

EXHIBIT 4

(PUBLIC)

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**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
ALEXANDRIA DIVISION**

**SECOND SUPPLEMENTAL OPENING EXPERT REPORT OF
JOSEPH C. McALEXANDER III
REGARDING U.S. PATENT NUMBERS 6,803,545 AND 10,420,374**

**RJR STRATEGIC HOLDINGS, INC. AND R.J. REYNOLDS VAPOR COMPANY
vs.
ALTRIA CLIENT SERVICES LLC; PHILIP MORRIS USA INC.; and
PHILIP MORRIS PRODUCTS S.A.,**

Civil Action No. 1:20-cv-00393-LO-TCB

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679. In sum, neither of the two alleged design arounds that RJR identified would result in a redesigned product that would be non-infringing, technically feasible, and commercially acceptable. Each proposed design around, to the extent it does not infringe the '374 Patent, is either technically unfeasible or unacceptable to consumers because it lacks the benefits achieved by using the technology claimed in the '374 Patent and further would not achieve the same result. As such, it is my opinion that RJR has not identified any suitable design arounds available in September 2019 at the time of the hypothetical negotiation for the '374 Patent.

12.13 Third-Party Products

680. I understand that Reynolds has asserted that the MarkTen Elite and JUUL product practiced or practice one or more of the Asserted Claims of the '545 and '374 Patents, at least as those claims are being construed by Defendants.⁶⁹⁶ Reynolds subsequently asserted that the MarkTen and MarkTen XL practice the Asserted Claims of the '545 Patent.⁶⁹⁷

⁶⁹⁶ 11-20-2020 Ltr. from J. Michalik at 1; *see also* RJR’s Resp. to ROG 21 (Oct. 29, 2020) at 12-13 (“For instance, based upon Defendants’/Counterclaim Plaintiffs’ contentions, their affiliate Nu Mark and their licensee JUUL made or continue to make products (*i.e.*, the MarkTen Elite and the JUUL product) that practiced or practice one or more asserted claims of the ’545 and ’374 Patents.”).

⁶⁹⁷ RJR’s Resp. to ROG 28 (Jan. 4, 2021) at 7-8; I understand that RJR also alleges that the Accord Series K and Greensmoke products also practice the ’545 Patent. RJR’s Resp. to Rog 28, dated Jan. 4, 2021, 7-8.

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12.13.1 The JUUL Device and MarkTen Products Practice the Asserted Claims of the '545 Patent

681. RJR admits that “JUUL makes, uses, sells, offers for sale, and/or imports into the United States and has made, used, sold offered for sale, and/or imported into the United States one or more Products that practices one or more claims of the '545 Patent.”⁶⁹⁸ Based on the evidence that I have reviewed, I agree with Reynolds’ position. For example, the JUUL Device comprises a lithium ion power source electrically connected to an electrical resistance heating element,⁶⁹⁹ and a controller to control the flow of modulated pulses of electrical power from the lithium ion power source to the electrical resistance heating element to prevent damage to the lithium ion power source.⁷⁰⁰ It also comprises a lithium ion battery cell with a maximum voltage greater than 4 volts.⁷⁰¹ The lithium ion power source comprises circuitry to stop flow of current if the lithium ion battery cell is short circuited.⁷⁰²

⁶⁹⁸ RJR’s Response to RFA Nos. 108-111, dated Jan. 4, 2021.

⁶⁹⁹ DeviceSolutions Product Evaluation, JUUL, RJREDVA_001271814 at RJREDVA_001271842, RJREDVA_001271853-54; Device Solutions Teardown of JUUL Device, RJREDVA_001271556 at RJREDVA_001271558; Competitive Analysis Tear-down Report, JUUL, RJREDVA_001271567 at RJREDVA_001271568, RJREDVA_001271584; Deposition of S. Daugherty, dated 11.20.2020, at 171:5-10 (Device Solutions performed teardowns of multiple devices for RJR); Deposition of J. Figlar, dated May 3, 2021, at 64:19-67:12, 73:21-74:11.

⁷⁰⁰ DeviceSolutions Product Evaluation, JUUL, RJREDVA_001271814 at RJREDVA_001271845-46,, RJREDVA_001271858-70; Device Solutions Teardown of JUUL Device, RJREDVA_001271556 at RJREDVA_001271557-64; Deposition of J. Figlar, dated May 3, 2021, at 64:19-67:12, 73:21-74:11.

⁷⁰¹ See, e.g., DeviceSolutions Product Evaluation, JUUL, RJREDVA_001271814 at RJREDVA_001271844 (battery having voltage of 4.2 V).

⁷⁰² See, e.g., DeviceSolutions Product Evaluation, JUUL, RJREDVA_001271814 at

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682. RJR also admits that NuMark’s MarkTen, MarkTen Elite, and MarkTen XL practiced one or more asserted claims of the '545 Patent.⁷⁰³ Based on the evidence that I have reviewed, I agree with Reynolds’ position.⁷⁰⁴ For example, the MarkTen Elite comprises a lithium ion power source electrically connected to an electrical resistance heating element,⁷⁰⁵ and a controller to control the flow of modulated pulses of electrical power from the lithium ion power source to the electrical resistance heating element to prevent damage to the lithium ion power source.⁷⁰⁶ It also comprises a lithium ion battery cell with a greater than 4 V maximum voltage and a lithium ion power source which comprises circuitry to stop flow of current if the lithium ion battery cell is short circuited.⁷⁰⁷

RJREDVA_001271843, RJREDVA_001271858-59.

⁷⁰³ RJR’s Response to Rog No. 28, dated Jan. 4, 2021.

⁷⁰⁴ I am not aware of any evidence indicating that MarkTen is not representative of MarkTen Elite and MarkTenXL for purposes of the '545 Patent claims. *See, e.g.*, Deposition of E. Hawes, dated Dec. 4, 2020. at 35:6-36:7 (testifying that the [REDACTED]); Deposition of J. Figlar, dated May 3, 2021, at 77:11-78:17.

⁷⁰⁵ Sky Carman 'MARKTEN ELITE' Product Teardown, RJREDVA_000948368 at RJREDVA_000948369-72; Deposition of J. Figlar, dated May 3, 2021, at 52:15-53:14,56:13-62:16.

⁷⁰⁶ Sky Carman 'MARKTEN ELITE' Product Teardown, RJREDVA_000948368 at RJREDVA_000948369-72; VUSE Ciro Controller Specification, RJREDVA_000958597 at RJREDVA_000958602-604; Deposition of J. Figlar, dated May 3, 2021, at 52:15-53:14,56:13-62:16.

⁷⁰⁷ Sky Carman 'MARKTEN ELITE' Product Teardown” RJREDVA_000948368 at RJREDVA_000948369-72; VUSE Ciro Controller Specification, RJREDVA_000958597 at RJREDVA_000958602-604; Deposition of J. Figlar, dated May 3, 2021, at 52:15-53:14,56:13-62:16.

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