# Programmatic Environmental Assessment for Marketing Orders for New Cigarettes Marketed by Commonwealth Brands, Inc.

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

June 26, 2019

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# 1. Applicant and Manufacturing Facility Information

Applicant Name	Common weal th Brands, Inc.	
Applicant Address	714 Green Valley Road	
	Greensboro, NC 27408-7018	
Manufacturing Facility	ITG Brands, ШС	
Product Manufacturing Address	2525 East Market Street	
	Greensboro, NC 27401	

#### 2. Product Information

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

STN	New Product	Original Product	
EX0000550 USA Gold Blue 100s Box		USA Gold Ultra Lights 100s Box	
EX0000551 USA Gold Blue 100s Soft Pack		USA Gold Ultra Lights 100s Soft Pack	
EX0000552 USA Gold Blue Kings Soft Pack		USA Gold Ultra Light King Soft Pack	
EX0000553	USA Gold Red Kings Box	USA Gold Full Flavor Kings Box	
EX0000554	USA Gold Red Kings Soft Pack	USA Gold Full Flavor Kings Soft Pack	
EX0000555	USA Gold Menthol Dark Green 100s Box	USA Gold Full Flavor Menthol 100s Box	
EX0000556	USA Gold Menthol Green 100s Box	USA Gold Menthol Lights 100s Box	
EX0000557	USA Gold Menthol Green 100s Soft Pack	USA Gold Menthol Lights 100s Soft Pack	
EX0000558	USA Gold Menthol Green Kings Soft Pack	USA Gold Menthol Light King Soft Pack	
EX0000559	USA Gold Non-Filter Kings Soft Pack	USA Gold Non-Filter Kings Soft Pack	
EX0000560	USA Gold Gold 100s Box	USA Gold Lights 100s Box	
EX0000561	USA Gold Gold 100s Soft Pack	USA Gold Lights 100s Soft Pack	
EX0000562	USA Gold Gold Kings Box	USA Gold Lights Kings Box	
EX0000563	USA Gold Menthol Dark Green 100s Soft Pack	USA Gold Full Flavor Menthol 100s Soft Pack	
EX0000564	USA Gold Menthol Dark Green Kings Box	USA Gold Full Flavor Menthol Kings Box	
EX0000565	USA Gold Menthol Dark Green Kings Soft	USA Gold Full Flavor Menthol Kings Soft	
EX0000303	Pack	Pack	
EX0000566	USA Gold Gold Kings Soft Pack	USA Gold Lights Kings Soft Pack	
EX0000567	USA Gold Red 100s Box	USA Gold Full Flavor 100s Box	
EX0000568	USA Gold Red 100s Soft Pack	USA Gold Full Flavor 100s Soft Pack	

#### Product Identification

Product Category	Cigarettes
Product Subcategory	Combusted filtered and non-filtered <sup>1</sup>
Product Number per Retail Unit	Twenty cigarettes per pack

<sup>&</sup>lt;sup>1</sup> The product in Exemption Request EX0000559 is a combusted non-filtered cigarette.

Product Package	The hard pack packaging materials consist of a foil inner liner, inner frame paper, paperboard box, polypropylene film overlap, polypropylene tear tape, and paperboard carton.	
Product Package	The soft pack packaging materials consist of a foil inner liner, paper labe! and closure, polypropylene film overlap, polypropylene tear tape, and paperboard carton.	

#### 3. The Need for the Proposed Actions

The proposed actions, requested by the applicant, are for the Food and Drug Administration (FDA) to issue exemptions from substantial equivalence reporting for marketing orders under the provisions of section 905(j)(3) of the Federal Food, Drug, and Cosmetic Act (FD&C Act) for the introduction of eighteen combusted, filtered cigarettes and one combusted, non-filtered cigarette into interstate commerce for commercial distribution in the United States. A tobacco product that is modified by adding or deleting a tobacco additive, or increasing or decreasing the quantity of an existing tobacco additive, may be considered for exemption from demonstrating substantial equivalence if (1) the product is a modification of another tobacco product and the modification is minor, (2) the modifications are to a tobacco product that may be legally marketed under the FD&C Act, (3) a substantial equivalence report under section 905(j) of the FD&C Act is not necessary to ensure that permitting the tobacco product to be marketed would be appropriate for the protection of public health, (4) the new tobacco product is marketed by the same organization as the original product, and (5) an exemption is otherwise appropriate.

The applicant wishes to introduce the new tobacco products into interstate commerce for commercial distribution in the United States. The applicant must obtain written notification that the Agency has granted the products exemptions from demonstrating substantial equivalence under section 905(j)(3) before submitting an abbreviated report. Ninety days after the Agency's receipt of the abbreviated report, the applicant may introduce or deliver for introduction into interstate commerce for commercial distribution the new products for which the applicant has obtained exemptions from demonstrating substantial equivalence.

The new products are made by modifying the corresponding original products, which are grandfathered products commercially marketed in the United States as of February 15, 2007. The new products differ from the original products due to the deletion of the side seam adhesive and the addition of a comparable side seam adhesive (Confidential Appendix 1).

#### 4. Alternatives to the Proposed Actions

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

# 5. Potential Environmental Impacts of the Proposed Actions and Alternatives – Manufacturing the New Products

The Agency evaluated potential environmental impacts that may be caused by manufacturing the new products and found no significant impacts based on Agency-gathered information and the following information submitted by the applicant:

- The new products would be manufactured in the same manner as the original products.
- The level of the alternative ingredients in the new products that are replacing the ingredients in the original products are each a small percentage of the total product. These ingredient changes are the only differences between the new products and the corresponding original products.
- The new products are intended to compete with and eventually replace similar tobacco products currently manufactured at the facility.
- No facility expansion is expected due to manufacturing the new products.

#### 5.1. Affected Environment

The affected environment includes human and natural environments surrounding the facility. The new products would be manufactured by ITG Brands, LLC at 2525 East Market Street, Greensboro, NC 27401 in Guilford County located near the eastern coastal region (Figure 1). The manufacturing facility is in a mixed-use industrial and residential area. A riverine wetland (within the Cape Fear River basin, HUC 12-030300020105) runs north to south on the property beyond the parking lot near the eastern edge (EPA, 2019a). Where no foliage obscures the aerial imagery, the channel appears to be one to two feet in width with several segments in culverts under roadways.

#### Figure 1. Location of the Manufacturing Facility



Imagery ©2019 Google, Map data ©2019 Google 1000 ft

# 5.2. Air Quality

The Agency does not anticipate that manufacturing the new products would change the release of chemicals into the air. The applicant stated that the modifications compared to the original products would not be expected to release new air emissions and would not require any additional environmental controls for air emissions.

### 5.3. Water Resources

The Agency does not anticipate that manufacturing the new products would change the discharge of chemicals in wastewater. The applicant stated that the new products are intended to replace similar tobacco products currently manufactured at the facility.

# 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. No facility expansion due to manufacturing the new products would be expected. Therefore, no zoning change or land conversion of prime farmland, unique farmland, or farmland of statewide importance to non-agricultural use would be anticipated.

# 5.5. Biological Resources

The Agency does not anticipate that 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 stated that there are no plans to expand the facility. The facility is in a developed area with little undisturbed natural habitat identified on aerial imagery (GoogleMaps, 2019).

According to the U.S. Fish and Wildlife Service's (U.S. FWS) critical habitat and endangered species maps, two endangered freshwater fish (Cape Fear shiner and Roanoke logperch), one endangered plant (Schweinitz's sunflower), one proposed as threatened freshwater mussel (Atlantic pigtoe), one threatened flowering plant (Small-whorled pogonia), and one bald eagle protected under the Bald and Golden Eagle Protection Act are listed as being present in Guilford County (U.S. FWS, 2018).

The limited riverine wetland along the eastern boundary of the site may harbor transient migratory birds and provide habitat for non-sensitive species adapted to high levels of human activity.

Because the proposed actions do not require expansion of the manufacturing facility, and the listed species are not found in the immediate vicinity of the facility, there would be no impacts to protected species or their potential habitat.

#### 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 concerning air emission, storm water, and wastewater permits issued for the ITG Brands, LLC manufacturing facility and stated that they also comply with applicable solid and hazardous waste regulations.

The Agency's search for the manufacturing facility in the Environmental Protection Agency's Enforcement and Compliance History Online database did not reveal any violations of the environmental laws and regulations in 2018 (EPA, 2019b).

The applicant stated that the proposed actions would neither jeopardize the continued existence of any endangered species, nor result in the destruction or adverse modification of the habitat of any such species identified under the ESA and the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

# 5.7. Socioeconomics and Environmental Justice

No changes in socioeconomic measures are anticipated due to manufacturing the new products. The Agency does not anticipate any impacts on employment, revenue, or taxes because the new products would be manufactured within the existing capacity of the manufacturing facility, with no expansion required.

No significant environmental impacts have been identified from manufacturing the new products; therefore, there would be no disproportionate impacts to environmental justice (low-income, minority, or other special) populations.

# 5.8. Solid Waste and Hazardous Materials

The Agency does not foresee that manufacturing the new products would notably change the waste generated from the facility's current production of combusted, filtered cigarettes. The waste generated would be handled in the same manner as waste generated from manufacturing other products in the same facility.

#### 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.

# 5.10. Cumulative Impacts

The applicant stated that (1) the introduction of materials to the environment would not change or exceed the allowed quantities under the facility's air and wastewater permits, (2) the new products would be manufactured in a similar manner as the corresponding original products, and (3) no facility expansion would be required. Therefore, the Agency does not anticipate any cumulative impacts from manufacturing the new products.

#### 5.11. Impacts of the No-Action Alternative

The no-action alternative would not change the existing manufacturing of combusted cigarettes at the listed facility, as many similar cigarette products would continue to be manufactured.

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

The Agency evaluated potential environmental impacts that may be caused 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 decline in cigarette 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 products to be sold to consumers in the United States.

# 6.2. Air Quality

The Agency does not anticipate that 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 cigarettes already on the market because (1) the combustion products from the new products would be released in the same manner as the combustion products from other marketed cigarettes, (2) the new products are expected to compete with or replace other marketed cigarettes, and (3) the ingredients in the new products are used in other currently marketed tobacco products.

#### 6.3. Environmental Justice

No significant environmental impacts have been identified from use of the new products. Therefore, there would be no disproportionate impacts to environmental justice populations.

# 6.4. Cumulative Impacts

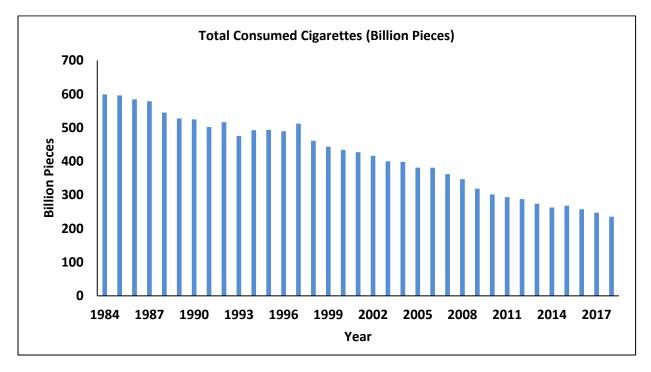
Impacts from use of combusted tobacco products include health effects to non-users as well as users. When using cigarettes, the users inhale the mainstream smoke and exhale secondhand smoke (SHS) to the environment. In addition, particles emitted by smoking may remain on surfaces, be re-emitted back into the gas phase, or react with oxidants and other compounds in the environment to yield secondary pollutants; this is referred to as thirdhand smoke (THS).

There is no safe level of exposure to SHS (DHHS, 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% (DHHS, 2006a and 2006b).
- 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 (DHHS, 2006a and 2006b).
- SHS causes more than 40,000 deaths per year (DHHS, 2014).

However, use of cigarettes in the United States is declining (Figure 2) (U.S. Alcohol and Tobacco Tax and Trade Bureau, 2018). 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%) as 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 9.7% in 2010 (Yao et al., 2016).



#### Figure 2. Use of Cigarettes in the United States, 1984–2018

As of March 2019, 28 states and the District of Columbia had implemented comprehensive smoke-free laws (American Lung Association, 2018). Such laws are also expected to reduce the levels of non-users' exposure to SHS and THS.

#### 6.5. Impacts of the No-Action Alternative

The no-action alternative would not change the existing condition of use of cigarettes in the United States, as many similar products would continue to be used in the United States.

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

The Agency evaluated potential environmental impacts that may be caused by disposal of the new products and found no significant impacts based on publicly available information and the applicant's submitted information.

# 7.1. Affected Environment

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

# 7.2. Air Quality

The Agency does not anticipate that disposal of the new products or packaging materials would change the release of chemicals into the air.

No changes in air quality are anticipated from either proper disposal or littering of the cigarette butts from the new products. The chemicals in the cigarette butts from the new products would be similar to those commonly found in butts from other currently marketed cigarettes. Because the new products are anticipated to compete with or replace other currently marketed cigarettes, the butt waste generated from the new products would replace the same type of waste. Therefore, the fate and effects of any materials emitted to the air from disposal of the new products are anticipated to be the same as from other cigarettes disposed of in the United States.

No changes in air quality from disposal of the new products' package materials 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 new products' packaging is a minuscule portion of the municipal solid waste per FDA's experience in evaluating the packaging waste generated from cigarettes.

# 7.3. Water Resources

No changes in impacts on water resources are expected due to cigarette butts littered after use of the new products because (1) the chemicals in the new products are used in currently marketed cigarettes and (2) the new products are intended to compete with or replace market share held by similar products.

# 7.4. Biological Resources

Disposal of the new products is 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. Although disposal of smoldering cigarettes has been implicated in many fire incidents (NFPA, 2013; UC Davis, 2000), disposal of the new products are not expected to change the fire frequency because (1) the disposal of the new products are similar to the disposal of cigarettes that are currently marketed in the United States, and (2) there would be no anticipated increase in number of cigarettes being disposed of as the new products are anticipated to replace similar marketed cigarettes.

### 7.5. Socioeconomics and Environmental Justice

No significant environmental impacts have been identified from disposal of the new products; therefore, there would be no disproportionate impacts to environmental justice (low-income, minority, or other special) populations.

# 7.6. Solid Waste

The Agency does not foresee that the introduction of the new products would notably affect the current cigarette butt waste and packaging materials generated from all combusted, filtered cigarettes. The waste generated due to disposal of the new products would be disposed of in the same manner as any other waste generated from any other combusted, filtered cigarettes manufactured in the United States. The number of cigarette butts that would be generated is equivalent to the market projections (Confidential Appendix 2) and a portion of those would be littered.

# 7.7. Cumulative Impacts

A major existing environmental consequence of the use of the new products as well as other conventional cigarettes is littering of discarded cigarette filters or butts (Novotny and Zhao, 1999). Cigarette butts are among the most common forms of litter found on beaches (Claereboudt, 2004; Smith et al., 1997), near streams, night clubs (Becherucci and Pon, 2014), bus stops (Wilson et al., 2014), roads, and streets (Healton et al., 2011; Patel et al., 2013). Cigarette butts have been found at densities averaging more than four cigarette butts per square meter in urban environments (Pon and Becherucci, 2012).

The chemicals in cigarette butts can leach into water, potentially threatening human health and the environment, especially marine ecosystems (Kadir and Sarani, 2015). The environmental toxicity of cigarette butts due to air emissions is not well studied. The chemicals in cigarette butts can be the original chemicals in the unsmoked cigarettes or the pyrolysis and distillation products deposited in the cigarette butts. Airborne emissions from discarded cigarette butts depend on the environmental conditions and the chemicals in the butt. These emissions can be influenced by several factors such as the cigarette brand, cigarette length, filter material, types of tobacco, ingredients in the cigarette and tobacco filler, number of puffs, and the mass transfer behavior of combustion products along the cigarette (NIST, 2016).

The Agency did not identify any actions that, when considered with the products' disposal under the proposed actions, would lead to changes in cumulative impacts. Additionally, the cumulative impacts from cigarette butts are declining because the use of cigarettes in the United States is declining.

# 7.8. Impacts of the No-Action Alternative

The no-action alternative would not change the existing disposal of cigarettes and cigarette packaging in the United States, as many other similar products would continue to be disposed of.

#### 8. List of Preparers

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

#### Preparer:

William E. Brenner, B.S., Center for Tobacco Products

Education:	B.S. in Biology
Experience:	Five years in various scientific activities
Expertise:	NEPA analysis, environmental risk assessment, air quality analysis, archaeological and
	archival preservation

#### Reviewer:

Rudaina Alrefai-Kirkpatrick, Ph.D., Center for Tobacco Products			
Education:	Ph.D. in Plant Molecular Biology and Virology		
Experience:	Forty-two years in various scientific activities including eight years in NEPA practice		
Expertise:	NEPA analysis, environmental risk assessment, evidence-based assessment of health		
	technologies, NEPA Implementation		

#### 9. List of Agencies and Persons Consulted

Not applicable.

#### 10. References

American Lung Association. 2018. Smokefree Air Laws. <u>www.lung.org/our-</u> <u>initiatives/tobacco/smokefree-environments/smokefree-air-laws.html</u> (updated March 8, 2019). Accessed April 2, 2019.

Becherucci ME, Pon JPS. What is left behind when the lights go off? Comparing the abundance and composition of litter in urban areas with different intensity of nightlife use in Mar del Plata, Argentina. *Waste Management*. 2014;34(8):1351-1355.

Claereboudt MR. Shore litter along sandy beaches of the Gulf of Oman. *Marine Pollution Bulletin*. 2004;49(9-10): 770-777.

GoogleMaps. 2019. Map of 2525 East Market Street, Greensboro, NC 27401. <u>www.google.com/maps</u>. Accessed January 7, 2019.

Healton CG, Cummings KM, O'Connor RJ, Novotny TE. Butt really? The environmental impact of cigarettes. *Tobacco Control*. 2011;20:11.

Homa DM, Neff LJ, King BA, Caraballo RS, Bunnell RE, Babb SD, Garrett BE, Sosnoff CS, Wang L. Vital signs: disparities in nonsmokers' exposure to secondhand smoke —United States, 1999–2012. *MMWR Morbidity Mortality Weekly Report*. 2015;64(4):103-108.

Kadir AA, Sarani NA. Cigarette butts pollution and environmental impact - a review. *Applied Mechanics and Materials*. 2015;773-774:1106-1110.

National Fire Protection Association. 2013. The smoking-material fire problem. <u>www.nfpa.org/News-and-Research/Fire-statistics-and-reports/Fire-statistics/Fire-causes/Smoking-Materials</u> (July 2013). Accessed August 16, 2018.

National Institute of Standards and Technology. 2016. Measuring Airborne Emissions from Cigarette Butts: Literature Review and Experimental Plan. Technical Report 8147. http://dx.doi.org/10.6028/NIST.IR.8147. Accessed August 16, 2018.

Novotny TE, Zhao F. Consumption and production waste: Another externality of tobacco use. *Tobacco Control*. 1999;8(1):75-80.

Patel V, Thomson GW, Wilson N. Cigarette butt littering in city streets: A new methodology for studying and results. *Tobacco Control*. 2013;22(1):59-62.

Pon JPS, Becherucci ME. Spatial and temporal variations of urban litter in Mar del Plata, the major coastal city of Argentina. *Waste Management*. 2012;32(2):343-348.

Smith CJ, Livingston SD, Doolittle DJ. An international literature survey of "IARC Group 1 carcinogens" reported in mainstream cigarette smoke. *Food and Chemical Toxicology*. 1997;35(10-11):1107-1130.

U.S. Alcohol and Tobacco Tax and Trade Bureau. 2018. Tobacco Statistical Release Reports. <u>www.ttb.gov/tobacco/tobacco-stats.shtml</u>

U.S. Department of Health and Human Services. 2006a. The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Coordinating Center for Health Promotion, Office on Smoking and Health. Atlanta, GA.

U.S. Department of Health and Human Services. 2006b. The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General—Secondhand Smoke: What It Means to You (Consumer Booklet). Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Coordinating Center for Health Promotion, Office on Smoking and Health. Atlanta, GA.

U.S. Department of Health and Human Services. 2014. The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. Atlanta, GA.

U.S. Environmental Protection Agency. 2019a. NEPAssist: Web-Based Mapping Application for Environmental Assessments. <u>www.epa.gov/nepa/nepassist</u>. Accessed January 7, 2019.

U.S. Environmental Protection Agency. 2019b. ECHO: Enforcement and Compliance History Online. https://echo.epa.gov/. Accessed January 7, 2019.

U.S. Fish and Wildlife Service. 2018. Endangered Species, Threatened Species, Federal Species of Concern, and Candidate Species: Guilford County, North Carolina. Raleigh Ecological Field Services Office. <u>www.fws.gov/raleigh/species/cntylist/guilford.html</u> (updated October 4, 2018). Accessed January 8, 2019.

UC Davis Health News. 2000. Study shows smoking is a leading cause of fire disaster and death worldwide, costing over \$27 billion yearly. www.ucdmc.ucdavis.edu/publish/news/newsroom/2763. Accessed August 16, 2018.

Wilson N, Oliver J, Thomson G. Smoking close to others and butt littering at stops: Pilot observational study. *PeerJ*. 2014;2.

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 Reports*. 2016;131:357-366.

# Confidential Appendix 1: Modifications: The New Products Compared to the Corresponding Original Products

The new products differ from the corresponding original products in the deletion of side seam adhesive (b) (4) and addition of alternate side seam adhesive (b) (4) . The side seam replacement resulted in increased (b) (4) and (b) (4) , decreased (b) (4) , addition of (b) (4) , addition of (b) (4) , and deletion of (b) (4) in the new products.

#### Confidential Appendix 2: First- and Fifth-Year Market Volume Projections for the New Products

First- and fifth-year market volume projections for the new products were compared to the total forecasted use of cigarettes in the United States.<sup>2</sup> Comparing projected market volumes to forecasted market volumes the agency found that the percent share of the projected market volumes is miniscule in comparison to the total forecasted market volumes. In addition, the applicant stated that the new products would replace the original products.

	New Product	Projected Market Volume	
CTN .		First Year	Fifth Year
STN		New Product (# of Cigarettes)	New Product (# of Cigarettes)
EX0000550	USA Gold Blue 100s Box		
EX0000551	USA Gold Blue 100s Soft Pack		
EX0000552	USA Gold Blue Kings Soft Pack		
EX0000553	USA Gold Red Kings Box		
EX0000554	USA Gold Red Kings Soft Pack		
EX0000555	USA Gold Menthol Dark Green 100s Box		
EX0000556	USA Gold Menthol Green 100s Box		
EX0000557	USA Gold Menthol Green 100s Soft Pack		
EX0000558	USA Gold Menthol Green Kings Soft Pack		
EX0000559	USA Gold Non-Filter Kings Soft Pack		
EX0000560	USA Gold Gold 100s Box		
EX0000561	USA Gold Gold 100s Soft Pack		
EX0000562	USA Gold Gold Kings Box		
EX0000563	USA Gold Menthol Dark Green 100s Soft Pack		
EX0000564	USA Gold Menthol Dark Green Kings Box		
EX0000565	USA Gold Menthol Dark Green Kings Soft Pack		
EX0000566	USA Gold Gold Kings Soft Pack		
EX0000567	USA Gold Red 100s Box		
EX0000568	USA Gold Red 100s Soft Pack		

 $<sup>^{2}</sup>$  The Agency used historical data regarding total use of cigarettes from 2002 to 2018 to mathematically estimate the total number of cigarettes used in the United States. Using the best-fit trend line with an R<sup>2</sup> value of 0.9814, the forecasted number of cigarettes that would be used in the United States is estimated at 228.657 billion cigarettes in the first year and 205.021 billion cigarettes in the fifth year of marketing the new products.