

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN JOSE DIVISION

APPLIED MATERIALS, INC.,  
Plaintiff,  
v.  
DEMARAY LLC,  
Defendant.

Case No. 20-cv-09341-EJD

**ORDER ON CLAIM CONSTRUCTION**

Plaintiff Applied Materials, Inc. (“Applied Materials” or “Applied”) brought this suit against Defendant Demaray LLC (“Demaray”) seeking a declaration of non-infringement of U.S. Patent Nos. 7,381,657 and 7,544,276. ECF Nos. 1 (“Compl.”), 1-15 (the “‘657 Patent”), 1-16 (the “‘276 Patent” and, with the ‘657 Patent, the “Patents-in-Suit”). Demaray countersued for a declaration of validity and infringement of the Patents-in-Suit, and Applied Materials brought a counterclaim for a declaration of invalidity for the same Patents-in-Suit. ECF Nos. 174, 180. The parties dispute the proper construction of five terms used in the claims in the Patents-in-Suit. The Court held a technology tutorial and claim construction hearing on April 26, 2023. Upon consideration of the claims, specifications, prosecution histories, and other relevant evidence, as well as the parties’ written submissions and oral arguments, the court rules as follows.

**I. BACKGROUND**

The two Patents-in-Suit share the title “Biased Pulse DC Reactive Sputtering of Oxide Films”; the ‘276 Patent claims are apparatus claims and the ‘657 Patent claims are method claims. The invention here concerns a way to deposit thin films of materials, such as metals, onto a

1 surface, such as a silicon wafer. ‘657 Patent, col. 2:45–62. Such deposition has uses for  
2 producing semiconductor devices and—given the “increasing prevalence of fiber optic  
3 communications”—optical devices. *Id.* at col. 1:15–23. It is desirable to precisely control  
4 properties of the deposited films, such as the index of refraction, physical and chemical  
5 uniformity, low stress, and high density. *Id.* at col. 1:53–2:2.

6 To that end, the Patents-in-Suit present a “sputtering reactor apparatus” that includes a  
7 “pulsed DC power supply coupled through a filter to a target and a substrate electrode coupled to  
8 an RF [*i.e.*, radio frequency] power supply,” with a “substrate mounted on the substrate electrode  
9 [that] is therefore supplied with a bias from the RF power supply.” *Id.* at col. 2:45–54; ‘276  
10 Patent, col. 2:45–53. The Patents-in-Suit share a Figure 1A, which “show[s] a pulsed DC  
11 sputtering reactor according to the present invention”:

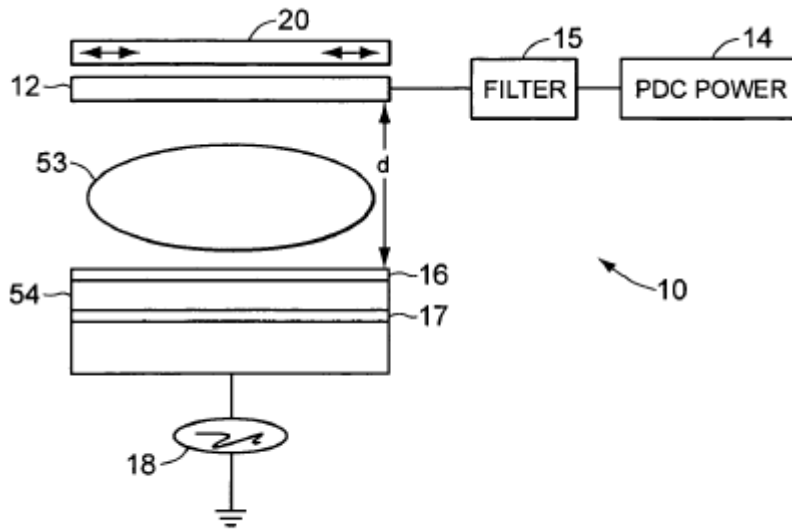


FIG. 1A

22 ‘657 Patent, sheet 1 of 27, col. 3:28–30; ‘276 Patent, sheet 1 of 27, col. 3:26–27. Pulsed DC  
23 power is sent from a power source (component 14) is sent through a narrow band rejection filter  
24 (15) to a target (12), which creates a plasma (53) that is deposited onto a substrate (16) that is  
25 mounted upon a substrate electrode (17). ‘276 Patent, col 5:19–39. RF power from a power  
26 source (18) is applied to the substrate (16), *id.*; as explained during the technology tutorial, this  
27 application increases both the rate of deposition of the target material onto the substrate and the

1 uniformity of the deposited layer. The narrow band rejection filter prevents the RF power from  
 2 reaching the pulsed DC power, which might damage the pulsed DC power supply. ‘657 Patent,  
 3 col. 5:56–57. As explained at the tutorial, a negative charge buildup on the target from the DC  
 4 power may “poison” the target or cause undesirable arcing that damages the film layer deposited  
 5 on the substrate, and a positive pulse discharges that buildup. *See also id.* at col. 5:36–41.

6 **II. LEGAL STANDARDS**

7 Claim construction is a question of law to be decided by the court. *Markman v. Westview*  
 8 *Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff’d* 517 U.S. 370 (1996). Patent  
 9 claims are construed in the manner that “most naturally aligns with the patent’s description of the  
 10 invention.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (quoting *Renishaw PLC*  
 11 *v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

12 “It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to  
 13 which the patentee is entitled the right to exclude.’” *Phillips*, 415 F.3d at 1312 (citation omitted).  
 14 Claim construction should begin with “the language of the asserted claim itself.” *Comark*  
 15 *Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998) (citations omitted). A  
 16 disputed claim term should be construed in a manner consistent with its “ordinary and customary  
 17 meaning,” which is “the meaning that the term would have to a person of ordinary skill in the art  
 18 in question.” *Phillips*, 415 F.3d at 1312–13. Additionally, the use of the term in other claims may  
 19 provide guidance regarding its proper construction. *Id.* at 1314.

20 “Because a patent is a fully integrated written instrument, [courts] have long emphasized  
 21 the importance of the specification in claim construction.” *David Netzer Consulting Eng’r LLC v.*  
 22 *Shell Oil Co.*, 824 F.3d 989, 993 (Fed. Cir. 2016) (citation omitted). It is “the single best guide to  
 23 the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315 (citing *Vitronics Corp. v.*  
 24 *Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). A construction that imposes limitations  
 25 not found in the claims is erroneous unless it is supported by an unambiguous restriction  
 26 elsewhere in the intrinsic record. In these circumstances, “the inventor’s intention, as expressed in  
 27 the specification, is regarded as dispositive.” *Id.* at 1316.

1 A final source of intrinsic evidence is the prosecution record and any statements made by  
 2 the patentee to the United States Patent and Trademark Office regarding the scope of the  
 3 invention. *See Phillips*, 415 F.3d at 1317 (“Like the specification, the prosecution history  
 4 provides evidence of how the PTO and the inventor understood the patent.”); *Markman*, 52 F.3d at  
 5 980 (“The court has broad power to look as a matter of law to the prosecution history of the patent  
 6 in order to ascertain the true meaning of language used in the patent claims.”). Because the  
 7 prosecution history reflects an ongoing negotiation between the patentee and the USPTO,  
 8 however, it often is difficult to determine with exact precision the scope or meaning of particular  
 9 statements. *Phillips*, 415 F.3d at 1317. Thus, the prosecution history usually is accorded less  
 10 weight than the claims and the specification. *Id.* Further, any limitation or disclaimer of claim  
 11 scope based on prosecution history must constitute “unmistakable [and] unambiguous evidence of  
 12 disclaimer.” *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1325 (Fed. Cir. 2003) (internal  
 13 citations omitted).

14 The court also may consider extrinsic evidence, such as dictionaries or technical treatises,  
 15 especially if such sources are “helpful in determining the true meaning of language used in the  
 16 patent claims.” *Phillips*, 415 F.3d at 1318 (internal quotations omitted). But extrinsic evidence is  
 17 “unlikely to result in a reliable interpretation of patent claim scope unless considered in the  
 18 context of the intrinsic evidence.” *Id.* at 1319. Extrinsic evidence cannot be used to contradict the  
 19 meaning of a claim term derived from the intrinsic sources. *Id.* at 1322–23.

20 **III. AGREED-UPON CONSTRUCTIONS**

21 Applied Materials and Demaray have agreed to the construction of several terms. ECF No.  
 22 199 (Joint Claim Construction Statement) at 1. The Court approves and adopts the following  
 23 agree-upon constructions:

Term	Stipulated Construction	Court’s Construction
“A method of depositing a film on an insulating substrate, comprising”  ‘657 Patent, claim 1	Preamble is non-limiting, except for “insulating substrate.”	Preamble is non-limiting, except for “insulating substrate.”

Term	Stipulated Construction	Court's Construction
“insulating substrate” ‘657 Patent, claim 1	Plain and ordinary meaning. The term “substrate” includes, but is not limited to, a wafer coated with an insulator.	Plain and ordinary meaning. The term “substrate” includes, but is not limited to, a wafer coated with an insulator.
“the insulating film” ‘657 Patent, claim 2	Plain and ordinary meaning.	Plain and ordinary meaning.
“wherein an oxide material is deposited on the substrate, and the insulating film is formed by reactive sputtering in a mode between a metallic mode and a poison mode” ‘657 Patent, claim 2	Plain and ordinary meaning.	Plain and ordinary meaning.

**IV. CONSTRUCTION OF DISPUTED TERMS<sup>1</sup>**

**A. “pulsed DC power supply” / “pulsed DC power” (‘276 Patent, claims 1 and 6; ‘657 Patent, claims 1 and 2)**

Applied Materials’ Proposed Construction	Demaray’s Proposed Construction	Court’s Construction
“ <u>pulsed DC power</u> ”: “direct current power that oscillates between positive and negative voltages,” wherein “oscillates” should have its plain and ordinary meaning as understood by a person of ordinary skill in the art.	“ <u>pulsed DC power</u> ”: “direct current power that oscillates between positive and negative voltages,” wherein “oscillates” does not require further construction, but it includes “providing alternating negative and positive voltages to the target.”	“ <u>pulsed DC power</u> ”: “direct current power that oscillates between positive and negative voltages,” wherein “oscillates” should have its plain and ordinary meaning.
“ <u>pulsed DC power supply</u> ”: “supply for providing pulsed DC power”	“ <u>pulsed DC power supply</u> ”: “supply for providing pulsed DC power”	“ <u>pulsed DC power supply</u> ”: “supply for providing pulsed DC power”

<sup>1</sup> Many of the claim terms at issue in the Patents-in-Suit have previously been construed in *Demaray LLC v. Intel Corp.*, 20-cv-00634 (W.D. Tex.), and *Demaray LLC v. Samsung Elecs. Co. Ltd.*, 20-cv-00636 (W.D. Tex.). “When engaging in claim construction, district courts have granted ‘reasoned deference’ to claim construction orders outside their jurisdiction that address the same term in the same patent.” *Finjan, Inc. v. Symantec Corp.*, 2017 WL 550453, at \*3 (N.D. Cal. Feb. 10, 2017) (citations omitted). Such orders have persuasive value, but the standard requires that each district court exercise its own independent judgment. *Id.* The Court accordingly considers the prior construction orders for their persuasive value.

1           There is no true dispute as to the construction of “pulsed DC power.” Both parties propose  
2 that the term be construed as “direct current power that oscillates between positive and negative  
3 voltages.” Any potential disagreement centers around the word “oscillates” within the  
4 construction. Applied Materials proposes that “oscillates” should have its plain and ordinary  
5 meaning as understood by a person of ordinary skill in the art. ECF No. 222 at 11–13. Demaray  
6 agrees that “oscillates” does not require further construction, but proposes that the word “includes  
7 ‘providing alternating negative and positive voltages to the target.’” ECF No. 202 at 9.

8           Given that the parties agree on the construction of “pulsed DC power” as “direct current  
9 power that oscillates between positive and negative voltages,” and agree that “oscillates” does not  
10 require further construction, the Court declines Demaray’s invitation to construe “oscillates” to  
11 include “providing alternating negative and positive voltages to the target.” Importantly, the  
12 additional language sought by Demaray is contained in the language following each appearance of  
13 the purportedly disputed term. For example, claim 1 of the ‘276 Patent identifies: “a pulsed DC  
14 power supply coupled to the target area, the pulsed DC power supply *providing alternating*  
15 *negative and positive voltages to the target.*” ‘276 Patent, col. 22:44–46; *see also id.* at col.  
16 22:66–67 (“a pulsed DC power supply coupled to the target to *provide alternating positive and*  
17 *negative voltages to the target*”); ‘657 Patent, col. 23:6–8 (“providing pulsed DC power to the  
18 target through a narrow band rejection filter such that *the target alternates between positive and*  
19 *negative voltages*”); *id.* at col. 23:19–21 (“providing pulsed DC power to the target through a  
20 narrow band rejection filter such that the *voltage on the target alternates between positive and*  
21 *negative voltages*”) (all emphases added). Were the Court to construe “oscillates” as requested by  
22 Demaray—despite Demaray’s contention that “oscillates” does not require further construction—  
23 the claim terms italicized above would become redundant. The Court will not cause such a result.  
24 *See Phillips*, 415 F.3d at 1324–25 (noting claim construction principle of avoiding redundancy).

25           Accordingly, the Court adopts the following construction of “pulsed DC power”: “direct  
26 current power that oscillates between positive and negative voltages,” wherein “oscillates” should  
27 have its plain and ordinary meaning. The Court further adopts the parties’ undisputed proposed

1 construction of “pulsed DC power supply” as “supply for providing pulsed DC power.”

2 **B. “narrow band rejection filter” (‘276 Patent, claims 1 and 6; ‘657 Patent,**  
3 **claims 1 and 2)**

Applied Materials’ Proposed Construction	Demaray’s Proposed Construction	Court’s Construction
“filter that passes all of the frequencies of the pulsed-DC power supply, except within a narrow band centered on the frequency of the RF bias applied to the substrate.”	Plain and ordinary meaning, or “a filter which rejects a narrow band of frequencies.”	“filter that rejects a narrow band of frequencies, including the RF bias power frequency, and passes all other frequencies”

4  
5  
6  
7  
8  
9 The parties agree that the narrow band rejection filter (“NBRF”) rejects the frequency of  
10 the RF bias applied to the substrate and a narrow band around that frequency. Applied Materials  
11 seeks a construction of “narrow band rejection filter” that requires (1) that the NBRF passes all  
12 frequencies outside of the narrow band around the RF bias and (2) that the narrow band of rejected  
13 frequencies be centered on the RF bias. ECF No. 222 at 4–11. Demaray proposes that “narrow  
14 band rejection filter” be given its plain and ordinary meaning, or, if necessary, that the term be  
15 construed only to require rejection of a narrow band of frequencies, without requiring passing of  
16 all other frequencies or of centering the narrow band on the RF bias. ECF No. 202 at 4–8.

17 Each proposed definition creates problems. Demaray’s construction would permit it to  
18 argue that the NBRF could be a filter that rejects both (1) a narrow band of frequencies around the  
19 RF bias and (2) other frequencies. However, during the prosecution of the parent application of  
20 the Patents-in-Suit, the applicants distinguished the claimed “narrow band rejection filter” from  
21 prior art that also taught a filter between a DC power supply and a target by indicating that the  
22 filter “passes all frequencies except for the frequency of the bias power itself” in order to “pass the  
23 pulsed DC signal without unduly affecting the shape of that signal while rejecting the RF power.”  
24 ECF No. 222-3 (“‘863 Patent File History Excerpts”) at -7237–38, -7410.<sup>2</sup> Demaray argues that  
25

26  
27 <sup>2</sup> The ‘657 Patent is a continuation of patent application 10/101,863, and the ‘276 Patent is a  
28 division of the same. ‘657 Patent, Related U.S. Application Data; ‘276 Patent, Related U.S.  
Application Data.

1 this distinction is inapplicable to the claim term in the Patents-in-Suit because it was made only  
 2 with regard to a specific embodiment in which the output of the pulsed DC power supply was a  
 3 square wave, and the description of a preferred embodiment is not limiting. ECF No. 239 at 5  
 4 (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)). This  
 5 argument is unpersuasive, as the applicants were arguing for the patentability of the claims over  
 6 the prior art; a description of an embodiment would not have furthered the applicants’ position.  
 7 *See, e.g.*, ‘863 Patent File History Excerpts at -7237.

8 The prosecution history of the parent patent application of the Patents-in-Suit therefore  
 9 precludes a construction that would permit Demaray to argue that the NBRF can reject frequencies  
 10 beyond the narrow band around the RF bias. *See Verizon Servs. Corp. v. Vonage Holdings Corp.*,  
 11 503 F.3d 1295, 1306 (Fed. Cir. 2007) (“[A] statement made by the patentee during prosecution  
 12 history of a patent in the same family as the patent-in-suit can operate as a disclaimer.”); *Cordis*  
 13 *Corp. v. Bos. Sci. Corp.*, 658 F.3d 1347, 1356–57 (Fed. Cir. 2011) (holding argument that single  
 14 curve could satisfy claim limitation of “undulating” structure was foreclosed by statements made  
 15 during prosecution of parent patent application that distinguished undulating structures from those  
 16 merely curved). Applied Materials properly accounts for this prosecution history in its proposed  
 17 construction of “narrow band rejection filter,” but also adds that the NBRF must be “centered” on  
 18 the RF bias frequency. Although the ‘863 Patent File History Excerpts twice uses the “centered”  
 19 language, there is no indication that the applicants attempted to distinguish any patent claims  
 20 based on this feature. In fact, more explanations of the NBRF’s patentability are made without  
 21 designating the placement of the RF bias frequency within the NBRF. *See, e.g.*, ‘863 Patent File  
 22 History Excerpts at -7237–38, -7409, -7410. The statements on which Applied Materials relies are  
 23 not “so clear as to show reasonable clarity and deliberateness and so unmistakable as to be  
 24 unambiguous evidence of disclaimer.” *Omega Eng’g, Inc.*, 334 F.3d at 1325.

25 Accordingly, the Court construes “narrow band rejection filter” as follows: “filter that  
 26 rejects a narrow band of frequencies, including the RF bias power frequency, and passes all other  
 27 frequencies.”



C. “a method of depositing an insulating film on a substrate, comprising:” (‘657 Patent, claim 2)

Applied Materials’ Proposed Construction	Demaray’s Proposed Construction	Court’s Construction
Preamble is limiting.	Preamble is not limiting, except for “insulating film on a substrate.”	Preamble is not limiting, except for “insulating film on a substrate.”

Claim 2 of the ‘657 Patent reads, in relevant part:

A method of depositing an insulating film on a substrate, comprising:

...

wherein an oxide material is deposited on the substrate, and the insulating film is formed by reactive sputtering in a mode between a metallic mode and a poison mode.

‘657 Patent, col. 23:16–27.

“[A] preamble is not limiting ‘where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.’” *TomTom, Inc. v. Adolph*, 790 F.3d 1315, 1323 (Fed. Cir. 2015) (quoting *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002)). A court need not and should not construe an entire preamble if only a portion of it requires construction. *Id.* Here, the parties agree that the preamble “a method of depositing an insulating film on a substrate, comprising[]” is limiting as to “insulating film on a substrate.” *See* ECF No. 202 at 12–13; ECF No. 222 at 13–15. The dispute centers on whether the word “depositing” is also limiting: Demaray asserts that it is not, and Applied Materials contends that “the depositing of the ‘insulating film’ can[not] be read out” of the preamble.” *Id.*

The Court agrees with Demaray. Neither the phrase “method of depositing” nor the word “depositing” provides an antecedent basis for the claim body, and the claim body describes the formation of the insulating film *following* the deposition of an oxide material. Applied’s argument to the contrary—that “depositing ‘oxide material’ is a necessary step of the claimed method of ‘depositing an insulating film on a substrate’ and therefore confirms that the ‘oxide material’ is part of the ‘insulating film,’” ECF No. 222 at 14—in fact supports the Court’s refusal to construe the entire

1 preamble as a limitation. The claim body, with the limiting “insulating film on a substrate” from the  
2 preamble, provides all the “necessary step[s]” for the claimed method. The claim body therefore  
3 describes “a structurally complete invention such that deletion of the preamble phrase does not affect  
4 the structure or steps of the claimed invention.” *TomTom*, 790 F.3d at 1324.

5 Applied Materials also argues that a grammatically similar preamble was construed as  
6 limiting in *Bio-Rad Lab ’ys, Inc. v. 10X Genomics, Inc.*, 967 F.3d 1353 (Fed. Cir. 2020). ECF No.  
7 222 at 14–15. *Bio-Rad* is not instructive here. The preamble at issue in *Bio-Rad* recited “[a]  
8 method for conducting a reaction in plugs in a microfluidic system, comprising the steps of . . . .”  
9 and the district court found the preamble limiting only as to the terms “reaction” and “microfluidic  
10 system.” 967 F.3d at 1370. The Federal Circuit declared itself reluctant to “splic[e]” the preamble  
11 in such a manner, and noted that “[c]rucially, unlike *TomTom*, the preamble in this case cannot be  
12 neatly packaged into two separate portions.” *Id.* at 1371. The issue here is not whether two words  
13 can be lifted from the preamble and declared to be the only limiting components, but rather—as in  
14 *TomTom*—whether the limiting nature of a discrete phrase in a preamble requires the entire  
15 preamble to be limiting. *TomTom* instructs that there is no such requirement—indeed, that such a  
16 holding would be improper, particularly where, as here, the independent remainder of the  
17 preamble merely provides that the intended use of the invention is the deposition of an insulating  
18 film. 790 F.3d at 1324.

19 Accordingly, the Court construes the disputed preamble term “a method of depositing an  
20 insulating film on a substrate, comprising:” such that the preamble is not limiting, except for  
21 “insulating film on a substrate.”  
22  
23  
24  
25  
26  
27

**D. “an RF bias power supply coupled to the substrate” / “an RF bias power supply coupled to provide an RF bias to the substrate” (‘276 Patent, claims 1 and 6)**

Applied Materials’ Proposed Construction	Demaray’s Proposed Construction	Court’s Construction
<p>“An RF bias power supply coupled to the substrate, such that the pulsed DC power source and the RF bias power are coupled to different components (target and substrate respectively).”</p>	<p>(a) <u>RF bias power supply</u>: Plain and ordinary meaning, or alternatively, “a supply for providing an RF bias.”</p> <p>(b) <u>Coupled</u>: Does not require further construction, but if construed, should be given its plain and ordinary meaning, which is not limited to “directly” coupled.</p> <p>(c) <u>Substrate</u>: Plain and ordinary meaning.</p>	<p>Plain and ordinary meaning.</p>

At oral argument, the parties made clear that the dispute here has to do with whether the scope of the term would include a reactor apparatus in which the RF bias power was, for example, coupled to the target before becoming coupled to the substrate. Applied Materials argues that the term requires that the RF bias power supply be coupled first to the substrate before reaching the target, and vice versa as to the pulsed DC power supply. Demaray contends that term language does not limit the ordering, and that any configuration is permissible as long as the RF bias power is eventually coupled to the substrate.

As a preliminary matter, the Court notes that Applied Materials proposes a construction of the disputed term that simply reiterates the term and adds the following limitation: “such that the pulsed DC power source and the RF bias power are coupled to different components (target and substrate respectively).” *See* ECF No. 222 at 15. But Applied’s proposed construction, even if adopted, would not achieve the result Applied Materials is actually seeking, *i.e.*, a limitation as to the ordering of the coupling of the RF power supply to the substrate and pulsed DC power supply to the target. First, the specifications of both Patents-in-Suit make clear that “coupling” may be indirect. For example, each of the Patents-in-Suit states that the NBRF “prevents the bias power from [RF] power supply (18) . . . from coupling into pulsed DC power supply (14).” ‘657 Patent,

1 col. 5:56–57; ‘276 Patent, col. 5:50–51. It is—to use a layperson’s phrase—patently obvious that  
2 “coupling” is possible between the two extremities of the apparatus (the RF power supply and the  
3 pulsed DC power supply), or would be if not for the NBRF. Therefore, the RF power supply can  
4 be said to be coupled to every intervening part of the apparatus, so that it is coupled to both the  
5 substrate and the target. There is also no suggestion that the target and substrate could be the same  
6 component; they necessarily have different functions, with the target consisting of the material to  
7 be deposited onto the substrate. A configuration in which both the RF bias power and the pulsed  
8 DC power source were both coupled to the target before the substrate would therefore still be  
9 included in the construction proposed by Applied Materials.

10 Nothing in the Patents-in-Suit or their prosecution history indicates that this configuration  
11 should be excluded by limiting the construction of the term. Applied Materials argues that  
12 Demaray represented to the PTAB that the scope of the Patents-in-Suit required the two power  
13 supplies to be “connected” to different components, and specifically disclaimed coupling the RF  
14 bias power supply to the target. ECF No. 222 at 17. Following a review of the relevant prior art,  
15 the Court is not persuaded. For example, U.S. Patent No. 4,579,618 (*Applied Materials, Inc. v.*  
16 *Demaray LLC*, PTAB IPR 2021-00103/104, Ex. 1016) (“Celestino”) recites two RF power sources  
17 and no DC power source or target. *See* ECF No. 222-31, Fig. 1. Likewise, U.S. Patent No.  
18 5,302,882 (*Applied Materials, Inc. v. Demaray LLC*, PTAB IPR 2021-00103, Ex. 1023) (“Miller”)  
19 provides for only one power source. *See* ECF No. 222-32, Fig. 1. The configurations in Celestino  
20 and Miller are so dissimilar from those at issue here that Demaray’s distinctions from the prior art  
21 cannot be construed as a disclaimer regarding the configuration of the two power sources and  
22 coupled components in the Patents-in-Suit.

23 The closest question arises from Demaray’s statements regarding U.S. Patent No.  
24 6,695,954 (submitted in *Applied Materials, Inc. v. Demaray LLC*, PTAB IPR 2021/00103 and  
25 *Applied Materials, Inc. v. Demaray LLC*, PTAB IPR 2021/00104, Ex. 1019) (“Hong”). Hong  
26 disclosed an RF power supply and a DC voltage source connected to the same coil, with a filter  
27 blocking the transmission of RF power to the DC voltage source. *See* ECF No. 222-21, Fig. 1.

1 When prosecuting the Patents-in-Suit, Demaray informed the PTAB that in Hong, “the coil 6 is  
2 connected to both the RF power 16 and the DC power 30. This differs from the claimed reactor  
3 system in which bipolar pulsed DC power is ‘coupled to the target/target area’ and the RF power  
4 source is ‘coupled to the substrate.’ ... That is, unlike the reactor system where two different types  
5 of power sources are connected to two different components (target and substrate respectively),  
6 [Hong] connects two different types of power source to the same coil 6.” ECF No. 222-17 ¶ 151.

7 Elsewhere, Demaray discussed both the coil system and a second set of power sources in Hong:

8           So in this one reference filter is not used when the power source 26 is  
9           applied to the substrate and is not directly tightly coupled to the power  
10          source 24 connected to the target. That is the configuration that is at  
11          issue in the claims. No filter is used there. Yes, there is another filter  
12          used, but when that filter is used that’s because the RF power supply  
13          16 and DC power 30 are both connected to the same electrode and  
14          without a filter they would be directly connected and you’re going to  
15          have a problem.

16 ECF No. 222-28 at 76:7–15.

17           Although these statements could reasonably be read as disclaiming Hong based on the lack  
18           of filter between the second set of power sources (components 26 and 24), it is not unmistakably  
19           clear from the prosecution history as a whole that Demaray unambiguously limited the scope of  
20           the claims in the Patents-in-Suit. *See Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040, 1045  
21           (Fed. Cir. 2016). For example, the first statement could be reasonably read as a distinction based  
22           either on the number of power sources connected to specific components, or as one based on the  
23           differences between a coil, target, and substrate. Demaray has also described and disclaimed  
24           Hong purely with respect to the coil system—components 6 and 30—without even referencing  
25           components 24 and 26. *See* ECF No. 222-4 at 41. Demaray’s statements throughout the  
26           prosecution history do not definitively show that Demaray (or the PTAB) considered components  
27           24 and 26 of Hong to necessitate a distinction, in which case there would be no disclaimer. In  
28           light of this ambiguity, the Court gives less weight to the prosecution history and will not construe  
29           Demaray’s statements regarding Hong as a clear disclaimer of scope. *See Phillips*, 415 F.3d at  
30           1317 (“[T]he prosecution history . . . often lacks the clarity of the specification and thus is less

1 useful for claim construction purposes.”).

2 The Court will construe “an RF bias power supply coupled to the substrate” and “an RF  
3 bias power supply coupled to provide an RF bias to the substrate” to have their plain and ordinary  
4 meaning.


5 **E. “providing an RF bias . . . to the substrate” (‘657 Patent, claims 1 and 2)**

Applied Materials’ Proposed Construction	Demaray’s Proposed Construction	Court’s Construction
“Providing an RF bias . . . to the substrate, such that the pulsed DC power source and the RF bias power are coupled to different components (target and substrate respectively).”	(a) <u>Providing</u> : Does not require further construction, but if construed, should be given its plain and ordinary meaning, which is not limited to “directly” providing.  (b) <u>Substrate</u> : Plain and ordinary meaning.	Plain and ordinary meaning.

13 The parties made clear in their briefing and at oral argument that the dispute here is  
14 identical to the one above. For the same reasons given above, the Court construes “providing an  
15 RF bias . . . to the substrate” to have its plain and ordinary meaning.

17 **IT IS SO ORDERED.**

18 Dated: May 9, 2023

19  
20   
21 EDWARD J. DAVILA  
22 United States District Judge