

**Programmatic Environmental Assessment for
Marketing Orders for
New Cigars
Manufactured by John Middleton Co.**

**Prepared by Center for Tobacco Products
U.S. Food and Drug Administration**

June 18, 2019

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1. Applicant and Manufacturer Information

Applicant Name:	Altria Client Services LLC
Applicant Address:	2325 Bells Road Richmond, VA 23234
Manufacturer Name:	John Middleton Co.
Product Manufacturing Location:	2211 Bells Road, JMC Bay 8 Building Richmond, VA 23234

A subcontracted manufacturer would also produce the new products. Information regarding this manufacturer is in Confidential Appendix 1.

2. Product Information

New Product Names, Submission Tracking Numbers (STN), and Predicate Product Names

STN	New Product Name	Predicate Product Name
SE0015084	Black & Mild® Shorts	Black & Mild
SE0015085	Black & Mild® Shorts	Black & Mild

Product Identification

Product Category	Cigar
Product Subcategory	Sheet-wrapped, unfiltered
Product Number per Retail Unit	SE0015084: Sold individually, 25 individually wrapped cigars per pack and 30 packs per case. SE0015085: Sold in a package of five, 10 five-packs per tray and 30 trays per case.
Product Package	SE0015084: The packaging materials consist of a polypropylene single cigar overwrap, paper board pack, polypropylene pack overwrap, polypropylene tear tape, and corrugated board shipping case. SE0015085: The packaging materials consist of a polypropylene single cigar overwrap, paper board pack of five single cigars, polypropylene pack overwrap, polypropylene tear tape, a 10-pack paperboard display tray, a polypropylene display tray overwrap, and corrugated board shipping case.

3. The Need for the Proposed Actions

The proposed actions, requested by the applicant, are for FDA to issue marketing orders under the provisions of sections 910 and 905(j) of the Federal Food, Drug, and Cosmetic Act after finding the new tobacco products substantially equivalent to the predicate products. The applicant wishes to introduce the new tobacco products into interstate commerce for commercial distribution in the United States

and submitted to the Agency substantial equivalence (SE) reports to obtain marketing orders. The Agency shall issue the marketing orders if the new products are found substantially equivalent to the predicate products. The predicate products are grandfathered products (GF1602166 and GF1602156) commercially marketed in the United States as of February 15, 2007.

The new products differ from the predicate products due to modifications in the cigar dimensions and ingredients (Confidential Appendix 1). The applicant provided first- and fifth-year marketing projections for the new products (Confidential Appendix 2).

4. Alternative to the Proposed Actions

The no-action alternative is FDA does not issue marketing orders for the new tobacco products.

5. Potential Environmental Impacts of the Proposed Actions and Alternative - Manufacturing the New Products

The Agency considered potential impacts to resources in the environment that may be affected by manufacturing the new products and found no significant impacts, based on Agency-gathered information and the following information submitted by the applicant:

- The production of the new products will replace production of the predicate products currently manufactured at the facility.
- No facility expansion or new construction is expected due to manufacturing the new products.
- No increase in the facility production beyond its current permitted production capacity is expected due to manufacturing the new products.

5.1 Affected Environment

The new products would be manufactured at 2211 Bells Road, Richmond, VA 23234 (Figure 1) and at the subcontracted manufacturing facility (Confidential Appendix 3).

Figure 1. Location of the Manufacturing Facility



The manufacturing facility is surrounded by a residential development across a road to the north; a two-lane divided road and an interstate freeway (I-95) to the east; several hotels, restaurants, and a gas station at the southeast corner; undeveloped forested land and a petroleum product pumping station and delivery terminal to the south; and a railroad to the west with a spur into the manufacturing facility.¹

The facility is located in the James River watershed, which occupies the central portion of Virginia and covers 24% of total land area of the commonwealth of Virginia.^{2,3} Land use within the watershed is 65% forest, 19% agriculture and farming, and 12% urbanized area.⁴

5.2 Air Quality

The Agency does not anticipate that any new chemicals would be released into the environment due to manufacturing the new products. The applicant stated that manufacturing the new products is not

¹ Google. 2019. Map of 2211 Bells Road, Richmond, VA 23234. Retrieved from Google Maps: www.google.com/maps. June 10, 2019.

² A watershed is an area of land where all bodies of water drain to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. Such bodies of water include the following: surface water from lakes, streams, reservoirs and wetlands; the underlying ground water; and rainfall, See <https://water.usgs.gov/edu/watershed.html> and <http://www.dcr.virginia.gov/soil-and-water/document/wshedguideb2b.pdf>.

³ Virginia Department of Environmental Quality. Available at: <http://deq.state.va.us/Portals/0/DEQ/Water/SWRP/App%20B%20James%20River%20Basin%20Summary.pdf>. Accessed June 10, 2019

⁴ Ibid

expected to result in changes in air emissions; accordingly, the applicant concluded that manufacturing the new products would not require any additional environmental controls for air emissions or new permits for air emissions.

5.3 Water Resources

The Agency does not anticipate that manufacturing the new products would cause the discharge of any new chemicals into water. The applicant stated that manufacturing the new products is not expected to result in changes in wastewater discharges; accordingly, the applicant concluded that manufacturing the new products would not require any additional environmental controls or new permits for water discharges.

5.4 Soil, Land Use, and Zoning

The Agency does not anticipate that manufacturing the new products would lead to changes in soil, land use, or zoning. The applicant stated that no facility expansion or new construction due to manufacturing the new products would be expected. Therefore, no zone change or land conversion of prime farmland, unique farmland, or farmland of statewide importance to non-agricultural use are anticipated.

5.5 Biological Resources

The Agency does not anticipate manufacturing the new products would jeopardize the continued existence of any listed species or result in the destruction or adverse modification of the habitat of any such species identified under the Endangered Species Act (ESA). The applicant reviewed the U.S. Fish and Wildlife Service critical habitat and endangered species maps. According to the maps, three threatened species (two flowering plants – sensitive joint-vetch and swamp pink, and one mammal - northern long-eared bat), and one endangered freshwater mussel species - James spiny mussel are listed in the city of Richmond and the bordering counties (Henrico and Chesterfield Counties).^{5,6} However, the applicant stated that none of these species are found near the manufacturing facility. The Agency searched the U.S. FWS maps and verified the accuracy of the listed species.

5.6 Regulatory Compliance

The applicant stated that the manufacturing facility complies with all federal, state, and local environmental regulations. The applicant provided detailed information for the following air emission, storm water, and wastewater permits:

- (1) Stationary source permit (Registration no. 52608) in accordance with provisions of the Virginia State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution, issued by the Department of Environmental Quality, Commonwealth of Virginia.
- (2) Wastewater permit number 2149 issued by the Division of Wastewater Treatment, City of Richmond. The applicant stated that the facility complies with the requirements of this permit, which include quantitative and qualitative discharge monitoring, and flow monitoring and reporting. The permit requires compliance with the relevant effluent limitations (40 CFR 400 –

⁵ U.S. Fish and Wildlife Services (U.S. FWS), available at: <https://www.fws.gov/endangered/>. Accessed February 19, 2019.

⁶ Critical habitat maps available at: <https://databasin.org/datasets/d579d87eb54f4374a77ea53e7ef66449>.

699) to ensure the wastewater is of a certain quality for effective treatment at the POTW facility. The applicant stated that the facility submits regular discharge monitoring reports to VA DEQ.

The Agency's search of the EPA's Enforcement and Compliance History Online (ECHO) database did not reveal any violations of the environmental laws and regulations.⁷ The applicant stated that the facility complies with the ESA and the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

5.7 Socioeconomics and Environmental Justice

No changes on socioeconomics are anticipated due to manufacturing the new products. The Agency does not anticipate any impacts on employment revenue, or taxes because the new products are intended to replace similar tobacco products currently manufactured at the facility.

No changes in impacts on environmental justice are anticipated. The applicant stated that the future year projections of cigar production at the facility, including the new products, are within the existing permitted manufacturing capacity and would not require facility expansion. Also, as discussed, the emissions and discharges from the facility are not expected to change because of manufacturing the new products. Thus, though 2010 U.S. Census and American Community Survey data show that a high percentage minority (81%) and low-income population (49% below poverty level) reside within three miles of the manufacturing facility,⁸ no disproportionate impacts to environmental justice populations would occur as a result of manufacturing the new products. In addition, the facility is not located within or near Native American lands.

5.8 Solid Waste and Hazardous Materials

The Agency does not foresee that the introduction of the new products would notably affect the current manufacturing waste generated from the facility production of all unfiltered cigars. The Agency anticipates the waste generated due to manufacturing the new products would be released to the environment, and disposed of in landfills in the same manner as any other waste generated from any other products manufactured in the same facility. The applicant stated that manufacturing the new products would not require any additional environmental controls for solid waste disposal. Therefore, no new or revised waste permit or construction of new waste management facility is expected.

5.9 Floodplains, Wetlands, and Coastal Zones

There would be no facility expansion due to manufacturing the new products and the applicant did not propose any land disturbance; therefore, there would be no effects on floodplains, wetlands, or coastal zones.

⁷ EPA ECHO Detailed Facility Report: Philip Morris USA Facility, Richmond, VA. Available at: <https://echo.epa.gov/detailed-facility-report?fid=110000869793>. Accessed May 28, 2019.

⁸ EPA ECHO Detailed Facility Report: Demographic profile of surrounding area (3 miles). Available at: <https://echo.epa.gov/detailed-facility-report?fid=110000869793>. Accessed May 28, 2019.

5.10 Cumulative Impacts

The Agency does not anticipate the proposed actions to incrementally increase or change the chemicals released to the air from the facility due to the tobacco manufacturing. A search in the EPA's Toxic Release Inventory (TRI) database showed that in 2017, Philip Morris USA manufacturing facility in Richmond, Virginia released 18,713 pounds of ammonia and 10,683 pounds of nicotine and nicotine salts to air, (a total of 29,396 pounds), but released no other hazardous air pollutants at reportable levels (Table 1).⁹ Ammonia's adverse health effects are ocular and respiratory; nicotine and nicotine salts, have known adverse developmental effects.¹⁰ The applicant stated that a revised or new air permit would not be required. The TRI database search did not show that the Philip Morris USA manufacturing facility disposed of, treated, or released into the environment any other reportable toxicants associated with manufacturing tobacco products. In addition, EPA's ECHO database did not show that the facility released the following reportable criteria pollutants: ozone, lead, particulate matter, or sulfur dioxide, at or above the reportable threshold levels to air.

Table 1 Management of Chemical Waste Associated with Manufacturing Tobacco Products at Philip Morris USA Facility in 2017

Production-Related Waste Managed or Released			Chemical Mass (Pounds)
Recycled			126,020
Energy Recovery			0
Treated			104,427
<i>Subtotal Waste Managed</i>			<i>230,447</i>
On-Site Release	Air	Ammonia	18,713
		Nicotine and Nicotine Salts	10,683
	Water	Ammonia	0
		Nicotine and Nicotine Salts	0
	Land	Ammonia	0
		Nicotine and Nicotine Salts	0
Off-Site Release			60,822
<i>Subtotal Waste Released</i>			<i>90,218</i>
Total Production-Related Waste			320,665

The other manufacturing facility in the industrial complex (Altria Compounds, LLC) which has the potential to generate and manage 2,200 pounds of monthly hazardous waste does not report to EPA's Toxic Release Inventory database, as it is considered a minor facility.^{11,12} Because this is a minor manufacturing facility, EPA's Enforcement and Compliance History Online database did not show if the facility released the following reportable criteria pollutants: ozone, lead, particulate matter, or sulfur

⁹ U.S. Environmental Protection Agency (EPA). TRI Data Form R & A Download. Available at: https://www3.epa.gov/enviro/facts/tri/form_ra_download.html. Searched on May 28, 2019.

¹⁰ EPA. myRight-to-Know, available at: <https://myrtk.epa.gov/info>. The site allows for searching the industrial facilities that manage toxic waste chemicals by entering the facility address and clicking on the facility location on the map. Accessed May 28, 2019.

¹¹ See footnote 7.

¹² See footnote 10.

dioxide. The applicant does not anticipate manufacturing the new products would require a revised or new storm water permit or waste water permit.

5.11 Impacts of the No-Action Alternative

The environmental impacts of the no-action alternative would not change the existing condition of manufacturing cigars, as many similar tobacco products would continue to be manufactured at the listed manufacturing facility.

6. Potential Environmental Impacts of the Proposed Actions and Alternative – Use of the New Products

The Agency considered potential impacts to resources in the environment that could be affected by use of the new products and found no significant impacts based on Agency-gathered information and the applicant's submitted information. Included in the information the Agency considered were the projected market volumes for the new products and the documented cigar use in the United States.

6.1 Affected Environment

The affected environment includes human and natural environments in the United States because the marketing orders would allow for the new tobacco products to be sold to consumers in the United States.

6.2 Air Quality

The Agency does not anticipate new chemicals would be released into the environment as a result of use of the new products, relative to chemicals released into the environment due to use of other cigars already on the market because (1) the combustion products from the new products would be released in the same manner as the combustion products of any other marketed cigars; (2) the new products are expected to compete with, or replace, other currently marketed cigars; and (3) the ingredients in the new products are used in other currently marketed tobacco products.

6.3 Environmental Justice

No new emissions are expected due to use of the new products. Therefore, there would be no new disproportionate impacts on minority or low-income populations.

6.4 Cumulative Impacts

The impacts from use of combusted tobacco products include exposure to secondhand smoke (SHS) produced from burned cigars, cigarettes, cigarillos and pipes. Particles emitted by smoking may remain on surfaces, be re-emitted back into the gas phase, or react with oxidants and other compounds in the environment to yield secondary pollutants, thirdhand smoke (THS). These pollutants coexist in a mixture in the environment alongside SHS (Burton, 2011; Matt et al., 2011).

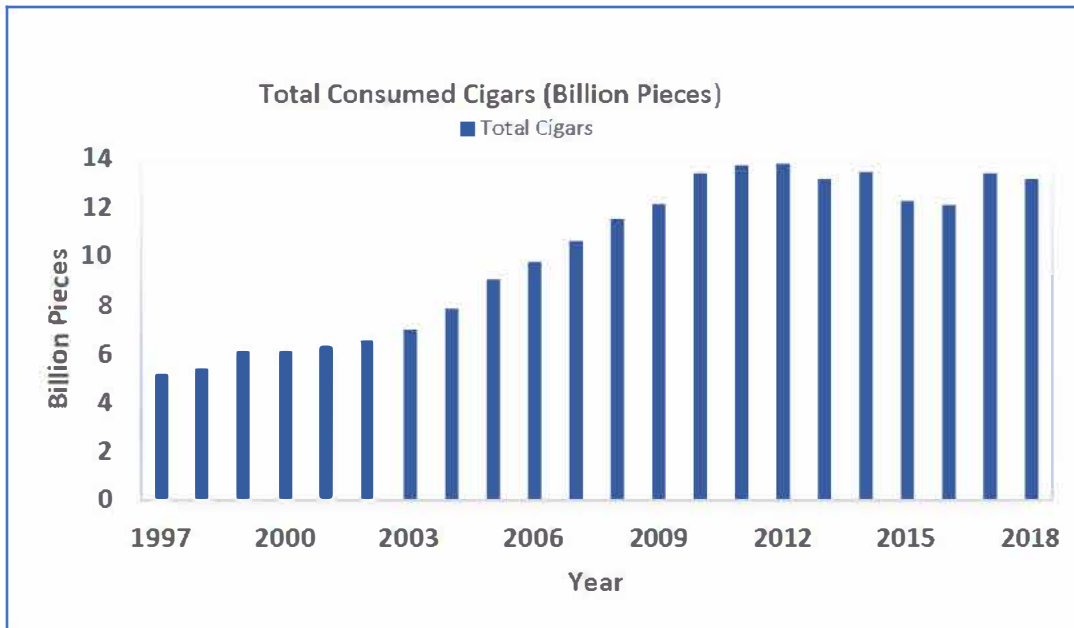
There is no safe level of exposure to SHS (U.S. Department of Health and Human Services, 2006a and 2006b). Even low levels of SHS can harm children and adults in many ways, including the following:

- The U.S. Surgeon General estimates that living with a smoker increases a nonsmoker's chances of developing lung cancer by 20 to 30% (U.S. Department of Health and Human Services, 2014).
- Exposure to SHS increases school children's risk for ear infections, lower respiratory illnesses, more frequent and more severe asthma attacks, and slowed lung growth. Such exposure can cause coughing, wheezing, phlegm, and breathlessness (U.S. Department of Health and Human Services, 2006a and 2006b).
- SHS causes more than 40,000 deaths a year (U.S. Department of Health and Human Services, 2014).

The consumption of cigars in the United States increased significantly during 1997 to 2011. Since 2011 through 2017, the trend of cigar use has stabilized with minor decrease overall, per the U.S. Alcohol and Tobacco Tax and Trade Bureau (TTB) Statistical Release reports (Figure 2).¹³ In combination with declines in the use of other tobacco products, this likely is responsible for the decline in SHS exposure observed in several studies that evaluated the levels of SHS exposure in children and nonsmokers living in homes of smokers (Homa et al., 2015; Yao et al., 2016). Despite the considerable ethnic and racial disparities in SHS exposure in vulnerable populations, data from the National Health and Nutrition Examination Survey showed a decline in SHS exposure from 1999-2000 to 2011-2012 with the highest prevalence of exposure among non-Hispanic subpopulations (46.8%), compared to Mexican Americans (23.9%) and non-Hispanic whites (21.8%) in 2011-2012 (Homa et al., 2015). There were also significant declines in SHS exposure prevalence noted in the 2000 and 2010 National Health Interview Survey Cancer Control Supplements. Exposure to SHS declined in Hispanics from 16.3% in 2000 to 3.1% in 2010, non-Hispanic Asians from 13.4% in 2000 to 3% in 2010, and non-Hispanic blacks from 31.2% in 2000 to 11.5% in 2010 as compared to exposures in non-Hispanic whites, which declined from 25.8% in 2000 to 9.7% in 2010 (Yao et al., 2016).

¹³ U.S. Alcohol and Tobacco Tax and Trade Bureau (TTB) statistical data available at: <https://www.ttb.gov/tobacco/tobacco-stats.shtml>. Accessed March 7, 2018

Figure 2. Use of Cigars in the United States, 1997 – 2017



As of December 2018, 28 states plus the District of Columbia have implemented comprehensive smoke-free laws (American Lung Association, 2018). Such laws are expected to reduce the levels of exposure of non-users to SHS and THS.

6.5 Impacts of the No-Action Alternative

The environmental impacts of the no-action alternative would not change the existing condition of use of cigars, as many similar tobacco products would continue to be marketed.

7. Potential Environmental Impacts of the Proposed Actions and Alternatives – Disposal of the New Products

The Agency considered potential impacts to resources in the environment that may be affected by disposal of the new products. Based on TTB data which shows relatively stable rates of cigar use in the United States since 2010, and the applicant’s submitted information, including market volume projections for the new products, the Agency found no significant impacts.

7.1 Affected Environment

The affected environment includes human and natural environments in the United States because the marketing orders would allow for the applicant to distribute and sell the new tobacco products to consumers in the United States.

7.2 Air Quality

The Agency does not anticipate disposal of the new products or the packaging material would lead to the release of new or increased chemicals into the air.

No changes in air quality are anticipated from disposal of the cigar butts and tips of the new products. The chemicals in the cigar butts are commonly used in other currently marketed cigars. Because the new products are anticipated to compete with or replace other currently marketed cigars, the butt and tip waste generated from the new products would replace the same type of waste (Confidential Appendix 4). Therefore, the fate and effects of any materials emitted into the air from disposal of the new products are anticipated to be the same as any materials from other cigars disposed of in the United States.

No changes in air quality from disposal of the packaging materials in the new products would be expected because (1) the paper and plastic components of the packages are more likely to be recycled or at least a portion of the packaging waste is likely to be recycled, (2) the packaging materials are commonly used in the United States, and (3) the waste generated due to disposal of the packaging is a minuscule portion of the municipal solid waste per FDA's experience in evaluating the packaging waste generated from tobacco products.

7.3 Water Resources

No changes in any impacts on water resources are expected due to disposal of the cigar butts from the new products because the chemicals in the new products are like chemicals in currently marketed cigars and the new products would compete with or replace other cigars currently on the market.

7.4 Biological Resources

The proposed actions are not expected to change the continued existence of any endangered species or result in the destruction or adverse modification of the habitat of any such species, as prohibited under the U.S. ESA. Although disposal of smoldering tobacco products like cigars and cigarettes has been implicated in many fire incidents,^{14,15} the disposal of the new products is not expected to change the fire frequency because (1) the disposal of the new products would be similar to the disposal of cigars that are currently marketed in the United States, and (2) there would be no anticipated increase in number of cigars being disposed of as the new products are anticipated to replace similar marketed cigars.

7.5 Socioeconomics and Environmental Justice

The Agency does not anticipate changes in impacts on socioeconomic conditions or environmental justice from disposal of the new products. The waste generated due to disposal of the new products would be handled in the same manner as the waste generated from disposal of other cigars in the United States. No new emissions are expected due to disposal of the new products; therefore, there would be no disproportionate impacts on minority or low-income populations.

¹⁴ National Fire Protection Association. The smoking-material fire problem. Available at: <https://www.nfpa.org/News-and-Research/Fire-statistics-and-reports/Fire-statistics/Fire-causes/Smoking-Materials>. Accessed May 22, 2018.

¹⁵ UC Davis Health News. Available at: <https://www.ucdmc.ucdavis.edu/publish/news/newsroom/2763>. Accessed May 22, 2018.

7.6 Cumulative Impacts

The use of the new products may impact the environment through littering of discarded cigar plastic tips and cigar butts. The environmental impacts from cigar butt litter is not well studied, and potentially poses similar environmental risk as cigarette butts, which can persist in the environment for more than 18 months (Novotny and Zhao, 1999).

Like cigarettes, compounds in cigar butts can leach out into water, potentially threatening human health and the environment, especially aquatic and marine ecosystems (Kadir and Sarani, 2015). The environmental toxicity of cigar and cigarette butts due to air emissions is not well studied. Airborne emissions from cigar and cigarette butts after disposal depend on the environmental conditions and the chemicals in the butts. These emissions can be influenced by several factors, such as the brand, length, filter material, types of tobacco, ingredients in the cigar tobacco fillers, number of puffs, and the mass transfer behavior of combustion products along the cigar.¹⁶

However, the cumulative impacts from cigar butts is not of concern as TTB data shows relatively stable rate of cigar use in the United States since 2010 and the proposed actions are unlikely to change that.

7.7 Impacts of the No-Action Alternative

The environmental impacts of the no-action alternative would not change the existing condition of disposal of cigars and cigar packaging, as many other similar tobacco products would continue to be marketed.

8. List of Preparers

The following individuals were primarily responsible for preparing and reviewing this programmatic environmental assessment (PEA):

Preparer:

Shannon K. Hanna, Ph.D., Center for Tobacco Products

Education: Ph.D. in Environmental Science and Management

Experience: Four years in environmental science, three years in toxicology

Expertise: Ecotoxicology of new substances and materials, bioaccumulation of chemicals including heavy metals, soil/sediment and water quality

Reviewer:

Gregory Gagliano, M.S., Center for Tobacco Products

Education: M.S. in Environmental Science

Experience: Thirty-six years in environmental toxicology and risk assessment

Expertise: NEPA analysis, environmental risk assessment, environmental fate and effects

¹⁶ NIST Technical Report 8147 available at: <http://dx.doi.org/10.6028/NIST.IR.8147>. Accessed August 16, 2018.

9. A Listing of Agencies and Persons Consulted

Not applicable.

10. References

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Yao T, Sun HY, Wang Y, Lightwood J, Max W. Sociodemographic differences among U.S. children and adults exposed to secondhand smoke at home: National Health Interview Surveys 2000 and 2010. *Public Health Rep*. 2016; 131: 357-366.

CONFIDENTIAL APPENDIX 1

Modifications: New Products as Compared with the Corresponding Predicate Products

STN	Component	Modification
SE0015084	Cigar rod	Reduction in target tobacco rod length and circumference
	Cigar tobacco filler	Removal of certain ingredients added to tobacco (b) (4) [redacted] [redacted] [redacted], and reduction in other ingredients including tobacco due to reduced rod size and circumference.
	Cigar wrapper	Replacement of (b) (4) [redacted] with a lesser amount of (b) (4) [redacted] and reduction in other ingredients due to reduced rod size and circumference
	Cigar binder	Replacement of (b) (4) [redacted] with a lesser amount of (b) (4) [redacted] and reduction in other ingredients due to reduced rod size and circumference
SE0015085	Cigar rod	Reduction in target tobacco rod length and circumference
	Cigar tobacco filler	Removal of certain ingredients added to tobacco (b) (4) [redacted] [redacted] [redacted], and reduction in other ingredients including tobacco due to reduced rod size and circumference.
	Cigar wrapper	Replacement of (b) (4) [redacted] with a lesser amount of (b) (4) [redacted] and reduction in other ingredients due to reduced rod size and circumference
	Cigar binder	Replacement of (b) (4) [redacted] with a lesser amount of (b) (4) [redacted] and reduction in other ingredients due to reduced rod size and circumference

CONFIDENTIAL APPENDIX 2

First- and Fifth-Year Market Volume Projections for the New Products and Percentage of Cigar Use in the United States Projected to be Attributed to the New Products

First- and fifth-year market volume projections for the new products were compared to the total forecasted use of cigars in the United States.¹⁷ The new products would account for a minor percentage ((b) (4) and (b) (4)) of the forecasted cigar use in the United States in the first and fifth years, respectively. In addition, the applicant stated that the new products would replace the predicate products.

STN	Projected Market Volume			
	First Year		Fifth Year	
	New Product (# of Cigars)	New Product as a Percent of Total Cigars Used ¹⁸	New Product (# of Cigars)	New Product as a Percent of Total Cigars Used ¹⁹
SE0015084	(b) (4)			
SE0015085				
Total				

¹⁷The Agency used historical data regarding total use of cigars from 1997 to 2018 to mathematically estimate the total number of cigars used in the United States. Using the best-fit trend line with an R² value of 0.92, the forecasted number of cigars that would be used in the United States is estimated at 13.66 billion cigars in the first year and 13.43 billion cigars in the fifth year of marketing the new products.

¹⁸ Projected Market Occupation of the New Product in the United States (%) = $\frac{\text{Projected Market Volume of the New Product (cigar pieces)}}{\text{Projected Use of Cigars in United States (cigar pieces)}} \times 100$

¹⁹Ibid.

CONFIDENTIAL APPENDIX 3

Subcontracted Manufacturing Facility

Applicant Name:	Altria Client Services LLC
Applicant Address:	2325 Bells Road, Richmond, VA 23234
Third-Party Manufacturer Name:	(b) (4)
Third-Party Manufacturer Location:	(b) (4)
Subcontracted Manufacturer Name:	(b) (4)
Subcontracted Manufacturer Location:	(b) (4)

The third party manufacturer subcontracts the manufacturing out to a facility located in the (b) (4) industrial park, which is bounded by residential and agricultural land. The applicant stated that facility is in compliance with all applicable laws and regulations and that the manufacturing contract is contingent upon the facility obtaining and maintaining all applicable permits or licenses.



CONFIDENTIAL APPENDIX 4

Projected Waste of Cigar Butts in the First and Fifth Years of Marketing the New Products

<p>A : Projected waste generation of cigar butts of the new product (metric tons) B : Projected market volume of the new product (number of individual cigars) C : Weight of cigar (gm) D : Cigar butt ratio E : Mouth Piece Weight (gm) F : Mouth Piece Length (mm) G : Tobacco Rod Length (mm) H : Length of Cigar (mm) Z: 1×10^{-6}</p>	$A = (B \times C \times D \times Z) + (B \times E \times Z)$ $D = ((F + G) - H) \div H$
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STN		SE0015084		SE0015085	
Projected Year		First-Year	Fifth-Year	First-Year	Fifth-Year
Market Volume (# of cigars)	B	(b) (4)	(4)	(b) (4)	(4)
Cigar Weight (grams)	C				
Mouth Piece Weight (gm)	E				
Mouth Piece Length (mm)	F				
Tobacco Rod Length (mm)	G				
Cigar Length (mm)	H				
Cigar Butt Waste (metric tons)	A				

If all the projected cigar butt waste, including the plastic mouth piece, generated from use of the new products is disposed of in landfills, the projected waste of (b) (4) metric tons in the first year and (b) (4) metric tons in the fifth year of marketing the new products would be negligible fractions of the 262.4 million metric tons of total waste reported in the United States in 2015 (U.S. EPA, 2018).