

Technical Project Lead (TPL) Review: SE0015500-SE0015503

SE0015500: L&M Turkish Blend Box	
Package Type	Hard Pack
Package Quantity	20 Cigarettes
Length	83 millimeters (mm)
Diameter ¹	7.89 mm
Ventilation	23%
Characterizing Flavor	None
SE0015501: Virginia Slims Box	
Package Type	Hard Pack
Package Quantity	20 Cigarettes
Length	98 mm
Diameter ¹	7.32 mm
Ventilation	23%
Characterizing Flavor	None
SE0015502: Marlboro Menthol Slate Box	
Package Type	Hard Pack
Package Quantity	20 Cigarettes
Length	83 mm
Diameter ¹	7.89 mm
Ventilation	23%
Characterizing Flavor	Menthol
SE0015503: Benson & Hedges 100's Menthol Box	
Package Type	Hard Pack
Package Quantity	20 Cigarettes
Length	98 mm
Diameter ¹	7.89 mm
Ventilation	26%
Characterizing Flavor	Menthol
Common Attributes of SE Reports	
Applicant	Philip Morris USA Inc.
Report Type	Regular
Product Category	Cigarette
Product Sub-Category	Combusted, Filtered
Recommendation	
Issue Substantially Equivalent (SE) orders.	

¹ The applicant submitted the circumference which allowed for a calculation of diameter.

Technical Project Lead (TPL):

Digitally signed by Jeannie H. Jeong-im -S
Date: 2020.05.12 11:01:11 -04'00'

Jeannie Jeong-Im, Ph.D.
Chemistry Branch Chief
Division of Product Science

Signatory Decision:

- Concur with TPL recommendation and basis of recommendation
- Concur with TPL recommendation with additional comments (see separate memo)
- Do not concur with TPL recommendation (see separate memo)

Digitally signed by Matthew R. Holman -S
Date: 2020.05.12 12:18:36 -04'00'

Matthew R. Holman, Ph.D.
Director
Office of Science

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1. BACKGROUND

1.1. PREDICATE TOBACCO PRODUCTS

The applicant submitted the following predicate tobacco products:

SE0015500: L&M Turkish Blend Box	
Product Name	L&M Turkish Blend Box
Package Type	Hard Pack
Package Quantity	20 Cigarettes
Length	83 mm
Diameter ¹	7.89 mm
Ventilation	23%
Characterizing Flavor	None
SE0015501: Virginia Slims Box	
Product Name	Virginia Slims 100's Box
Package Type	Hard Pack
Package Quantity	20 Cigarettes
Length	98 mm
Diameter ¹	7.32 mm
Ventilation	23%
Characterizing Flavor	None
SE0015502: Marlboro Menthol Slate Box	
Product Name	Marlboro Menthol Slate Box
Package Type	Hard Pack
Package Quantity	20 Cigarettes
Length	83 mm
Diameter ¹	7.89 mm
Ventilation	23%
Characterizing Flavor	Menthol
SE0015503: Benson & Hedges 100's Menthol Box	
Product Name	Benson & Hedges 100's Menthol Box
Package Type	Hard Pack
Package Quantity	20 Cigarettes
Length	98 mm
Diameter ¹	7.89 mm
Ventilation	26%
Characterizing Flavor	Menthol

The predicate tobacco products are combusted, filtered cigarettes manufactured by the applicant.

1.2. REGULATORY ACTIVITY RELATED TO THIS REVIEW

On September 19, 2019, FDA received four SE Reports from Altria Client Services LLC on behalf of Philip Morris USA Inc. On September 20, 2020, FDA received an amendment (SE0015511) containing clarification of the characterizing flavor requested in the teleconference dated September 20, 2020 for SE0015502. On October 3, 2019, FDA issued an Acceptance letter. On December 17, 2019, FDA issued a Deficiency letter to the applicant. On February 20, 2020, FDA received the response (SE0015719) to the Deficiency letter.

Product Name	SE Report	Amendments
L&M Turkish Blend Box	SE0015500	SE0015719
Virginia Slims Box	SE0015501	SE0015719
Marlboro Menthol Slate Box	SE0015502	SE0015511 SE0015719
Benson & Hedges 100's Menthol Box	SE0015503	SE0015719

1.3. SCOPE OF REVIEW

This review captures all regulatory, compliance, and scientific reviews completed for these SE Reports.

2. REGULATORY REVIEW

Regulatory reviews were completed by Grace Kaiyuan on October 3, 2019.

The reviews conclude that the SE Reports are administratively complete.

3. COMPLIANCE REVIEW

The Office of Compliance and Enforcement (OCE) completed reviews to determine whether the applicant established that the predicate tobacco products in SE0015501 and SE0015503 are grandfathered products (i.e., were commercially marketed in the United States other than exclusively in test markets as of February 15, 2007). The OCE reviews dated October 22, 2019, conclude that the evidence submitted by the applicant is adequate to demonstrate that the predicate tobacco products are grandfathered and; therefore, are eligible predicate tobacco products.

The predicate tobacco products in SE0015500 and SE0015502 were determined to be substantially equivalent by FDA under SE0014914 and SE0014859, respectively. Therefore, these products are eligible predicate tobacco products.

OCE also completed a review to determine whether the new tobacco products are in compliance with the Federal Food, Drug, and Cosmetic Act (FD&C Act) (see section 910(a)(2)(A)(i)(II) of the FD&C Act). The OCE review dated April 24, 2020 concludes that the new tobacco products are in compliance with the FD&C Act.

4. SCIENTIFIC REVIEW

Scientific reviews were completed by the Office of Science (OS) for the following disciplines:

4.1. CHEMISTRY

Chemistry reviews were completed by Jason Hsieh on November 18, 2019, and April 1, 2020.

The final chemistry review concludes that the new tobacco products have different characteristics related to chemistry compared to the corresponding predicate tobacco products, but the differences do not cause the new tobacco products to raise different questions of public health. The review identified the following differences:

- Cigarette Seam Adhesive
 - Higher (b) (4) (911 – 918%, (b) (4) mg/cigarette (cig))
 - Higher (b) (4) (3,233%, (b) (4) mg/cig)
 - Removal of (b) (4) mg/cig)
- Defoamer
 - Higher (b) (4) (100%, (b) (4) mg/cig)
 - Addition of (b) (4) mg/cig)
 - Addition of (b) (4) mg/cig)
 - Removal of (b) (4) mg/cig)
- Filter Seam Adhesive
 - Higher (b) (4) with (b) (4) (4%, (b) (4) mg/cig)
 - Higher (b) (4) (13%, (b) (4) mg/cig)
 - Higher (b) (4) (125%, (b) (4) mg/cig)
 - Removal of (b) (4) mg/cig)
- Tipping Adhesive
 - Addition of (b) (4) mg/cig)
- Harmful and Potentially Harmful Constituents (HPHCs) were found to be not analytically equivalent via TOST:²
 - Formaldehyde (↓ 29% under ISO condition in SE0015501 and ↑ 15% under ISO condition in SE0015502)

The applicant certified that the characteristics of the new and corresponding predicate tobacco products are identical in materials, ingredients, design features, heating source, or any other feature of the new product, except for the non-tobacco ingredients such as cigarette seam adhesive, defoamer, filter seam adhesive, and tipping adhesive. For the components that are different, the applicant provided ingredient information, including names, CAS numbers, and quantities. The functionality of the (b) (4) added to the new products

² Two One-Sided T-test (TOST) is a statistical tool that calculates important analytical differences (IADs) using the Horwitz-Thompson equation.

is the same as the (b) (4) removed from the corresponding predicate products; therefore, these differences in adhesives do not cause the new products to raise different questions of public health. Although there were other ingredient differences in new and corresponding tobacco products, the differences do not differ by more than 5% in quantity, and the ingredient differences were lower than 1.0 mg/cigarette. These differences do not cause new products to raise different questions of public health. The applicant provided smoke data under ISO and CI smoking regimens for: tar, nicotine, carbon monoxide, acetaldehyde, acrolein, acrylonitrile, ammonia, benzene, benzo[a]pyrene, 1,3-butadiene, crotonaldehyde, formaldehyde, isoprene, NNN, NNK, and toluene. All HPHCs were determined to be analytical equivalent except formaldehyde in the new products of SE0015501 and SE0015502, which have been deferred to Toxicology for further evaluation. The applicant demonstrated that the methods used were precise, accurate, and selective for the quantification of HPHCs. Therefore, the differences in characteristics between the new and corresponding predicate tobacco products do not cause the new tobacco products to raise different questions of public health from a chemistry perspective.

4.2. TOXICOLOGY

A toxicology review was completed by Theresa Thekkudan on November 22, 2019.

The toxicology review did not identify any differences in characteristics between the new and corresponding predicate tobacco products that could cause the new tobacco products to raise different questions of public health from a toxicology perspective. However, chemistry deferred the 29% decrease in formaldehyde under ISO condition in SE0015501 and 15% increase in formaldehyde under ISO condition in SE0015502. The decrease in formaldehyde does not raise different questions. In SE0015502, formaldehyde is analytically inequivalent and increased via ISO regimen (↑15%). However, acrolein and acetaldehyde are analytically equivalent in the new and predicate products. Therefore, the differences in characteristics between the new and corresponding predicate tobacco products do not cause the new tobacco products to raise different questions of public health related to product toxicology.

5. ENVIRONMENTAL DECISION

Environmental reviews were completed by Shannon Hanna on October 31, 2019³ and March 25, 2020.

A finding of no significant impact (FONSI) was signed by Kimberly Benson, Ph.D. on April 15, 2020. The FONSI was supported by an environmental assessment prepared by FDA on April 15, 2020.

6. CONCLUSION AND RECOMMENDATION

The following are the key differences in characteristics between the new and corresponding predicate tobacco products:

- Cigarette Seam Adhesive

³ Addendum on November 13, 2019 by Shannon Hanna to resolve manufacturing facility's violation of Resource Conservation Recovery Act.

- Higher (b) (4) (3,233%, (b) (4) mg/cig)
- Removal of (b) (4) mg/cig)
- Defoamer
 - Higher (b) (4) (100%, (b) (4) mg/cig);
 - Addition of (b) (4) mg/cig)
 - Removal of (b) (4) mg/cig)
- Filter Seam Adhesive
 - Higher (b) (4) (4%, (b) (4) mg/cig)
 - Higher (b) (4) (13%, (b) (4)
 - Removal of (b) (4) mg/cig)
- HPHCs:
 - Formaldehyde (↑ 15% under ISO condition in SE0015502)

The applicant has demonstrated that these differences in characteristics do not cause the new tobacco products to raise different questions of public health. Although there are ingredient differences in new and corresponding predicate tobacco product in the cigarette seam adhesive, defoamer, filter seam adhesive, and tipping adhesive, the ingredient differences were generally lower than 1.0 mg/cigarette. Also, the applicant provided smoke data under ISO and CI smoking regimens for: tar, nicotine, carbon monoxide, acetaldehyde, acrolein, acrylonitrile, ammonia, benzene, benzo[a]pyrene, 1,3-butadiene, crotonaldehyde, formaldehyde, isoprene, NNN, NNK, and toluene. All HPHCs were determined to be analytical equivalent or lower except for formaldehyde in the new tobacco product of SE0015502 (ISO, 15% increase). Acrolein and acetaldehyde are analytically equivalent in the new and predicate tobacco products and based on the totality of the HPHC data, the increase in formaldehyde ISO yields does not cause the new tobacco product to raise different questions of public health. Therefore, the differences in characteristics between the new and corresponding predicate products do not cause the new tobacco products to raise different questions of public health.

The predicate tobacco products of SE0015501 and SE0015503 meet statutory requirements because it was determined that they are grandfathered products (i.e., were commercially marketed in the United States other than exclusively in test markets as of February 15, 2007). The predicate tobacco products of SE0015500 and SE0015502 were previously determined to be substantially equivalent by FDA under SE0014914 and SE0014859, respectively.

Where an applicant supports a showing of SE by comparing the new tobacco product to a tobacco product that FDA previously found SE, in order to issue an SE order, FDA must find that the new tobacco product is substantially equivalent to a tobacco product commercially marketed in the United States as of February 15, 2007 (see section 910(a)(2)(A)(i)(I) of the FD&C Act).

The predicate tobacco products in SE0015500 and SE0015502 were previously determined to be substantially equivalent by FDA under SE0014914 and SE0014859, respectively. Comparison of the new tobacco products to the grandfathered products (Players Kings Box in SE0014914 and Players Kings Menthol Box in SE0014859) reveals that the new tobacco products have the following

differences in characteristics from Players Kings Box and Players Kings Menthol Box, the grandfathered tobacco products:

- Cigarette Seam Adhesive
 - Higher (b) (4) (3,233% (b) (4) mg/cig)
 - Removal of (b) (4) mg/cig)
- Defoamer
 - Higher (b) (4) (100%, (b) (4) mg/cig);
 - Addition of (b) (4) mg/cig)
 - Removal of (b) (4) mg/cig)
- Filter Seam Adhesive
 - Higher (b) (4) (4%, (b) (4) mg/cig)
 - Higher (b) (4) (13%, (b) (4) mg/cig); higher (b) (4) (125%, (b) (4) mg/cig)
 - Removal of (b) (4) mg/cig)
- Tipping Adhesive
 - Addition of (b) (4) mg/cig)

The differences in characteristics listed above, other than the differences in tipping adhesive, are the same differences in characteristics identified for the new and grandfathered tobacco products in SE0015500 and SE0015502. Therefore, these differences do not cause the new tobacco products in SE0015500 and SE0015502 to raise different questions of public health. Additionally, for the same reasons as discussed above, the differences in cigarette seam adhesive, defoamer, filter seam adhesive, and tipping adhesive between the new tobacco products in SE0015500 and SE0015502 and the grandfathered tobacco products do not cause the new tobacco products to raise different questions of public health. Therefore, whether comparing the new tobacco products in SE0015500 and SE0015502 to the predicate of grandfathered tobacco products, the new tobacco products do not raise different questions of public health.

The new tobacco products are currently in compliance with the FD&C Act. In addition, all of the scientific reviews conclude that the differences between the new and corresponding predicate tobacco products are such that the new tobacco products do not raise different questions of public health. I concur with these reviews and recommend that SE order letters be issued.

FDA examined the environmental effects of finding these new tobacco products substantially equivalent and made a finding of no significant impact.

SE order letters should be issued for the new tobacco products in SE0015500 – SE0015503, as identified on the cover page of this review.