FDA U.S. FOOD & DRUG ADMINISTRATION

Technical Project Lead (TPL) Review: SE0014786

SE0014786: Marlboro 72's Gold Pack Box	
Package Type	Hard Pack
Package Quantity	20 cigarettes
Length	72 mm
Diameter	7.89 mm
Ventilation	31%
Characterizing Flavor	None
Common Attributes of SE Reports	
Applicant	Phillip Morris USA Inc.
Report Type	Regular
Product Category	Cigarettes
Product Sub-Category	Combusted, Filtered
Recommendation	
Issue a Substantially Equivalent (SE) order.	

Technical Project Lead (TPL):

Digitally signed by Melissa Mcculloch -S
Date: 2018.09.19 10:23:49 -04'00'

Melissa McCulloch, Ph.D.
Senior Regulatory Scientist
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: 2018.09.19 11:53:14 -04'00'

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

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1. BACKGROUND

1.1. PREDICATE TOBACCO PRODUCT

The applicant submitted the following predicate tobacco product:

SE0014786: Marlboro 72's Gold Pack Box	
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Package Type	Hard Pack
Package Quantity	20 cigarettes
Length	72 mm
Diameter	7.89 mm
Ventilation	31%
Characterizing Flavor	None

The predicate tobacco product is a combusted, filtered cigarette manufactured by the applicant.

1.2. REGULATORY ACTIVITY RELATED TO THIS REVIEW

On June 22, 2018, FDA received an SE Report (SE0014786) from Altria Client Services Inc. (ALCS) on behalf of Philip Morris USA Inc (PMUSA). FDA issued an Acknowledgement letter on June 29, 2018.

Product Name	SE Report	Amendments
Marlboro 72's Gold Pack Box	SE0014786	None

1.3. SCOPE OF REVIEW

This review captures all regulatory, compliance, and scientific reviews completed for this SE Report.

2. REGULATORY REVIEW

A regulatory review was completed by Antonio Thornton on June 29, 2018.

The review concludes that the SE Report is administratively complete.

3. COMPLIANCE REVIEW

The predicate tobacco product in SE0014786 was determined to be substantially equivalent by FDA under SE0012346.[1] Therefore, the predicate tobacco product is an eligible predicate tobacco product.

[1] SE0012346 is related to an earlier submission by the applicant (SE0009475).

The Office of Compliance and Enforcement (OCE) completed a review to determine whether the new tobacco product is in compliance with the Federal Food, Drug, and Cosmetic Act (FD&C Act) (see section910(a)(2)(A)(i)(II) of the FD&C Act). The OCE review dated August 30, 2018, concludes that the new tobacco product is 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

A chemistry review was completed by Selvin Edwards on August 6, 2018.

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

- Cigarette paper:
  - 6% increase in cigarette paper weight (↑2.5 mg/cigarette)
  - 25% increase in (b)(4) cigarette)
  - 68% increase in (b)(4) cigarette)
  - 68% increase in (b)(4) cigarette)
  - 225% increase in (b)(4) cigarette)
- FSC[2] bands:
  - 100% increase in (b)(4) /cigarette)
  - 100% increase in (b)(4) /cigarette)
- Tipping paper adhesive:
  - 100% increase in (b)(4) /cigarette)

Significant product composition differences were limited to one tipping paper ingredient difference and a difference in cigarette paper weight due to differences in several individual chemical ingredient quantities in the cigarette paper of the new tobacco product compared to the predicate tobacco product. Many of the individual ingredient quantities in the cigarette paper are less than (b) (4) product) of the total product weight. Although small, the differences in cigarette paper ingredients could alter the permeability of the cigarette paper and affect smoke yields of tar, nicotine and carbon monoxide (TNCO), acetaldehyde, acrolein, crotonaldehyde and formaldehyde. The applicant submitted International Organization for Standardization (ISO) and Canadian intense (CI) machine-smoking regimen HPHC data for the new tobacco product which demonstrates all HPHC smoke yields[3] are comparable or lower in the new tobacco product compared to the predicate tobacco product using both ISO and CI smoking regimens. Therefore, the differences in characteristics between the new and predicate tobacco products do not cause the new tobacco product to raise different questions of public health from a chemistry perspective.

[2] Fire Standard Compliant
[3] Tar, nicotine, carbon monoxide, acetaldehyde, crotonaldehyde, formaldehyde, acrolein, benzo[a]pyrene, benzene and toluene

4.2. ENGINEERING

An engineering review was completed by Pritesh Darji on August 6, 2018.

The engineering review concludes that the new tobacco product has different characteristics related to product engineering compared to the predicate tobacco product, but the differences do not cause the new tobacco product to raise different questions of public health. The review identified the following differences:

- Overall cigarette:
  - 6% increase in puff count
- Cigarette paper:
  - 125% increase in cigarette paper band porosity
  - 8% decrease in cigarette paper band width
  - 6% increase in total cigarette paper weight

A difference in puff count, cigarette paper band porosity, or cigarette paper band width (which may affect ventilation) can directly affect smoke constituent yields. An increase in cigarette paper band porosity or a decrease in cigarette paper band width may decrease smoke constituent yields. Therefore, the differences in cigarette paper band porosity and cigarette paper band width do not cause the new tobacco product to raise different questions of public health. Although it was not discussed in the engineering review, the chemistry and toxicology reviews identify that the total cigarette paper weight increased from 38.6 to 41.1 mg/cigarette (6% ↑) due to the addition of several ingredients (discussed in the chemistry and toxicology sections) which may affect HPHC smoke yields. The applicant provided HPHC data which demonstrates that all HPHC smoke yields are comparable or lower in the new tobacco product compared to the predicate tobacco product. Therefore, the differences in characteristics between the new and predicate tobacco products do not cause the new tobacco product to raise different questions of public health from an engineering perspective.

4.3. TOXICOLOGY

A toxicology review was completed by Juan Crespo-Barreto on August 8, 2018.

The toxicology review concludes that the new tobacco product has different characteristics related to product toxicology compared to the predicate tobacco product, but the differences do not cause the new tobacco product to raise different questions of public health. The review identified the following differences:

- <u>Paper weight</u>:
  - 6% increase in total cigarette paper weight (↑38.6 to 41.1 mg/cigarette)
- <u>Ingredients in the cigarette paper</u>:
  - 25% increase in (b)(4) /cigarette)
  - 68% increase in (b)(4) /cigarette)
  - 68% increase in (b)(4) /cigarette)
  - 225% increase in (b)(4) /cigarette)
  - 100% addition of (b)(4) /cigarette)

- 100% addition of (b) (4) /cigarette)[4]
- Ingredients in tipping adhesive:
  - 100% addition of (b) (4) /cigarette)

Pyrolysis of (b) (4) may result in the generation and release of HPHCs by thermal degradation. Additionally, higher amounts of (b) (4) in cigarette paper can reduce the cigarette paper permeability and therefore alter the burn rate of the cigarette. Lower burn rates can alter the carbon monoxide and nicotine smoke yields. The applicant provided HPHC data which demonstrates that all HPHC smoke yields are comparable or lower in the new tobacco product compared to the predicate tobacco product, thus, these ingredient changes do not cause the new tobacco product to raise different questions of public health. (b) (4) serve as burn promotors in the cigarette paper. Increases in (b) (4) in cigarette paper may result in fewer puffs taken by the smoker and decrease exposure of constituents in mainstream smoke per cigarette and thus, do not cause the new tobacco product to raise different questions of public health. The ingredient (b)(4) is added as solvent to the tipping adhesive, and it is expected to evaporate during the glue-curing process. In addition, the glue is bound at the tipping paper seam (covered by the tipping paper), and thus, the smoker is not expected to come into direct contact with any residual (b)(4) in the tipping adhesive. Further, the components of the tipping adhesive are not expected to be burned, volatilized, or be a potential source of thermal degradation resulting in the release of HPHCs and thus, do not cause the new tobacco product to raise different questions of public health. Therefore, the differences in characteristics between the new and predicate tobacco products do not cause the new tobacco product to raise different questions of public health from a toxicology perspective.

5. ENVIRONMENTAL DECISION

An environmental review was completed by Shannon Hanna on July 31, 2018.

The environmental review found that the submitted Environmental Assessment (EA) does not provide enough information for an EA as required in 21 CFR 25.40. The environmental review found that the applicant did not specify marketing intention for the predicate tobacco product after receiving a marketing order for the new tobacco product. Therefore, additional information is needed to determine whether to prepare an Environmental Impact Statement (EIS) or Finding of No Significant Impact (FONSI).

6. CONCLUSION AND RECOMMENDATION

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

- Cigarette Paper:
  - 6% increase in cigarette paper weight

[4] Although this was not mentioned it the toxicology review, the chemistry review identified this increase and this ingredient is added to the discussion in the toxicology section of this review.

  - 25% increase in (b)(4)
  - 68% increase in (b)(4)
  - 68% increase in (b)(4)
  - 225% increase in (b)(4)
- FSC bands:
  - 100% increase in (b)(4)
  - 100% increase in (b)(4)
  - 125% increase in cigarette paper band porosity
  - 8% decrease in cigarette paper band width
- Tipping paper adhesive:
  - 100% increase in (b)(4)
- 6% increase in puff count

The applicant has demonstrated that these differences in characteristics do not cause the new tobacco product to raise different questions of public health. Differences in cigarette paper and FSC band ingredients could alter the permeability of the cigarette paper and affect smoke yields of tar, nicotine and carbon monoxide (TNCO), acetaldehyde, acrolein, crotonaldehyde and formaldehyde. Additionally, a difference in puff count, increase in porosity and cigarette paper band width (which may affect ventilation) can directly affect smoke constituent yields. The applicant provided HPHC data which demonstrates that all HPHC smoke yields are comparable or lower in the new tobacco product compared to the predicate tobacco product. The differences in ingredients and design parameters of the cigarette paper and FSC banding, and the differences in puff count do not cause the new tobacco product to raise different questions of public health. The ingredient (b)(4) is added as solvent to the tipping adhesive. The components of the tipping adhesive are not expected to be burned, volatilized, or be a potential source of thermal degradation resulting in the release of HPHCs. Additionally, the tipping adhesive is bound at the tipping paper seam (covered by the tipping paper) and thus the smoker is not expected to come into direct contact with any residual (b)(4) in the tipping adhesive. The addition of (b)(4) does not cause the new product to raise different questions of public health. Therefore, the differences in characteristics between the new and predicate tobacco products do not cause the new tobacco product to raise different questions of public health.

The predicate tobacco product was previously determined to be substantially equivalent by FDA under SE0012346.

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 product in SE0014786 was previously determined to be substantially equivalent by FDA under SE0012346.[5] Comparison of the new tobacco product to the

[5] The predicate tobacco product (submitted under SE0012346) is related to an earlier submission by the applicant (SE0009475). The contents of the SE Reports for SE0012346 and SE0009475 are identical except that SE0012346 contains a certification statement from the applicant and minor differences in (b) (4) tobacco and material ingredients. Consequently, the conclusions of many of the scientific reviews conducted for SE0009475 also were applied to the review of SE0012346. Therefore, I note that SE0012346 does not include complete characterization of the grandfathered tobacco product, Marlboro Lights Seventy-Twos Box; some of the product characterization details are contained in the scientific reviews for SE0009475.

grandfathered tobacco product (Marlboro Lights Seventy-Twos Box in SE0012346) reveals that the new tobacco product has the following differences in characteristics from Marlboro Lights Seventy-Twos Box, the grandfathered tobacco product:

- Cigarette paper
- FSC bands
- Tipping paper adhesive

The differences in characteristics listed above include comparable differences to the same components identified for the new and grandfathered tobacco products in SE0014786. Therefore, these differences do not cause the new tobacco product in SE0014786 to raise different questions of public health. Additionally, for the same reasons as discussed above, the differences in cigarette paper, FSC bands and tipping paper adhesive between the new tobacco product in SE0014786 and the grandfathered tobacco product do not cause the new tobacco product to raise different questions of public health. Therefore, whether comparing the new tobacco product in SE0014786 to the predicate or grandfathered tobacco product, the new tobacco product does not raise different questions of public health.

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

FDA examined the environmental effects of finding the new tobacco product substantially equivalent and found additional information is necessary to determine the impact of the action. Without this information, FDA is precluded from issuing an SE order.

An Advice/Information Request letter should be issued requesting the following information:

1. Your SE Report lacks information regarding your marketing intention for the predicate product after receiving a marketing order for the new product. Marketing information is used to quantitatively assess the environmental impact of manufacturing, use and disposal of the new product as compared to the predicate product. Address the following issues concerning marketing of the predicate product:

    a. Will the new and predicate products be marketed simultaneously?
    b. Will simultaneously marketing the new and predicate products change resource use and environmental impacts at the manufacturing facility? If so, describe how.
    c. Provide first- and fifth-year market volume projections for the predicate tobacco product in SE0014786.

If the applicant adequately responds to the request and an EIS or FONSI is completed, an SE order letter should be issued for the new tobacco product in SE0014786, as identified on the cover page of this review.