranges would be proportionally larger for lower tar cigarettes, reflecting the effect of compensatory smoking. The Commission decided not to propose this approach at the present time.¹⁴ Existing research on smoking behavior may not be sufficiently detailed to provide an adequate basis for specifying different puff parameters for different groups of cigarettes. In addition, using different puff parameters for different groups of cigarettes could artificially distort the rankings of brands near the dividing line between those groups.¹⁵

The Commission also considered including some degree of ventilation hole blocking in its new, more intensive smoking conditions, but decided not to do so at this time.¹⁶ Instead, the

¹⁴ The Commission also considered using the possibility of using a mathematical equation based on the pattern and magnitude of compensatory smoking behavior to approximate the effect of compensatory smoking on tar and nicotine yields.

¹⁵ For example, if brands are assigned to different upper-tier puff parameters based on their ratings under the current test method, a brand just below the dividing line would be tested under more intensive upper-tier parameters than a brand just above that line. Use of the more intensive parameters could boost the upper-tier ratings of the first brand substantially higher than those of the second brand (even though their ratings under the current test method are nearly the same).

¹⁶ Aeration holes in the filters of many brands reduce their ratings for tar, nicotine, and carbon monoxide by diluting the smoke with air before it reaches the smoking machine. Blocking these holes (which can be invisible) prevents dilution, and can greatly increase the yields of those smoke constituents. Research suggests that a significant number of smokers of ventilated "low tar" and

Commission intends to implement a consumer education program to inform smokers of the presence and function of aeration holes, the importance of not blocking them, and the magnitude of the effect that blocking them can have on exposure to harmful smoke constituents.¹⁷

Finally, the Commission considered keeping the current unitary rating system and adding disclosures warning smokers that the amount of tar and nicotine they get will vary depending on how a cigarette is smoked. This plan has the advantage of avoiding the costs and complexities involved in moving to a two-tier system. It would emphasize the artificial nature of the smoking machine measurements and the fact that ratings produced by machines do not indicate what smokers actually get from their cigarettes. The advertising disclosure, along with appropriate education efforts, could potentially inform smokers about compensation and ways to avoid it. The Commission believes, however, that unitary ratings will be less effective than a range of ratings in communicating to smokers the variability in potential smoke ingestion.

The Commission is seeking comment on the desirability and feasibility of these alternative approaches to revising the test method.

6. The Industry's Recent Agreement With the State Attorneys General

In June 1997, a proposed agreement between the four largest U.S. cigarette manufacturers and the Attorneys General of forty states was announced. The agreement contemplates that if Congress passes and the President signs legislation reflecting the terms of the agreement, responsibility for cigarette testing will be transferred from the Commission to the Food and Drug Administration ("FDA"). If FDA ultimately does receive the statutory authorization contemplated in the agreement, the agency would need time to review this area and promulgate rules setting forth its test method. In the interim, the Commission believes that it is important to improve the existing method, and that, in the confines of a voluntary system, the actions proposed in this notice are responsive to many of the concerns about the limitations of that method. The cigarette

manufacturers' use of an improved advertising disclosure and accompanying consumer education efforts should advance consumer understanding about the important issue of compensatory smoking. Moreover, experience under the revised system will provide a basis for evaluating possible future changes to the system.

7. Conclusion

The Commission believes that the proposed changes can be implemented quickly by the industry within the existing voluntary system significantly in advance of other possible approaches, and these changes address many of the problems identified in the NCI Monograph.

Whatever changes are adopted, the Commission intends to review its test method every five years to assess the operation of the system and determine whether further changes to that method and/or the disclosure format are appropriate. The Commission encourages research that would provide additional data in all of the areas addressed by these revisions.

E. Request for Comments and Responses to Specific Questions

The Commission is seeking comment on the revisions to its current testing methodology proposed above. The Commission is also seeking comments on the following specific questions and on any other issues relevant to the potential modification of the testing methodology:

1. The Proposed New Testing Methodology

a. What effect, if any, are the dual ratings that would be provided by the Commission's proposed two-tier test method likely to have on consumers' purchases of cigarettes and/or their smoking behavior? Will this information affect smoking intensity, brand choice, and/or the decision whether to quit smoking, and if so, how?

b. If the proposal for testing all cigarettes under the same two sets of parameters is adopted, and if the parameters incorporated in the Commission's test method are intended to produce yields covering the range likely to be experienced by most smokers, are the proposed parameters appropriate? Why or why not? If not, what parameters would be more appropriate and why?

c. Should the butt length specified in the current FTC test method—that cigarettes be smoked to a length of 23 millimeters or to 3 millimeters beyond the filter and overwrap, whichever is longer—be changed? Is there evidence

that smokers smoke more than 3 millimeters beyond the end of the overwrap? If so, what is the effect of that behavior in terms of the number of puffs they get from their cigarette?

d. What effect, if any, would reducing the sample size from 100 to 50 cigarettes, as proposed, have on both the reliability and the replicability of the machine yield estimates? If there is an effect on reliability, does the fact that consumers would be given dual ratings, rather than a unitary rating, lessen the importance of that reduction?

e. Can the machines presently used to smoke cigarettes pursuant to the FTC test method operate under the parameters in the Commission's proposed new protocol? If not, could they be modified to operate under those parameters or would new machines have to be purchased? What testing would be necessary to ensure the validity of the proposed modifications to the test method—that is, to ensure that the revised protocol will produce highly reliable and replicable results? How long would such validation take?

f. Could the ratings for the upper tier of the revised test method be obtained from mathematical equations or "multipliers"? Why or why not? Would the continuing validity of the equations have to be reconfirmed periodically through actual machine smoking and, if so, how often?

g. Should the cigarette manufacturers be permitted to use the mathematical equations they submitted to the Commission to calculate the ratings that would be produced by testing under the proposed upper-tier parameters? Why or why not? If the industry is permitted to use such mathematical equations, should it continue to use 100 cigarettes, rather than 50, to determine the lower-tier ratings? Why or why not?

h. How much would the proposed two-tier testing system cost the cigarette industry to implement as compared to the current system? How much would the proposed two-tier testing system cost the cigarette industry to implement if 100 cigarettes, rather than 50, were smoked under each test condition? How much would the proposed revisions to the test method cost the industry to implement if mathematical equations were used to generate the upper-tier ratings?

2. Alternative Options for Revising the Test Method

a. Should the upper tier of the two-tier test method reflect the tendencies of smokers of lower rated and heavily aerated (*i.e.*, vented) cigarettes to smoke more intensively (by taking more puffs, bigger puffs, etc.) or to block some or all

¹⁷ "ultra low tar" cigarettes block some aeration holes some of the time.

¹⁷ Research also shows that many smokers are unaware either of the existence of the vents or of the fact that vent blocking increases tar yield. See Kozlowski, *Smokers are Unaware of the Filter Vents Now on Most Cigarettes: Results of a National Survey*, Tobacco Control (forthcoming 1997). Thus, consumer education could also address this lack of knowledge.

of the ventilation holes while smoking? If so, how should the test protocol be modified in order to obtain tar and nicotine ratings that would accurately reflect the effect of these and other forms of compensatory smoking behavior? Would ratings generated by such a test protocol affect smoking intensity, brand choice, and/or the decision whether to quit smoking, and if so, how?

b. Could compensatory smoking behavior be incorporated into the test by using different test parameters for different groups of cigarettes (*i.e.* higher test parameters for lower rated cigarettes and lower test parameters for higher rated cigarettes)? If so, how many different groups of cigarettes should there be, and what parameters should be applied to each group? Where should the line(s) separating the groups be drawn? Would using different sets of parameters overemphasize differences in yields between brands on either side of the dividing line(s)? Would it cause cigarettes on either side of the dividing line(s) to "switch rankings" with respect to their upper tier ratings? If so, do these potential outcomes make the use of different parameters for different cigarettes undesirable?

c. Could the effect of compensatory smoking behavior be incorporated into the test by blocking some or all of the aeration vents during testing? What does the available evidence demonstrate about the prevalence of vent blocking and about the percentage of vents that are blocked by those smokers who do engage in vent blocking? What effect, if any, does vent blocking have on smokers' puff frequency, puff volume, and puff duration? If vent blocking were to be included in the upper tier of testing, how should that blocking be accomplished? If vent blocking were used to generate upper-tier tar and nicotine yields, would this lead cigarette companies to switch from filter aeration to some other method of creating lower yield cigarettes? If so, what would be the effect on the relevance of the upper-tier yields?

d. Could the effects of compensatory smoking behavior be incorporated into mathematical equations or multipliers that could be applied to the current FTC ratings to calculate "compensation-adjusted" ratings? Do existing studies of smoking behavior provide a sufficient basis to create an equation or set of multipliers that could be used to approximate the compensation effect? How closely could equations approximate the compensation effect? What degree of accuracy is necessary? Would an approximation be acceptable? Can existing studies measuring nicotine

intake of smokers be used to make inferences about tar intake, or is the effect of compensation behavior likely to be different for tar and nicotine?

3. Advertising Disclosures and Consumer Education

a. Is the language of either of the proposed disclosures for cigarette advertising (Attachments A and B) likely to communicate effectively to consumers that their tar and nicotine intake from a cigarette will vary depending on how they smoke it?

b. Are the proposed disclosures likely to be more effective in conveying useful information to consumers than current advertising disclosures? What changes, if any, should be made to either the content (including the specific words used) or the layout of either of the disclosures? Are there other disclosure formats that would be more effective?

c. What effect, if any, is either of the proposed disclosures likely to have on consumers' purchases of cigarettes and/or their smoking behavior? Is there reason to believe this information will affect smoking intensity, brand choice, and/or the decision whether to quit smoking, and if so, how?

d. The proposed disclosures do not contain information regarding carbon monoxide ratings. Should information regarding carbon monoxide ratings be included in any disclosure format that is adopted? Why or why not? If such information is provided, how should it be done? How closely do carbon monoxide ratings obtained in smoking machine tests correlate with tar and nicotine ratings?

e. Should the disclosures include information concerning the ratio of the cigarette's tar and nicotine ratings? Would these ratios provide useful information to smokers?

f. Would it be necessary to require that the disclosures be printed in black text on a white background, or would it be sufficient to retain the standard embodied in the cigarette manufacturers' 1970 agreement—that is, that the disclosure be clear and prominent?

g. What kinds of disclosures and public education efforts should be undertaken to inform smokers about compensatory smoking? What evidence exists on the likelihood that smokers will change their behavior when advised of compensatory smoking techniques and how to avoid them? Can graphic techniques used by researchers to measure compensatory smoking (*e.g.*, color and stain pattern matching) be used by consumers to evaluate the extent of their own compensatory smoking?

h. What kinds of consumer education messages should be created to inform smokers of the presence of filter vents and of the importance of not blocking them with their fingers or lips?

i. What other kinds of consumer education messages should accompany the Commission's revision of the cigarette test method?

j. How would the proposed new testing method and each of the various alternative methods that were considered likely complement or detract from possible consumer education initiatives?

4. Other Possible Policy Options

a. Rather than move to a two-tier test method, would it be preferable to continue to test cigarettes under a single protocol and use consumer education and an advertising disclosure to inform consumers what the ratings do and do not represent, and that what smokers get from any particular cigarette depends in large part on how they smoke it? If so, should cigarettes continue to be tested under a protocol that uses a 2 second, 35 milliliter puff every minute, or should different smoking parameters be used? What form should such consumer education take (*e.g.*, informational materials at the point of purchase) and what should it say?

b. Rather than move to a two-tier test method, would it be preferable to drop all FTC approval of the tar and nicotine testing system? Are all potential ratings so inherently flawed and misleading, and the possibilities for improving the system so unlikely to succeed, that use of any numerical tar and nicotine ratings should be ended? Would such a change affect smoking intensity, brand choice, and/or the decision whether to quit smoking, and if so, how?

c. Should the cigarette test method attempt to measure or otherwise account for the bioavailability of the nicotine in different cigarettes? If so, how should it do so? Is the alkalinity of the nicotine a surrogate for bioavailability? Is there a mathematical model by which bioavailability can be computed from nicotine yield, alkalinity, and other information?

d. If the effect of compensatory smoking behavior is not incorporated in the tar and nicotine ratings, should a disclosure warning smokers about compensatory smoking behavior be required in all ads? Would such a disclosure likely be effective in reinforcing the consumer education efforts?

5. Other Issues

a. What available evidence exists concerning how consumers view

cigarettes with relatively low tar and nicotine ratings and their perception of the relative risks of smoking such cigarettes rather than full flavor cigarettes?

b. Do the biological markers used to estimate nicotine ingestion in human smoking studies provide adequate estimates of likely tar ingestion? If not, what other evidence can be used to predict tar intake?

c. Earlier this year, the National Institutes of Health issued *Smoking and Tobacco Control Monograph 8—Changes in Cigarette-Related Disease and Their Implication for Prevention and Control*. The Monograph, which presents the results of three large new epidemiological studies and additional follow-up data for two older studies from the 1950's, notes (pp. ix-x) that:

When observations from the more contemporary studies are compared with those from the 1950's, one important but disturbing conclusion is apparent—mortality risks among continuing smokers, both males and females, have increased.

What effect, if any, do the findings reported in this Monograph have on the Ad Hoc Committee's conclusion that the smoking of "cigarettes with lower machine-measured yields has a small effect in reducing the risk of cancer caused by smoking"?

II. Cigarette Descriptors

Cigarette manufacturers use a number of descriptive terms (such as "low tar,"

"light," "medium," "extra light," "ultra light," "ultra low," and "ultima") in advertising and labeling information about their cigarettes. The Ad Hoc Committee of the President's Cancer Panel concluded that "[b]rand names and brand classifications such as "light" and "ultra light" represent health claims and should be regulated and accompanied, in fair balance, with an appropriate disclaimer."

There are no official definitions for these terms but they appear to be used by the industry to reflect ranges of FTC tar ratings. Generally, the term "low tar" is used to mean tar ratings of 7 to 15 milligrams, and the term "ultra low tar" is used to mean tar ratings of 6 milligrams or less. The Commission is beginning the process of examining these questions by seeking comment on the following issues:

1. Is there a need for official guidance with respect to the terms used in marketing lower rated cigarettes? If yes, why? If no, why not?

2. What data, evidence or other relevant information on consumer interpretation and understanding of terms such as "ultra low tar," "ultra light," "low tar," "light," "medium," "extra light" and "ultima," as used in the context of cigarettes exists? Do consumers believe they will get significantly less tar from cigarettes described as "light" or "low tar" than from regular or full flavor cigarettes, and do they believe they will get

significantly less tar from cigarettes described as "ultra low tar" or "ultra light" than from "light" or "low tar" cigarettes? Do the descriptors convey implied health claims?

3. Do consumers use descriptors, rather than the FTC tar and nicotine ratings, as their primary source of information about the tar and nicotine yields of different cigarette brands? What data or evidence examines this question? If consumers use descriptors as their primary source of information about tar and nicotine yields, what implications does this have for the proposed revisions to the test method and the advertising disclosure?

By direction of the Commission.

Donald S. Clark,
Secretary.

Attachment A

There's no such thing as a safe smoke. Even cigarettes with low ratings can give you high amounts of tar and nicotine. It depends on how you smoke.
2 mg.-6 mg. tar, 0.2 mg.-0.6 mg nicotine per cigarette by FTC method.

Attachment B

2 mg.-6 mg. tar, 0.2 mg. -0.6 mg. nicotine per cigarette by FTC method

How much tar and nicotine you get from a cigarette depends on how intensely you smoke it.

[FR Doc. 97-24246 Filed 9-11-97; 8:45 am]

BILLING CODE 6750-01-P