IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

NEOLOGY, INC.,	:	
	:	
Plaintiff,	:	
	:	
v.	:	C. A. No. 11-672-LPS/MPT
	:	
FEDERAL SIGNAL CORPORATION, FEDERAL SIGNAL TECHNOLOGIES, LLC, and SIRIT CORP.,	:	
	:	
Defendants.	:	

REPORT AND RECOMMENDATION

I. INTRODUCTION

This patent infringement case was filed on July 29, 2011 by Neology, Inc. ("Neology" or "plaintiff")[1] against Federal Signal Corporation ("FSC"),[2] Federal Signal Technologies, LLC ("FSTech"),[3] and Sirit Corporation ("Sirit")[4] (collectively, "defendants") alleging infringement under 35 U.S.C. § 271 of U.S. Patent Nos. 7,081,819 ("the '819 patent"), 7,671,746 ("the '746 patent"), 6,229,443 ("the '443 patent"), 6,690,264 ("the '264 patent"), 7,064,653 ("the '653 patent"), and 5,856,788 ("the '788 patent"). On October 21, 2011 defendants filed their answer, affirmative

[1] Neology is a corporation organized under the laws of the State of Delaware with its principal place of business in Poway, California. D.I. 1 (Complaint), ¶ 1.

[2] FSC is a corporation organized under the laws of the State of Delaware with its principal place of business in Oak Brook, Illinois. *Id.* at ¶ 2; D.I. 10 (Answer), ¶ 2.

[3] FSTech is a limited liability corporation organized under the laws of the State of Delaware doing business as Federal Signal Technologies Group with its principal place of business in Irvine, California. D.I. 1, ¶ 3; D.I. 10, ¶ 3.

[4] Sirit is a corporation organized under the laws of the State of Texas with its principal place of business in Irvine, California. D.I. 1, ¶ 4; D.I. 10, ¶ 4. FSTech and Sirit are wholly-owned subsidiaries or affiliated companies of FSC. D.I. 1, ¶ 5; D.I. 10, ¶ 5.

defenses, and counterclaims.[5] On October 17, 2011 Neology filed its answer to defendants' counterclaims.[6] On December 2, 2011, Neology filed a motion, pursuant to Federal Rule of Civil Procedure 65 and 35 U.S.C. § 283, for an order of preliminary injunction against defendants enjoining them from infringing the '819, '746, and '264 patents.[7] According to Neology, these patents cover methods and products related to Radio Frequency Identification ("RFID") systems and services including RFID readers, RFID tags, system software, system integration services, and ultra high frequency ("UHF") antenna inlays all of which operate in accordance with the ISO 18000-6C ("6C," "6C protocol," or "6C standard") industry standard.[8] The final submissions related to plaintiff's motion were made on April 30, 2012 and the court held a preliminary injunction hearing on May 1, 2012. For the reasons that follow, the court recommends plaintiff's motion be denied.

II. BACKGROUND

Neology was founded in 2002 and currently has nineteen employees at its U.S. headquarters.[9] Neology is in the business of developing, manufacturing, and selling RFID technology. Neology's business is concentrated on supplying end-to-end RFID technology and solutions for Electronic Vehicle Registration ("EVR") and electronic toll

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[5] D.I. 10.

[6] D.I. 17.

[7] D.I. 19. On that same date, Neology filed an unopposed motion for enlargement of page limitation for its brief in support of its motion for a preliminary injunction. D.I. 20. The court recommends granting that motion. Although plaintiff is asserting six patents against defendants, its preliminary injunction motion addresses four claims from three of those patents: the '819, '746, and '264 patents.

[8] D.I. 21 (Neology's opening brief) at 1.

[9] D.I. 26 (Mullis Decl.), ¶ 5; D.I. 27 (Velasco Decl.), ¶ 1. Joe Mullis has been Neology's General Manger since February 2011. Mullis was Neology's Director of Operations from 2004 until 2011. D.I. 26, ¶ 1; D.I. 86, Mullis Dep. at 7:21-8:3, 13:20-14:2. Francisco Martinez de Velasco Cortina is the CEO and President of Neology. D.I. 27, ¶ 1.

collection ("ETC") systems, including the U.S. tolling industry.[10] Neology claims to be a pioneer in, and provider of, passive products that meet the 6C protocol, which is a standard governing the way identification tags and electronic readers communicate in the UHF radio spectrum. Neology states it has invested approximately $100 million in researching, developing, and producing the next generation of "passive" RFID systems and technology compatible with the 6C protocol to replace more expensive "active" RFID technology currently used in many states in the U.S.[11] At deposition, Mullis acknowledged the $100 million represents the capital Neology and its predecessor entities received from as far back as the 1990s, and reflects all of the company's spending on various costs such as salaries, procurement of products and manufacturing equipment, day-to-day costs of doing business, as well as, pure research and development.[12] Of the total $100 million, Mullis estimated approximately $10 million to $20 million was spent on research and development over a period of time beginning in the late 1980s.[13]

On December 8, 2011, Neology announced it was to be acquired by SMARTRAC N.V. ("SMARTRAC").[14] SMARTRAC paid Neology's shareholders $28 million in cash

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[10] D.I. 26, ¶ 6.

[11] *Id.*, ¶ 7. "Passive" RFID tags do not require a power source (battery) to communicate with a reader. Those tags instead exploit the electromagnetic/radiant energy waves transmitted by the electronic readers to power-up the tags. Neology states this advancement extends the service life and reliability of 6C tags, and also reduces production costs as compared to "active" tags. D.I. 21 at 2 n.1.

[12] D.I. 86, Mullis Dep. at 168:7-169:23.

[13] *Id.*, Mullis Dep. at 169:24-170:8, 172:18-21.

[14] D.I. 55, Ex. F (Neology's Dec. 8, 2011 Press Release). SMARTRAC is a large company that earned approximately €240 million (approximately $313 million) in 2011. *Id.*, Ex. B at 15:16-16:4. SMARTRAC is owned by One Equity Partners, the "Private Investment Arm of JPMorgan Chase & Co.," which manages $11 billion of investments and commitments for its owner, JPMorgan Chase. http:ww.oneequity.com/About. *Id.,* Ex. B at 15:5-15.

and paid off $4-6 million of the company's debt.[15] An additional $9 million may be paid through an earn-out if certain revenue targets are met for 2011 and 2012.[16]

FSC is a multinational conglomerate having manufacturing facilities throughout the world that provides a wide range of products and services to municipal, governmental, institutional, and industrial customers.[17] FSC operates four business groups: Safety and Security Systems, Environmental Solutions, Fire Rescue, and co-defendant FSTech.[18] FSC's product lines include truck mounted hydraulic platforms (used in rescue vehicles, firefighting, and construction), warning sirens, mining equipment, hydraulic excavators, industrial cleaning equipment and supplies, parking access and revenue control equipment, street sweepers and sewer cleaners, RFID tolling equipment, and hydroblasters (water-jet cleaners and cutters).[19]

Sirit has been in the RFID market for nearly two decades, and makes a wide range of RFID products, including a number of high performance readers specially designed for tolling applications.[20] Sirit also has significant experience and expertise designing and manufacturing specialized tags, including tags that operate on the 6C protocol.[21] Sirit produces "multi-protocol" readers that are able to read 6C tags as well as tags set to different protocols, facilitating the transition from old, more costly tags, to the newer, more cost-effective tags, for toll operators having existing equipment and

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[15] D.I. 55, Ex. B (Velasco Dep.) at 19:5-19. Velasco, received almost $2 million as part of the transaction. *Id.*, Ex. B at 20:14-22:11.

[16] *Id.*, Ex. F.

[17] D.I. 22, Ex. 3 at A10-A11.

[18] *Id.*, Ex. 3 at A10.

[19] *Id*., Ex. 4 at A13-A23.

[20] D.I. 54 (Clark Decl.), ¶ 3. Tawnya Clark is the Director of Strategic Global Accounts for FSTech. *Id.*, ¶ 1.

[21] *Id.*, ¶ 4.

tags set to protocols other than 6C.[22] Defendants tout these multi-protocol readers as a key aspect of Sirit's success in the marketplace.[23] Defendants contend, unlike some in the market, Sirit is a "one-stop shop," offering its customers a broad suite of products–such as tags, multi-protocol readers, cameras, and comprehensive system management (including the back-office operation concerning billing and toll violations)–comprising the entire solution for the customer's tolling needs.[24] Sirit was acquired by FSC on March 5, 2010 and was incorporated into FSTech's business group.[25] Prior to its acquisition of Sirit, FSC did not compete in the U.S. tolling market, but is now its primary competitor in that market.[26]

Neology alleges ten of defendants' products ("the Accused Products")[27] infringe the '819, '746, and '264 patents and requests the court enter and injunction prohibiting defendants from importing, making, using, selling, or offering to sell, those products.

Currently, a large percentage of the technology employed by the tolling industry in the United States operates using an older standard, the 6B protocol. Tolling agencies utlizing the 6B standard purchase tags and associated hardware from providers such as TransCore, LP ("TransCore"). TransCore sells its "eGo" and "eGo Plus" 6B RFID tags

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[22] *Id.*, ¶ 5.
[23] *Id.*
[24] *Id.*, ¶ 6.
[25] D.I. 22, Ex. 5 at A27-A28.
[26] D.I. 26, ¶ 18; D.I. 22, Ex. 5 at A27-A28. A January 14, 2010 FSC press release announced FSC was acquiring Sirit, described as "a global provider of radio frequency identification ('RFID') technology," *id.*, Ex. 11 at A42, and on March 5, 2010, the acquisition was completed. *Id.*, Ex. 5 at A27-A28.
[27] The products accused of infringement are: ID*entity* Windshield Mount Tag (transferable and non-transferable); ID*entity* Headlamp Mount Tag; ID*entity* External License Plate Tag; ID*entity* Self Declaration Tag; ID*entity* Card Tag; ID*entity* 5100 multi-protocol reader; ID*entity* 5100 ETSI multi-protocol reader; ID*entity* 5200/5204 multi-protocol reader; ID*entity* 5200/5204 ETSI multi-protocol reader; and IN*finity* 610 multi-protocol reader. D.I. 1.

in a range from approximately $9.20/unit to $37.50/unit.[28] The 6B technology is the primary means by which tolls are collected in states such as Texas, Washington, Florida, Oklahoma, and Georgia.[29] According to Neology, the high price of active 6B RFID tags has led several tolling agencies to consider adopting and implementing the new 6C standard.[30]

In approximately June or July 2008, FSC and Neology entered into discussions regarding possible synergies. Those initial discussions were facilitated by Joseph R. Wright, a current member of FSC's Board of Directors.[31] On or about July 18, 2008, Wright requested Neology provide Federal Signal a presentation of Neology's business and RFID technology, discuss its passive RFID technology, provide a tour of Neology's facilities, and demonstrate its RFID products.[32] Prior to the anticipated meeting, the parties executed a Non-Disclosure Agreement ("NDA") on July 21, 2008.[33] A meeting was held on August 12, 2008, where Neology disclosed confidential business and technical information concerning its 6C RFID technology to FSC's Vice President and General Manager of Public Safety, Michael K. Wons.[34] Neology also disclosed confidential technical, financial, and business information to FSC during the meeting, and subsequently, in a written investor's presentation.[35] The investor's presentation included slides discussing Neology's patent portfolio and how it covered several RFID

[28] TransCore is one of the largest competitors in the market for making tags of various protocols for tolling applications. It is generally seen as the "biggest player" in the RFID tolling market in the United States. 6C RFID tags are among the products TransCore offers for sale. D.I. 55, Ex. C at 105:21-106:23.
[29] D.I. 22, Ex. 1 at A2-A3, Ex. 2 at A5-A8.
[30] D.I. 26, ¶ 7.
[31] D.I. 27, ¶¶ 3, 5-6; D.I. 22, Ex. 6 at A30, Ex. 7 at A33.
[32] D.I. 27, ¶ 6; D.I. 22, Ex. 8 at A35.
[33] D.I. 22, Ex. 9 at A37-A38.
[34] D.I. 27, ¶ 7; D.I. 25, Ex. 54 at A1352-A1354, A1363, A1414-A1415.
[35] D.I. 27, ¶¶ 7-9; D.I. 25, Ex. 54 at A1313-A1424.

standards, including 6C.[36]

Discussions between the companies ended approximately two months after the August meeting. On October 13, 2008, William H. Osborne, FSC's President and CEO, wrote to Velasco stating he had reviewed Neology's investor presentation and was briefed on the technology by Wons, but concluded because "RFID [technology] does not fit into [FSC's] current strategy, we will not pursue a partnership with Neology at this time. Perhaps we will be able to work together in the future as our strategy evolves."[37]

The market for 6C RFID tags is in its early stages, and the vast majority of toll operators in the U.S. do not use 6C tags.[38] To date, only four states have purchased 6C RFID tags: Georgia, Washington, Colorado, and Utah.

Neology attempted to enter the 6C tolling market in the U.S. in response to the first of those contracts in September 2009 when the Georgia State Road and Tollway Authority made a public request for procurement of 350,000 6C RFID sticker tags[39] to be supplied through 2013, or 450,000 tags through June 30, 2015, (with, at the discretion of the tolling agency, four six-month long options to further extend the contract through 2017), as the state converts its I-85 express lanes from a High Occupancy Vehicle ("HOV") to High Occupancy Toll ("HOT") system.[40] The contract

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[36] D.I. 25, Ex. 54 at A1352-A1353, A1414-A1415.

[37] D.I. 22, Ex. 10 at A40.

[38] D.I. 55, Ex. C at 111:20-23. In fact, the largest toll operator in the U.S., the 14-state consortium known as "IAG" does not use any 6C tags. *Id.*, Ex. C at 112:13-23. IAG recently considered, but rejected the 6C protocol. *Id.*, Ex. C at 113:6-8. Other large states like California also do not use 6C. *Id.*, Ex. C at 112:4-9.

[39] Neology notes requests for proposal in the 6C RFID tolling market solicit bids for sticker and exterior tags, hardcase tags, readers, and support equipment and services, however, for ease of discussion, it only presents 6C RFID sticker tag pricing information in its briefs. D.I. 21 at 9 n.4.

[40] D.I. 22, Ex. 12 at A50, A51, A78.

was awarded to TransCore which bid $1.59/unit.[41] Neology had the second lowest bid at $1.79/unit,[42] a price purportedly to gain entry into the U.S. market for its 6C RFID technology. Sirit submitted the highest bid at $3.05/unit.[43] Although TransCore won the Georgia contract, Neology entered into an agreement to supply some of the 6C tags TransCore will provide to Georgia. Neology believes TransCore will purchase all of its 6C tags for the U.S. from Neology.[44] Neology is selling its 6C tags to TransCore for 75 cents per unit.[45]

On November 16, 2009, the Washington State Department of Transportation ("WSDOT") requested bids to supply more than 250,000 (up to 1 million) 6C RFID tags through June 30, 2013, (with, at the discretion of the WSDOT, four six-month long options to extend the contract), for the state's SR 520 Bridge, SR 167 HOT Lanes, and Tacoma Narrows Bridge tollways.[46] Sirit submitting the winning bid of $3.00/unit.[47] Neology did not submit a bid for this contract.[48] According to the testimony of Eric

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[41] *Id.*, Ex. 15 at A115.

[42] *Id.*, Ex. 13 at A97.

[43] *Id.*, Ex. 14 at A106.

[44] D.I. 55, Ex. B at 109:4-7, 110:1-111:8, Ex. C at 98:9-12. At deposition, Mullis agreed that "[f]or the first 100,000 tags that are going to the state of Georgia, Neology is going to make all 100,000 of those." D.I. 55, Ex. C at 101:12-16. He also stated "[g]iven the lawsuit, I believe TransCore going forward will buy all the 6C products that they would receive orders for, from Neology. There's no agreement to that effect, but that's the general understanding." D.I. 70, Ex. 72 at A1635 at 96:22-97:2.

[45] D.I. 55, Ex. C at 101:12-20. At oral argument, Mullis testified Neology's charge to TransCore of 75 cents per unit for 6C RFID tags was a "one-time deal," and Neology received other benefits from the transaction to offset the loss in selling at that price. D.I. 88, Tr. at 262:23-263:12. At deposition, Mullis related Neology expected to maintain the 75 cents per unit price to TransCore for the remaining tags to be supplied under the contract with Georgia. He also confirmed due to other agreements with TransCore, and other areas of cooperation, Neology would still benefit even though at 75 cents per unit it lost money on the tag side. D.I. 70, Ex. 72 at A1637 at 102:15-104:7. The other agreements Mullis referenced included Neology's exclusive right to distribute TransCore's readers and peripheral devices in Mexico, and its right to provide TransCore its baseline superego product, and, potentially, perform chip inlays for TransCore. *Id.*, Ex. 72 at A1635 at 94:23-96:18.

[46] D.I. 22, Ex. 16 at A124, A126, A127, A138.

[47] *Id.*, Ex. 17 at A172.

[48] D.I. 55, Ex. C at 137:10-13; D.I. 88, Tr. at 197:16-18.

Redman, head of sales at Neology at that time,[49] he learned of the Washington contract either via a phone call or Internet bid response.[50] Upon learning of the contract, Redman testified he spoke to his then-supervisor, Barry Cropper, who believed Neology should not bid on the project because of a 2007 settlement in a different litigation.[51] Redman stated he learned defendants were awarded the Washington contract in early 2010.[52] At deposition, Mullis testified the reason Neology did not submit a bid to Washington was because Redman purportedly did not bring the request for proposal to the attention of anyone at the company.[53] The court notes it appears odd that Redman, as head of sales for Neology, would fail to notify anyone at his company about the Washington project. However, regardless of whether Redman's or Mullis's explanation of Neology's failure to submit a bid on that contract is the accurate explanation, both agree defendants had nothing to do with that failure.[54]

On December 14, 2010, Dave Kristick, Deputy Executive Director and Director of Operations for Colorado's E-470 Public Highway Authority ("PHA"), emailed Redman for Neology's pricing for 350,000 6C tags in 2011 as the PHA was transitioning to the 6C protocol.[55] Approximately a week later, Redman responded that, after speaking to

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[49] Redman is currently head of sales at Federal Signal. D.I. 88, Tr. at 193:13-15.

[50] *Id.* at 197:16-198:2.

[51] *Id.* at 198:5-15. Redman acknowledged defendants were not involved with Neology's decision not to bid in Washington. He subsequently learned defendants won the Washington bid in early 2010. *Id.* at 198:16-199:4.

[52] *Id.* at 199:1-4.

[53] D.I. 55, Ex. C at 144:2-12.

[54] D.I. 88, Tr. at 198:16-18 ("Q. Did Federal Signal have anything to do with Neology's decision not to bid in Washington? A. [Redman] No."); D.I. 55, Ex. C at 13-18 ("Q. Is it true that Sirit or Federal Signal had nothing to do with Neology's decision not to submit a bid in response to Washington's RFP in November of 2009? A. [Mullis] I would say that's accurate.").

[55] D.I. 22, Ex. 19 at A178.

Neology's CEO, the company could offer a price of $1.75/unit.[56] On January 5, 2011, Kristick informed Redman the PHA would like to increase its procurement to 750,000 tags and asked for Neology's pricing on the larger quantity.[57] The next day Redman responded Neology would drop its price to $1.45/unit.[58] It was announced in late August 2011 that defendants were awarded the contract with a bid of $1.25/unit, a price at which Neology claims it could not make a profit.[59] Redman testified, however, he learned defendants had been awarded the Colorado contract in February or March 2011.[60] Redman also testified he understood Colorado selected defendants over Neology because defendants "had bundled a variety of products together to create a package for Colorado and the tags were a part of that package," and acknowledged Neology had not similarly bundled any products with its bid.[61] The Colorado contract was the first time defendants won a head-to-head contract in the U.S. for 6C RFID tags against Neology.[62]

In May 2011, the Utah Department of Transportation ("UDOT") sought bids to supply 6C RFID tags, tags Neology describes as more expensive because of advanced holographic and non-transferability security features to identify clean fuel vehicles.[63]

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[56] *Id.*, Ex. 19 at A178; D.I. 55, Ex. C at 151:16-19.

[57] *Id.*, Ex. 19 at A180. Kristick's January 5 email asked for "750K tags in 2011." *Id.* A document titled "E-470 Board of Directors Agenda Background Information for 1/27/2011" included an agenda item discussing an agreement with FSC that would "lock in below market prices for 6C tags for at least five years." *Id.*, Ex. 20 at A187.

[58] *Id.*, Ex. 19 at A180.

[59] *Id.*, Ex. 21 at A191; D.I. 25, Ex. 56 at A1428; D.I. 26, ¶ 20.

[60] D.I. 88, Tr. at 199:13-18.

[61] *Id.* at 200:14-19.

[62] *Id.* at 200:20-201:2.

[63] D.I. 26, ¶ 19; D.I. 22, Ex. 22 at A193; D.I. 22, Ex. 24 at A198. The holographic security feature refers to a holographic antenna as part of the tag that includes a "unique electronic vehicle registration tag[] that can be read by laser for enforcement, and must break under any effort [to strip them from one vehicle and place them on another.]" D.I. 22, Ex. 22 at A193. Similarly, a non-transferable tag "must only

UDOT requested bids to supply an immediate order for 3,000 6C RFID tags, but required the aggregate price of the tags not exceed $5,000 for the agency to expedite procurement of the tags by avoiding a multi-state procurement process.[64] Defendants submitted a bid of $1.64/unit,[65] TransCore bid $3.50/unit,[66] and Neology was awarded the contract with its low bid of $1.59/unit.[67]

In August 2011, UDOT publicly announced a second procurement for an additional 7,000 6C RFID tags with the same security features as the May 2011 procurement for purchase over a five-year period.[68] This contract was not subject to a maximum price restriction. Neology submitted a bid of $2.20/unit.[69] TransCore submitted the second lowest bid at $2.17/unit.[70] On August 22, 2011, it was announced defendants bid $1.15/unit and were awarded the contract.[71] As with defendants' $1.25/unit bid for the Colorado contract, Neology argues it can not compete and realize a profit were it to meet, or beat, defendants' bid on the second Utah contract.[72] Moreover, Neology alleges defendants' publicly available financial reports, SEC filings, and analyst presentations indicate they are selling 6C RFID tags and equipment at a loss.[73]

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function on the vehicle to which it is initially attached. It must break if someone attempts to pull it off a windshield, and then not function." *Id.*, Ex. 22 at A193.

[64] D.I. 21 at 11 n.6; D.I. 22, Ex. 23 at A196.

[65] D.I. 22, Ex. 22 at A193.

[66] *Id*.

[67] *Id.*, Ex. 24 at A198. Neology characterizes its $1.59/unit bid a "one-time promotional price . . . designed to keep the overall contract price under the $5,000 maximum set by UDOT." D.I. 21 at 10-11.

[68] D.I. 22, Ex. 25 at A202, A210.

[69] *Id.*, Ex. 27 at A217.

[70] *Id.*, Ex. 26 at A215. Redman testified he understood that if defendants had not bid, TransCore would have been awarded the contract as its bid was lower than Neology's. D.I. 88, Tr. at 202:17-21.

[71] *Id.*, Ex. 26 at A215.

[72] D.I. 26, ¶ 21.

[73] D.I. 23, Ex. 36 (FSC's 2011 SEC Form 10Q) at A430, A437, A464.

III. LEGAL STANDARD

A. Preliminary Injunction

Section 383 of the Patent Act provides the court "may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable."[74] Although the decision to grant injunctive relief is within the discretion of the court,[75] the Federal Circuit has cautioned "a preliminary injunction is a drastic and extraordinary remedy that is not routinely granted."[76]

> [T]o obtain a preliminary injunction, pursuant to 35 U.S.C. § 283, a party must establish a right thereto in light of four factors: (1) reasonable likelihood of success on the merits; (2) irreparable harm; (3) the balance of the hardships tipping in its favor; and (4) the impact of the injunction on the public interest. These factors, taken individually, are not dispositive; rather, the district court must weigh and measure each factor against the other factors and against the form and magnitude of the relief requested.[77]

Therefore, the court may grant a preliminary injunction where "the weakness of the showing regarding one factor [is] overborne by the strength of the others."[78] But, if the court determines injunctive relief is not appropriate, "the absence of an adequate showing with regard to any one factor may be sufficient, given the weight or lack of it assigned the other factors, to justify the denial."[79] Importantly, however, "[Federal

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[74] 35 U.S.C. § 283. Federal Circuit law provides the standards governing the issuance of an injunction pursuant to § 283. *See Hybritech, Inc. v. Abbott Labs.*, 849 F.2d 1446, 1451 n.12 (Fed. Cir. 1988).

[75] *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1350 (Fed. Cir. 2001).

[76] *Intel Corp. v. ULSI Sys. Tech., Inc.*, 995 F.2d 1566,1568 (Fed. Cir. 1993); *cf. Polymer Techs., Inc. v. Bridwell*, 103 F.3d 970, 977 (Fed. Cir. 1996) ("[S]tatements that a preliminary injunction is a drastic and extraordinary remedy do not imply that it must be rare or practically unattainable, only that it is not granted as a matter of right; it must be thoroughly justified.").

[77] *Hybritech*, 849 F.2d at 1451 (footnote omitted).

[78] *Chrysler Motors Corp. v. Auto Body Panels of Ohio, Inc.*, 908 F.2d 951, 953 (Fed. Cir. 1990).

[79] *Id*.

Circuit] case law and logic both require a movant cannot be granted a preliminary injunction unless it establishes *both* of the first two factors, *i.e.*, likelihood of success on the merits and irreparable harm."[80]

IV. DISCUSSION

By its motion, Neology seeks a preliminary injunction enjoining defendants from importing, making, using, selling, or offering to sell, the Accused Products.

A. Likelihood of Success on the Merits

To demonstrate a likelihood of success on the merits, Neology must show, consistent with the burdens of proof required at trial, that (1) it will likely prove defendants infringe one or more of the asserted claims and (2) its infringement claim(s) will likely withstand defendants' challenges to the validity and enforceability of those allegedly infringed claims(s).[81] If defendants raise "a substantial question concerning either infringement or validity, *i.e.*, asserts an infringement or invalidity defense that the patentee cannot prove 'lacks substantial merit,' the preliminary injunction should not issue."[82]

To determine infringement, the court performs a two step analysis: first, the court must determine the scope of the claims; second, the court must determine whether

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[80] *Amazon.com*, 239 F.3d at 1350 (Fed. Cir. 2001) (emphasis in original) (citing *Vehicular Techs. Corp. v. Titan Wheel Int'l, Inc.*, 141 F.3d 1084, 1088 (Fed. Cir. 1998)); *see also Jack Guttman, Inc. v. Kopykake Enters., Inc.*, 302 F.3d 1352, 1356 (Fed. Cir. 2002) ("While *granting* a preliminary injunction requires an analysis of all four factors, a trial court may . . . *deny* a motion based on a patentee's failure to show any one of the four factors–especially either of the first two–without analyzing the others.") (emphasis added) (citations omitted).

[81] *Amazon.com*, 239 F.3d at 1350 (citing *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1364 (Fed. Cir. 1997)); *id.* at 1351 ("[I]n cases involving multiple patent claims, to demonstrate a likelihood of success on the merits, the patentee must demonstrate that it will likely prove infringement of one or more claims of the patents-in-suit, and that at least one of those same allegedly infringed claims will also likely withstand the validity challenges presented by the accused infringer.").

[82] *Id.* at 1350.

properly interpreted claims cover the accused products.[83]

When construing disputed claim language, "the words of a claim 'are generally given their ordinary and customary meaning'" as would have been understood by "a person of skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application."[84] Claim construction begins with the words of the claims themselves which "provide substantial guidance as to the meaning of particular claim terms."[85] "[T]he context in which a term is used in the asserted claim can be highly instructive."[86] "Other claims of the patent in question, both asserted and unasserted, can also be [useful in claim construction]. Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims."[87] Of course, "claims 'must be read in view of the specification, of which they are a part.' . . . [T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'"[88] A court should not, however, import limitations from the specification into the claim.[89] When

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[83] *Hybritech*, 849 F.2d at 1455.

[84] *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (*en banc*) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)) (other citations omitted).

[85] *Id.*

[86] *Id.* at 1314; *see also ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003) ("[T]he context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms.").

[87] *Phillips*, 415 F.3d at 1314. The same claim terms in related patents are similarly understood to have a consistent meaning. *See Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1334 (Fed. Cir. 2003) ("[W]e presume, unless otherwise compelled, that the same claim term in the same patent *or related patents*, carries the same construed meaning.") (emphasis added) (citing *Fin Control Sys. Pty, Ltd. v. OAM, Inc.*, 265 F.3d 1311,1318 (Fed. Cir. 2001)).

[88] *Phillips*, 415 F.3d at 1315 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) and *Vitronics*, 90 F.3d at 1582, respectively).

[89] *Phillips*, 415 F.3d at 1323; *see also Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186-87 (Fed. Cir. 1998) ("[T]here is sometimes a fine line between reading a claim in light of the specification, and reading a limitation into the claim from the specification.").

construing claim terms, the court should also consider a patent's prosecution history as additional intrinsic evidence that can help explain "how the PTO and the inventor understood the patent."[90] Although the court is authorized to rely on extrinsic evidence, "which consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises. . . . . [Extrinsic evidence] is less significant than the intrinsic record in determining the legally operative meaning of claim language."[91] The constructions given to disputed claim terms at the preliminary injunction stage may be tentative and be altered later.[92]

Once the claims are construed, the court proceeds to determine whether properly interpreted claims cover the accused products. At trial, it is plaintiff's burden to establish infringement by a preponderance of the evidence.[93] To prove infringement, Neology must show the Accused Products meet each claim limitation, either literally or under the doctrine of equivalents.[94] "Literal infringement of a claim exists when every limitation recited in the claim is found in the accused device, i.e., when the properly construed claim reads on the accused device exactly."[95] If the Accused Products do not literally infringe an asserted claim, they may still infringe under the doctrine of equivalents under which an element of the accused device is equivalent to a claim

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[90] *Phillips*, 415 F.3d at 1317.

[91] *Id*. (citations and internal quotation marks omitted).

[92] *See Jack Guttman, Inc.*, 302 F.3d at 1361 ("District courts may engage in a rolling claim construction, in which the court revisits and alters its interpretation of the claim terms as its understanding of the technology evolves.") (citing *Sofamor Danek Group, Inc. v. DePuy-Motech, Inc.*, 74 F.3d 1216, 1221 (Fed. Cir. 1996)); *Purdue Pharma L.P. v. Boehringer Ingelheim GmbH*, 237 F.3d 1359, 1363 (Fed. Cir. 2001) ("[F]indings of fact and conclusions of law at the preliminary injunction stage are subject to change.").

[93] *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1361 (Fed. Cir. 1983).

[94] *Seal-Flex, Inc. v. Athletic Track & Court Constr.*, 172 F.3d 836, 842 (Fed. Cir. 1999).

[95] *Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 532 (Fed. Cir. 1996).

limitation if the differences between the two are insubstantial.[96]

Defendants contend the '819, '746, and '264 patents are invalid as either anticipated or obvious in light of the prior art. A claim is invalid under 35 U.S.C. § 102 if it is anticipated by the prior art. A prior art reference anticipates a claim if it expressly or inherently describes each and every limitation set forth in the patent claim.[97] A patent is invalid under § 103 if the subject matter of the patent at issue would have been obvious to a person of ordinary skill in the art at the time of the asserted invention.[98]

If defendants raise a substantial question concerning the validity that Neology is unable to prove "lacks substantial merit," the preliminary injunction will not issue.[99] "Validity challenges during preliminary injunction proceedings can be successful, that is, they may raise substantial questions of invalidity, on evidence that would not suffice to support a judgment of invalidity at trial."[100]

> In resisting a preliminary injunction . . . one need not make out a case of actual invalidity. Vulnerability is the issue at the preliminary injunction stage, while validity is the issue at trial. The showing of a substantial question as to invalidity thus requires less proof than the clear and convincing showing necessary to establish invalidity itself.[101]

"'Thus, the patent challenger retains the burden of establishing invalidity, and the applicant for preliminary injunctive relief retains the burden of showing a reasonable

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[96] *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29, 39-41 (1997).
[97] *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002).
[98] *Id.*
[99] *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1364 (Fed. Cir. 1997).
[100] *Amazon.com*, 239 F.3d at 1358 (citing *Helifix, Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1352 (Fed. Cir. 2000) (holding the allegedly anticipatory prior art references sufficiently raised a question of invalidity to deny a preliminary injunction, even though summary judgment of anticipation based on the same references was not supported)).
[101] *Id.* at 1359.

likelihood that the attack on the validity of the patent would fail."[102]

1. *The '819 Patent and '746 Patent*

The '819 patent is directed to providing "a method and system for verifying and tracking identification information. In an embodiment of the invention, a system for delivering security solutions is provided that includes at least one of the following: a radio frequency (RF) identification device, an identification mechanism (e.g., a card, sticker), and an RF reader/writer."[103] Neology contends defendants literally infringe claim 1 which recites:

> 1. A method of verifying information, comprising:
>
> granting access to a memory based on a **security key**;
>
> storing first identification information in the memory on a chip with a radio frequency antenna;
>
> incorporating the chip onto a radio frequency identification mechanism;
>
> reading first identification information from the memory on the chip with a radio frequency antenna with a radio frequency reader; and
>
> comparing the first identification information with second identification information to determine if a match exists.[104]

The '746 patent is similarly directed to providing "a method and system for verifying and tracking identification information. In an embodiment of the invention, a system for delivering security solutions is provided that includes at least one of the following: a radio frequency (RF) identification device, an identification mechanism

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[102] *Impax Labs., Inc. v. Aventis Pharms., Inc.*, 235 F. Supp. 2d 390, 392 (D. Del. 2002) (quoting Robert L. Harmon, *Patents and the Federal Circuit* § 13.2(b) (5th ed. 2001)).

[103] '819 patent, 1:26-32.

[104] *Id.*, claim 1 (emphasis added).

(e.g., a card, sticker), and an RF reader/writer."[105] Neology contends defendants directly and indirectly infringe claims 16 and 17 of the '746 patent. Claim 16 recites:

> 16. A method of verifying information stored in a memory on a chip, the chip interfaced with an antenna, the method comprising:
>
> granting access to a memory based on a **security key**;
>
> reading first identification information associated with a person, item, product, or vehicle associated with the chip from the memory on the chip via the antenna using a radio frequency reader; and
>
> comparing the first identification information with second identification information to determine if a match exists.[106]

Claim 17 recites:

> 17. The method of claim 16, wherein the identification information comprises a biometric, product identifier, or vehicle identification.[107]

a. *Claim Construction*

The parties disagree as to the meaning of the term "security key" in the '819 and '746 patents.[108] Defendants argue the proper construction of this term is "cryptographic key."[109] Neology suggests the term be construed as meaning "a key that is checked and validated to grant or deny access to a memory."[110]

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[105] '746 patent, 1:29-35.

[106] *Id.*, claim 16 (emphasis added).

[107] *Id.*, claim 17.

[108] In its opposition, defendants initially suggested constructions for the terms "first identification information" and "second identification information," D.I. 53 at 12-15, to which Neology responded in its reply brief. D.I. 69 at 5-6. In an April 24, 2012 letter, defendants informed the court they "decided not to contest the construction of 'first identification information . . . second identification information' for purposes of these preliminary injunction proceedings." As explanation for their changed position, defendants noted the tentative nature of claim constructions at the preliminary injunction stage, the limited time available for the hearing, and those terms do not affect all accused products for non-infringement purposes, nor are relevant to invalidity arguments. D.I. 80 at 1-2. Therefore, the court will not address the parties' briefing on these claim terms.

[109] D.I. 53 at 13-14.

[110] D.I. 69 at 4-5.

The asserted claims each recite "granting access to a memory based on a security key." Neology describes a cryptographic key as "used to scramble and unscramble messages exchanged between two parties to prevent an unauthorized third party from reading and understanding said messages."[111] Because encryption data is unrelated to granting or denying access to a memory, Neology argues defendants' proposed definition, "cryptographic key," improperly narrows the meaning of "security key." Rather than scrambling/unscrambling messages, Neology explains the "security key" of the asserted claims "is more like a password that is compared and matched to deny or grant access to data stored in memory."[112]

As further support for its position, Neology points to unasserted claim 1 of the '746 patent which recites, in relevant part:

> A system for verifying registration information of a vehicle, the system including:
>
> > a memory, *the memory configured to store a security key* . . . and
> >
> > a processor coupled with the memory the processor *configured to provide access to the memory based on a security key*, the processor further configured to:
> >
> > receive a signal via the radio frequency antenna, *the signal comprising* a request to access the memory and *a security key*,
> >
> > *compare the security key included in the received message with the security key stored in the memory*,

[111] *Id.* at 3. Both parties' experts, Daniel van der Weide ("van der Weide") for defendants and Jack Goldberg ("Goldberg") for Neology, agree as to what "encryption" is. D.I. 56 (van der Weide Decl.), ¶ 12 ("Encryption in modern communications systems typically involves the exchange of a key between two parties; this key is used to encode messages passed between the parties, obfuscating them so that third parties cannot eavesdrop."); D.I. 71 (Goldberg Decl.), ¶ 43 (agreeing with van der Weide's declaration and deposition statements that "encryption is used to encode messages that are being transmitted between devices so that they cannot be deciphered should they be intercepted by an unintended party").

[112] D.I. 69 at 4.

> provide the biometric information in response to the access request *when the security keys match*, and . . . .[113]

Neology contends the claimed "security key" are keys that are compared to grant access to a memory (if successfully matched) and that, in contrast, cryptographic keys are not compared to gain access: rather they are applied to encrypt or decipher messages to prevent unauthorized third parties from reading those messages.

Defendants disagree, characterizing these patents as "describ[ing] in detail how secure communications will occur using encryption or cryptography."[114] Defendants argue the specification and file history support its proposed construction. First, they state the term "security key" and "cryptographic key" are used interchangeably in the specifications of the '819 and '746 patents.[115] The specification recites:

> A security management unit 255 is a device that checks and validates the cryptographic keys that will be sent to the cryptographic block. A cryptographic block 210 is a device that stores the security keys. These keys are checked and validated to grant or deny access to the memory chip. EEPROM memory 205 stores data.[116]

Defendants point out the same passage is repeated in the specification.[117] Other than in the claims, the cited portions of the specification are the only instances where "security key" is mentioned.

Defendants also contend the prosecution history confirms "security key" is cryptographic. An April 25, 2005 Response to Office Action added "security key" to

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[113] '746 patent, claim 1 (emphasis added).

[114] D.I. 53 at 13.

[115] The '746 patent is a continuation of the '819 patent and the two share a common specification. For ease of reference, specification citations are only made to the '819 patent specification.

[116] '819 patent, 2:39-44. Although this quotation is included in a paragraph that purports to describe Figure 5, the elements described and their associated numbers, e.g., security management unit 244, cryptographic block 210, correspond to Figure 2.

[117] *See* '819 patent, 11:8-13 (describing Figure 5); *id.*, 15:1-6 (describing Figure 13).

certain rejected claims to distinguish U.S. Patent 6,698,653 ("Diamond"). The patentee stated:

> Applicant has amended claims 2, 4, 10, 16, 21, and 25 and respectfully traverses the rejection of claims 2, 4, 10, 16, 21, and 25 because Diamond does not teach "granting access to a memory based on a security key." The present application teaches a security management unit that checks and validates cryptographic keys that are sent to a cryptographic block. The cryptographic block stores the keys and these keys are checked and validated to grant or deny access to the memory chip, as described on page 4, lines 15-18.[118]

Defendants maintain in the above statement to the PTO, the patentee told the examiner the security keys of the patent were for encryption.

The court agrees with Neology's proposed construction. First, the background of the invention recites: "[t]he present invention generally relates to a system and method for providing secure identification solutions, and specifically to a system and method for verifying and tracking identification information."[119] The summary of the invention similarly recites: "[t]he present invention provides a method and system for verifying and tracking identification information."[120] The broadest statements concerning the claimed inventions speak of "verifying and tracking identification information" without any indication that encryption is used to accomplish that goal. The specification also advises "[t]he embodiments of the present invention are discussed below. Those experienced in the art will see that multiple features of certain embodiments described below can be incorporated into other embodiments both described and not described below."[121]

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[118] D.I. 55, Ex. H ('819 Patent File History), 04/25/05 O.A. Response at 20.
[119] '819 patent, 1:19-22.
[120] *Id.*, 1:26-27; *see also id.*, Abstract (same).
[121] *Id.*, 1:43-47.

Next, encryption is not mentioned in the asserted claims; all they require is "granting access to a memory based on a security key." A plain reading of that element supports Neology's position that "access to a memory" is determined by a "security key." The specification confirms that reading of the claims. It states "[a] cryptographic block 210 is a device that stores *the security keys*. *These keys*[, i.e. the security keys,] are *checked and validated to grant or deny access to the memory chip*."[122] The court disagrees with defendants' assertion that "security key" and "cryptographic key" are used interchangeably. The specification statement that "[a] security management unit 255 is a device that checks and validates the cryptographic keys that will be sent to the cryptographic block"[123] indicates cryptography *can* be used and the security management unit checks and validates the cryptographic keys that will then also be sent to the cryptographic block, not that "cryptographic key" is synonymous with "security key."

The patent does speak of encryption in certain embodiments, but does so as an optional security feature. For instance, section "II. RF Registered Item and Method of Use" begins: "*[o]ne embodiment* of the present invention allows authorities to track information regarding a registered item, and determine whether a driver of the item has the right to operate the vehicle."[124] Later in that section the "RF Registered Item" is described,[125] including the statement discussed above:

> A security management unit 255 is a device that checks and validates the cryptographic keys that will be sent to the cryptographic block. A

[122] *Id.*, 2:41-44 (emphasis added).
[123] *Id.*, 2:39-41.
[124] *Id.*, 10:30-34.
[125] *Id.*, 10:60-11:15.

> cryptographic block 210 is a device that stores the security keys. These keys are checked and validated to grant or deny access to the memory chip. EEPROM memory 205 stores data.[126]

Next, the "Method of Using RF Registered Item" and the "Method of Making RF Registered Item" are discussed.[127] Finally, the "RF Registered Item and Method of Use" section concludes by discussing "*Optional* Security Features":

> In one embodiment of the present invention, at least one of the following security features is included: . . . Secure Transaction. This feature protects the device from the equipment that reads and writes from the device. This equipment must be initialized using the same *encryption keys* as the RF device. Secure Data Base. This feature protects information in the central data base and the transaction log indicating where and for whom the device was produced. Central data base security is possible using *encryption*.[128]

Because encryption and encryption keys are specifically included as optional security features, the specification can be read as stating encryption keys and securities keys are separate keys stored in the cryptographic block, and since the claims do not specify encryption as an element, the court will not read that element into the claims.

With regard to the patentee's statement distinguishing the Diamond reference, the court agrees with Neology: the patentee distinguished Diamond "because Diamond does not teach 'granting access to a memory based on a security key.'" At deposition, van der Weide agreed that was the distinction being made between the '819 patent and Diamond. He also agreed the rest of that paragraph paraphrases what is already in the specification.[129] Van der Weide's disagreement with Neology's position was his belief,

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[126] *Id.*, 11:8-13.
[127] *Id.*, 11:16-12:4.
[128] *Id.*, 12:6-8, 26-33 (emphasis added).
[129] D.I. 70, Ex. 71 at A1596 at 31:11-22 ("Q So that's the main distinction between–according to the patentee, the distinction between Diamond and the '819 patent is that Diamond did not teach granting access to a memory based on a security key, right? A. That's what the applicant stated to the examiner.

from his understanding of the patent, that the specification used "cryptographic key" and "security key" interchangeably.[130] Therefore, in light of the court's determination that the specification does not use those phrases interchangeably, the patentee's distinguishing of the Diamond reference does not support defendants' proposed construction.[131]

Consequently, the court construes "security key" as "a key that is checked and validated to grant or deny access to a memory."

b. *Infringement and Invalidity*

Neology alleges that as part of their in-house manufacturing, encoding and testing process for their 6C ID*Entity* tags, including the ID*entity* Windshield Mount Tag (transferable and non-transferable); ID*entity* Headlamp Mount Tag; ID*entity* External License Plate Tag; ID*entity* Self Declaration Tag; ID*entity* Card Tag, defendants perform every limitation of claim 1 of the '819 patent and claims 16 and 17 of the '746 patent.

Q. So the rest of that paragraph is merely just paraphrasing what's already in the specification? A. That's a fair restatement or a fair summary of the quotation.").

[130] *Id.*, Ex. 71 at A1596 at 30:11-18, 30:25-31:4 ("I'm just reading what the applicant said. . . . I don't see that the applicant asserted that Diamond did not have encryption. I just see that the applicant teaches a security management unit that checks and validates these cryptographic keys. There's nothing in this communication that asserts that Diamond lacks any kind of cryptographic treatment. . . . I'm relying on the citation from Column 2, Line 39 through 45 [of the '819 patent] as my primary basis for understanding the interchangeability in these patent specifications between the phrase cryptographic key and security key.").

[131] At oral argument, defendants also argued the file history of the '746 patent supported their proposed construction. In an April 2, 2008 rejection of certain terms the examiner wrote: "Claims 1, 2, 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamai et al [US 7,031,946] in view of Mish [US 6,025,784] Regarding claim 1, a system of verifying information of a vehicle, comprising: a radio frequency device comprising a radio frequency antenna and a chip, the chip comprising a memory (the radio IC tag 80, see Fig. 18, Col 17, lines 16-34); *a security key, wherein access to the memory is based on the security key (the encryption key for accessing IC tag memory*, see Figs. 32 and 33, col. 37, lines 22-30, col. 39, lines 41-67 and col. 40, lines 1-3); but Tamai et al fails to disclose the license . . . ." D.I. 83, Ex. B ('746 Patent File History), 04/02/08 O.A. (emphasis added). Based on that rejection, defendants' counsel stated "the examiner knows that a cryptographic key can be a security key" and "it supports the concept that the two terms are used interchangeably in the '746 and '819 patents." D.I. 88, Tr. at 84:12-14, 23-24. Assuming, *arguendo*, the rejection shows "the examiner knows that a cryptographic key can be a security key," that does not require a finding "the two terms are used interchangeably in the '746 and '819 patents."

Prior to oral argument, "the parties agreed to stipulate to certain facts relating to the use and operation of Federal Signal's testing and validation equipment/systems following the manufacture of certain accused products prior to shipping of said accused products to customers."[132]

As mentioned, above, in an April 24, 2012 letter defendants informed the court they "decided not to contest the construction of 'first identification information . . . second identification information' for purposes of these preliminary injunction proceedings."[133]

At oral argument, defendants' counsel candidly told the court:

> "I believe . . . that this claim[, claim 1 of the '819 patent,] is representative of the asserted claims of both [the '819 and '746] patents. It stands or falls on infringement with those two asserted claims. And based on certain stipulations that Federal Signal made in a letter to Your Honor, it stands or falls on both infringement and validity. *The only dispute the parties have on claim construction, infringement and validity is on this limitation* . . . , ["]granting access to memory based on a *security key*.["][134]

Counsel also represented to the court that "[i]f Your Honor construed security key the way [Neology] wanted, they would both get out of the prior art and establish infringement."[135]

Accepting defendants' counsel's representations, the court determines that Neology has demonstrated a likelihood of success on the merits, at least with regard to claim 1 of the '819 patent, because defendants' failed to raise a substantial question concerning either infringement or validity.[136] For reference, the court includes citations

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[132] D.I. 68.
[133] D.I. 80.
[134] D.I. 88, Tr. at 77:14-24.
[135] *Id.* at 83:10-12.
[136] *See, e.g., Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 135 (Fed. Cir. 2001) ("[I]n cases involving multiple patent claims, to demonstrate a likelihood of success on the merits, the patentee must demonstrate that it will likely prove infringement of *one or more* claims of the patents-in-

to the declarations of Neology's expert, Goldberg, where he sets forth support for Neology's non-infringement and validity opinions with regard to claim 1 of the '819 patent in the footnote to this sentence.[137]

2. *The '264 Patent*

The '264 patent is directed "to radio frequency identification tags or labels and in particular to a cloaking circuit used to assist in the read operations of RFID transponders."[138] Neology argues defendants' 6C-compatible ID*entity* tags directly infringe claim 1 of the '264 patent. That claim recites:

> 1. An improvement in a **cloaked RFID tag** having an antenna comprising:
>
> a switch;
>
> a logic circuit coupled to said switch to selectively allow communication of signals through said antenna during normal operation to allow output of a signal from said RFID tag through said antenna and to disable the output from said RFID during a cloaking period; and
>
> a receiving connection to said RFID tag so that command signals are continuously receivable notwithstanding cloaking of said RFID tag.[139]

The parties disagree as to the meaning of the term "cloaked RFID tag" in the '264 patent. Defendants argue the proper construction of this term is "the tag appears less visible in the RF field because the RFID tag antenna is open circuited or disconnected."[140] Neology suggests the term be construed as meaning an "RFID tag

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suit, and that *at least one* of those same allegedly infringed claims will also likely withstand the validity challenges presented by the accused infringer.") (emphasis added).

[137] Infringement, D.I. 28 (Goldberg Decl.), ¶¶ 91; D.I. 71 (Goldberg Rebut. Decl.), ¶¶ 77-112; Validity, D.I. 71, ¶¶ 123-150.

[138] '264 patent, 1:9-11.

[139] *Id.*, claim 1 (emphasis added).

[140] D.I. 53 at 20-23.

which is in a state such that it cannot respond to commands from a reader for a period of time, except for a command that brings it out of said state, even if it is de-energized and re-energized."[141]

Unfortunately, the court determines neither parties' proposed constructions are supported by the intrinsic record; both proposed constructions are rejected.

Claim 1 of the '264 patent recites "an improvement in a cloaked RFID tag." Improvement claims, also referred to as Jepson-type claims, are permitted under the Code of Federal Regulations, which recites:

> Where the nature of the case admits, as in the case of an improvement, any independent claim should contain in the following order:
>
> > (1) A preamble comprising a general description of all the elements or steps of the claimed combination which are conventional or known,
> >
> > (2) A phrase such as "wherein the improvement comprises," and
> >
> > (3) Those elements, steps and/or relationships which constitute that portion of the claimed combination which the applicant considers as the new or improved portion.[142]

The Federal Circuit stated when a claim is written in Jepson format, "the claim preamble defines not only the context of the claimed invention, but also its scope."[143] That court also commented "the fact that the patentee has chosen the Jepson form of the claim

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[141] D.I. 21 at 14; D.I. 69 at 8-10.

[142] 37 C.F.R. § 1.75(e).

[143] *Rowe v. Dror*, 112 F.3d 473, 479 (Fed. Cir. 1997) (citing *Pentec, Inc v. Graphic Controls, Corp.*, 776 F.2d 309, 315 (Fed. Cir. 1985) ("Although a preamble is impliedly admitted to be prior art when a Jepson claim is used, . . . the claimed invention consists of the preamble in combination with the improvement.")); *see also Dow Chem. Co. v. Sumitomo Chem. Co.*, 257 F.3d 1364, 1368 (Fed. Cir. 2001) (When a claim "is written in Jepson format, . . . the claim first describes the scope of the prior art and then claims an improvement over the prior art."); *id.* at 1381 (A claim written in Jepson format "describes certain conditions as an improvement over a well known process.").

evidences the intention to use the preamble to define, in part, the structural elements of his claimed invention. Thus, the preamble is a limitation in a Jepson-type claim."[144] The Jepson claim format "is particularly adapted for the description of improvement-type inventions. It is to be considered a combination claim. The preamble of this form of claim is considered to positively and clearly include all the elements or steps recited therein as part of the claimed combination."[145]

Here, the '264 patent claims "an improvement in a cloaked RFID tag." The '264 patent states the prior art which is being improved upon is described in U.S. Patent 5,963,144 ("the '144 patent"). The '264 patent describes the prior art '144 patent as follows:

> In U.S. Pat. No. 5,963,144, incorporated herein by reference, what is described is an antenna of an RFID tag or label which is disconnected from the balance of the RFID chip by means of a series switch activated in response to a logic command, CLOAK, generated by the RFID chip. Activation of the switch disconnects the antenna of the RFID tag from the remainder of the RFID chip and effects a high impedance resistance across the antenna terminals. An RC circuit is charged by activation of the CLOAK signal and thereafter discharges during a predetermined RC time period as determined by a high impedance series antifuse leakage transistor. The antenna is thus disconnected for a time sufficient to allow the remaining RFID tags in an RF interrogation field to be identified. Meanwhile, during the disconnection of the antenna from the RFID chip and its loading causes its effective absorption and scattering aperture to be reduced to near zero so as to electromagnetically remove the RFID tag from the zone of interrogation during the predetermined time period. Hence, the interrogated tag remains disconnected and noninterferring with the RF field used to interrogate the remaining tags. It is also known to detune the tag's antenna by at least partially shorting out the antenna, as either a means of signaling or for depleting the energy stored in the antenna resonant structure.[146]

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[144] *Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1029 (Fed. Cir. 2002) (internal citations and quotation marks omitted).

[145] Manual of Patent Examining Procedure ("MPEP") § 608.01(m) (8th ed., rev. July 2010).

[146] '264 patent, 1:13-36.

To summarize, *the '144 patent* describes "a novel concept of *effectively disconnecting the tag's antenna* from the rest of the tag."[147] Cloaking in the '144 patent includes disconnecting the tag's antenna, by means of a switch, so that it cannot respond to commands from the reader for a sufficient amount of time for other tags in the RF field to be identified.[148] The time period that the antenna is disconnected is controlled by time-delay circuit.[149] Because the antenna is disconnected via the time-delay circuit for a pre-determined amount of time, the tag cannot be commanded out of the cloaked state and the time-delay circuit continues to operate even in the absence of

[147] '144 patent, 4:23-25 (emphasis added).

[148] *Id.*, 1:4-6 ("The antenna is thus disconnected for a time sufficient to allow the remaining RFID tags in an RF interrogation field to be identified."); *id.*, 4:28-32 ("[P]rovide a means to maintain the switch in an open or antenna-disconnected state for a time period significantly long enough relative to the time required to identify remaining tags in the RF field."); *id.*, 2:62-65 ("The antenna of an RFID tag or label is disconnected from the balance of the RFID chip by means of a series switch activated in response to a logic command, CLOAK, generated by the RFID chip."). In addition to not being able to respond to commands from a reader, while the antenna is disconnected, the tag does not interfere with non-interrogated tags in the RF field. *Id.*, 1:7-13 ("[D]uring the disconnection of the antenna from the RFID chip and its loading causes its effective absorption and scattering aperture to be reduced near zero so as to electromagnetically remove the RFID tag from the zone of interrogation during the predetermined time period. Hence, the interrogated tag remains disconnected and noninterferring [sic] with the RF field used to interrogate the remaining tags.").

[149] *Id.*, 3:14-20 ("[T]he invention is defined as an improvement in an RFID tag passively powered through an antenna comprising a series switch coupled between the antenna and the RFID tag. A time-delay circuit is coupled to and controls the series switch to activate the series switch to disconnect the RFID tag from the antenna for a predetermined time delay."); *id.*, 3:26-34 ("[T]he [illustrated embodiment of the] time-delay circuit comprises an RC circuit and generates a pre-determined time period with a duration approximately 2-5 seconds long. The RC circuit includes an integrated circuit capacitor and a high impedance . . . series antifuse coupled in parallel to the integrated circuit capacitor as a discharging resistor. The series switch *disconnects input data received* from the antenna from the RFID tag and disconnects a tag chip voltage V_{DD} from the antenna.") (emphasis added); *id.*, 3:1-4 ("An RC circuit is charged by activation of the CLOAK signal and thereafter discharges during a predetermined RC time period as determined by a high impedance series antifuse leakage transistor."); '264 patent, 2:52-55 ("The time periods are determined by the voltage decay of a resistor-capacitor circuit which continues to perform its function even when the tag 10 power is removed.").

the RF field.[150] While cloaked, the tag is less visible in the RF field.[151]

The '264 patent notes the disadvantage of the '144 patent's cloaking:

> [The '144 patent teaches] disconnecting the front end of the RFID chip even during times when the power to the tag has been removed. This could be accomplished by open circuiting the data path and/or the power input. *Unfortunately, this means that while the chip is in the Cloak state, it is impossible for the reader to communicate with the tag.*
>
> As an example, a tag with a cloak time of 20 seconds might be interrogated and then cloaked while on a conveyor belt. But it might be necessary to read the label subsequently when the tag has traveled further down the conveyor belt but within the 20 second time period.[152]

The patent then states "[w]hat is needed is a circuit and method that allows a tag to be cloaked, but still to be interrogated when it is cloaked."[153] The invention described in '264 patent:

> is defined as *an improvement in a cloaked RFID tag having an antenna* comprising a switch and a logic circuit coupled to the switch. The logic circuit or gate selectively allows communication of signals through the antenna during normal operation to thereby allow output of a signal from the RFID tag through the antenna and to disable the RFID output during a cloaking period. *A receiving connection is provided to the RFID tag so that command signals are continuously receivable notwithstanding cloaking of the RFID tag.*[154]

The patentee reiterated that the improvement of the '264 patent was "the chip's output is disabled so that the chip cannot respond even though it is *receiving information from*

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[150] '144 patent, 4:35-39 ("The antenna of the RFID tag remains disconnected or loaded by a high impedance during the power on/off cycles, in the absence of the powering RF field and until the RC delay times out.").

[151] *Id.*, 4:51-60 ("The advantage of the performance of an RFID system of the invention is that during the time that the antenna is effectively disconnected, the tag appears less visible in the RF field or is cloaked. The cloaked antenna interferes less with other tags, which are then going through the interrogation or identification process. Further, as each tag is in turn identified, a coded signal is transmitted to tell the identified tag to cloak itself. When in the cloaked state, this allows therefore more energy in the RF Field to be available for reading the remaining tags in the interrogation zone.").

[152] '264 patent, 1:37-47 (emphasis added).

[153] *Id.*, 1:48-49.

[154] *Id.*, 1:53-62 (emphasis added).

the reader."[155] "*Without the improvement to the invention* . . . the antenna 42 of the RFID tag 10 *remains disconnected* or loaded by a high impedance during the power on/off cycles, in the times out."[156]

Defendants contend support for their proposed construction of "cloaked RFID tag," is found in the specifications of the '144 and '264 patents which both use the identical language to purportedly describe what "cloaked" means in the context of these patents and an important advantage of the '264 patent.

> The advantage of the performance of an RFID system of the invention is that during the time that the antenna 42 is effectively disconnected, *the tag 10 appears less visible in the RF field or is cloaked*. The cloaked antenna 42 *interferes less* with other tags, which are then going through the interrogation or identification process. Further, as each tag 10 is in turn identified, a coded signal is transmitted to tell the identified tag 10 to cloak itself. When in the cloaked state, this allows therefore more energy in the RF field to be available for reading the remaining tags in the interrogation zone. The overall capacity to read and identify multiple tags within the read range of a RFID system is significantly improved as a result of applying this concept.[157]

Defendants also rely on the Examiner's Reasons for Allowance, which invoked this same language to describe "cloaked RFID tag."

> The term "**cloaking**", as described in the claims, is a state where the RFID tag antenna is disconnected, thus, the tag appears less visible in the RF field (see paragraph bridging pages 7 and 8 in the specification).[158]

With regard to the specification language quoted above, the quotation recited in the '264 patent is in a section of the specification where the patentee states "*[b]efore discussing this improvement*," the reader is asked to "first consider some foundational

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[155] *Id.*, 2:33-35 (emphasis added).
[156] *Id.*, 2:57-62.
[157] '264 patent, 3:8-20; '144 patent, 4:51-63 (emphasis added).
[158] D.I. 55, Ex. L ('264 Patent File History), 09/29/03 Notice of Allowance at 3 (emphasis in original).

background information concerning the operation of a cloaked RFID tag 10 in general."[159] As the language in that passage is the same as in the '144 patent, it is clearly discussing the prior art, not the improvement. Indeed, the paragraph following the paragraph containing the language relied on by defendants, begins: "*Turn now and consider the improvement of the cloaking system* described above[, i.e., described before discussing the operation of a cloaked RFID tag in general]."[160] Although the invention described in the '264 patent may have the "advantage" of appearing "less visible in the RF field" when cloaked, that is not the *improvement* to a "cloaked RFID tag" the patentee recites in the specification.

The statement by the examiner in his Notice of Allowance does not alter the court's opinion. First, in *Salazar v. Procter & Gamble Co.* the Federal Circuit noted "an applicant's silence regarding statements made by the examiner during prosecution, without more, cannot amount to a 'clear and unmistakable disavowal' of claim scope"[161] and "[t]his court refuses to create a rule or presumption that the applicant in this case disavowed claim scope by silence."[162] While silence in the face of an examiner's statement is not a disavowal of claim scope, the Federal Circuit also determined such statement may be given some consideration in claim construction.

> Although unilateral statements by an examiner do not give rise to a clear disavowal of claim scope by an applicant, it does not necessarily follow that such statements are not pertinent to construing claims. *Statements about a claim term made by an examiner during prosecution of an application may be evidence of how one of skill in the art understood the*

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[159] '264 patent, 2:41-43 (emphasis added).
[160] *Id.*, 3:21-22.
[161] 414 F.3d 1342, 1345 (Fed. Cir. 2005) (quoting *3M Innovative Props., Co v. Avery Dennison Corp.*, 350 F.3d 1365, 1373-74 (Fed. Cir. 2003)).
[162] *Id.* at 1347.

term at the time the application was filed.[163]

The court continued, however, advising "an applicant's silence regarding such statements does not preclude the applicant from taking a position contrary to the examiner's statements when the claim terms are construed during litigation."[164] Here, the court agrees with Neology: the examiner mistakenly referenced the '264 patent application specification's description of the invention found in the '144 patent. The court further observes that in the same Notice of Allowance the examiner included what the patentee did describe as an improvement in the '264 patent: "a receiving connection to said RFID tag so that command signals are continuously receivable notwithstanding cloaking of said RFID tag,"[165] a feature not included in defendants' proposed construction.

The court also finds the last portion of defendants' proposed construction problematic: "*because the RFID tag antenna is open circuited or disconnected*."[166] The '264 patent makes clear the antenna is never disconnected.[167]

Defendants also point to the claims of U.S. Patent 7,064,653 ("the '653 patent"),

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[163] *Id.* (emphasis added).

[164] *Id.*

[165] D.I. 55, Ex. L, 09/29/03 Notice of Allowance at 2.

[166] The court notes defendants' proposed construction does not qualify disconnection by stating the output of the antenna is disconnected; the construction states "the RFID tag antenna *is . . . disconnected*."

[167] '264 patent, Abstract ("The output to the antenna of an RFID tag or label is disconnected from the balance of the RFID chip . . . . Activation of the switch *disconnects the output* to the antenna of the RFID tag *without disconnecting its input*. . . . [T]he *input of the antenna remains connected* and is capable of receiving at any time, *including during the cloaking period* commands which can lift the tag out of cloaking and allow it to then selectively output its signal.") (emphasis added); *id.*, 3:46-49 ("[A]s shown in FIG. 1 input pad 18 *is connected at all times* through diode 24 to the input stages 44 of the RFID tag 10 and power continues to be supplied to the tag through diode 26 to the tag power circuitry 46.") (emphasis added); *id.*, 3:53-58 ("A command can be transmitted, sensed and processed *at any time through the antenna 42*, input pad 18, and to the tag input circuitry 44 through diode 24 to bring Cloak Bar high and allow the antenna signal to be controlled by Output at node 14.") (emphasis added).

a continuation of the '264 patent, to support their "antenna is . . . disconnected" construction. Claim 1 of the '653 patent recites:

> A method of operating an RFID tag comprising:
>
> disabling an output of an RFID tag during a cloaking operation;
>
> receiving input transmissions regardless of the cloaking operation;
>
> enabling the output of the RFID tag responsive to an input transmission received during the cloaking operation.[168]

Dependent claim 4 of the '653 patent recites:

> The method of claim 1, wherein the disabling step comprises disconnecting an antenna of the RFID tag from ground.[169]

Defendants state the disabling step is the cloaking step. Because the '264 and '653 patents share a common specification, defendants argue "claim 4 of the '653 patent [is] by presumption directed at the sole embodiment disclosed in the '264 patent," thus purportedly demonstrating the antenna of the cloaked RFID tag in claim 1 of the '264 is disconnected; "the patentee wrote a claim directed at the very same embodiment where he described the cloaking operation as disconnecting an antenna of the RFID tag from ground."[170] The court agrees with Neology's argument, however, if claim 4 of the '653 patent means disable by disconnecting an antenna, then claim 1 must cover another option which is not disconnecting the antenna.[171] Therefore, claim 4 of the '653 patent does not support defendants' assertion that the antenna of the cloaked RFID tag recited in claim 1 of the '264 patent is disconnected.

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[168] '653 patent, claim 1.
[169] *Id.*, claim 4.
[170] D.I. 88, Tr. at 56:20-22, 57:13-16.
[171] *Id.* at 75:3-5. This is also supported by dependent claims 2, 3, and 5 of the '653 patent claiming alternative methods of implementing the disabling step.

For all of the above reasons, the court rejects defendants' proposed construction.

The court also finds Neology's proposed construction deficient: "RFID tag which is in a state such that it cannot respond to commands from a reader for a period of time, except for a command that brings it out of said state, even if it is de-energized and re-energized." At the very least, the portion of that construction, "cannot respond to commands from a reader for a period of time, *except for a command that brings it out of said state*," cannot be correct. Although the specification describes a cloaked tag receiving a command from a reader that uncloaks the tag,[172] the cloaked RFID tag of claim 1 of the '264 patent does not enable that function. During prosecution of the '653 patent, again a continuation of the '264 patent having a common specification, the examiner initially rejected claim 1 of the '653 patent based on double patenting over claims 1-24 of the '264 patent. The patentee responded:

> Accordingly, claim 2 [issued claim 1] recites "enabling the output of the RFID tag responsive to an input transmission received during the cloaking operation." The Action admits, the '264 patent does not claim "enabling the output of the RFID tag responsive to an input transmission received during the cloaking operation;" however, contrary to the position taken by the Action, *this limitation is not merely the result of the process claimed in the '264 patent.* The claims of the '264 patent, are directed to *the ability to receive signals during a cloaking operation*. As explained, claim 2 [issued claim 1] of the present application is directed to the ability to enable the output of the tag, responsive to one of the signals received while the tag is cloaked. *It does not automatically follow that just because the tag can*

[172] *See, e.g.,* '264 patent, 3:48-57 ("Thus, commands may be sensed, read and processed by RFID tag 10 even when the output of the tag 10 is cloaked. With this improvement the tag 10 can now be *brought out of a cloaked state* for subsequent interrogations by the reader. A command can be transmitted, sensed and processed at any time through the antenna 42, input pad 18, and to the tag input circuitry 44 through diode 24 to bring the Cloak Bar high and allow the antenna signal to be controlled by Output at node 14.") (emphasis added); *id.*, 2:33-40 ("In the present invention the chip's *output is disabled* so that the chip cannot respond even though it is receiving information from the reader. The advantage of such a scheme is that a command can be introduced such that *the Cloak state could be overcome allowing the tag 10 to respond during the Cloak period*. The normal command waking the chip is still used such that any tag 10 in the Cloak state would still not be detected.") (emphasis added).

> *receive input signals during a cloaking operation that it would be able to turn on its output in response to one of those signals. Claim 2 is therefore patentably distinct from claims 1-24 of the '264 patent.*[173]

That response demonstrates Neology's proposed construction is incorrect. The patentee told the examiner that, although the cloaked RFID tag of claim 1 of the '264 patent is able to receive signals during the cloaking operation, that tag is not enabled to respond to an input transmission received during the cloaking operation.

For at least the above reason, the court rejects Neology's proposed construction.

Based on a review of the intrinsic record, the court tentatively construes the term "cloaked RFID tag" in claim 1 of the '264 patent to mean an "RFID tag's output is disabled for a period of time during which it cannot respond to commands from a reader even though command signals are continuously receivable."

Because the court rejected each parties' proposed constructions, the parties did not know how the court would tentatively construe that term. As a result, no argument was, or could have been, made regarding infringement and invalidity based on the court's tentative construction. Consequently, Neology has failed to demonstrate likelihood of success on the merits regarding infringement of claim 1 of the '264 patent. Defendants' have likewise failed to raise a substantial question regarding the validity of that patent claim.

B. Irreparable Harm

As noted above, although irreparable harm is only one of four factors a court considers when evaluating a preliminary injunction motion, inability of the movant to

[173] D.I. 83, Ex. L, 03/16/2006 Response to O.A. at 6-7.

establish this factor is, by itself, "fatal to the motion."[174] To demonstrate irreparable harm, "[t]he moving party must make a 'clear showing of immediate irreparable injury' or a 'presently existing actual threat,' but an injunction will not issue merely to assuage the fears of the movant."[175] In other words, "'the injury contemplated must be real, not fancied; actual, not prospective; and threatened, not imagined.'"[176]

Neology has identified three specific ways it will purportedly be irreparably injured absent a preliminary injunction. First, defendants will continue to deny Neology entry into the U.S. tolling market. Next, defendants continue to put downward pressure on 6C RFID tags, resulting in market-wide price erosion. Lastly, defendants' inferior tags jeopardize transition to the 6C standard.

Defendants contend Neology has failed to carry its burden of demonstrating irreparable harm, and assert three overarching arguments to support their contention: Neology's substantial delay in moving for preliminary injunction; Neology's recent financial success; and Neology's alleged injuries could be compensated with monetary damages each undercut the assertion of irreparable harm.

Defendants emphasize Neology's delay in seeking a preliminary injunction demonstrates it will not suffer irreparable harm if the motion is denied. The Federal Circuit "has recognized that delay in seeking a remedy is an important factor bearing on

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[174] *Johnson & Johnson Orthopaedics, Inc. v. Minnesota Min. & Mfg., Co.*, 715 F. Supp. 110, 112 (D. Del. 1989) (citing *Phillips Petroleum Co. v. United States Steel Corp.*, 616 F. Supp. 335, 337-38 (D. Del. 1985)); *see also Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1350 (Fed. Cir. 2001) ("[A] movant cannot be granted a preliminary injunction unless it establishes *both* of the first two factors, *i.e.*, likelihood of success on the merits and irreparable harm.") (emphasis in original) (citing *Vehicular Techs. Corp. v. Titan Wheel Int'l, Inc.*, 141 F.3d 1084, 1088 (Fed. Cir. 1998)).

[175] *Johnson & Johnson*, 715 F. Supp. at 112 (quoting *Continental Group, Inc. v. Amoco Chem. Corp.*, 614 F.2d 351, 359 (3d Cir. 1980)).

[176] *Id.* (quoting *Cordis Corp. v. Medtronic Inc.*, 2 U.S.P.Q.2d 1845, 1847 (D. Minn. 1986)).

the need for a preliminary injunction."[177] "Absent a good explanation, . . . a substantial period of delay . . . militates against the issuance of a preliminary injunction by demonstrating that there is no apparent urgency to the request for injunctive relief."[178] A showing of delay, however, "does not preclude, *as a matter of law*, a determination of irreparable harm. A period of delay is but one circumstance that the district court must consider in the context of the totality of the circumstances."[179]

According to defendants, as early as 2008 Neology believed at least some of its patents covered any 6C tag, and anyone offering to sell 6C tags in the U.S. would infringe Neology's patents.[180] Sometime in the fall of 2009, Neology learned Sirit had offered to sell 6C tags to Georgia.[181] Neology filed suit alleging defendants infringe its patents on July 29, 2011,[182] but did not move for a preliminary injunction until December 2, 2011.[183] Defendants maintain Neology's delay of over two years from the time it learned of their offer to sell 6C tags to Georgia to move for a preliminary injunction, and its delay of over four months from the filing of this suit to so move, demonstrates Neology has not, and will not, suffer irreparable harm in the absence of a preliminary

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[177] *High Tech Med. Instrumentation, Inc. v. New Image Indus., Inc.*, 49 F.3d 1551, 1557 (Fed. Cir. 1995) (citing *Hibritech Inc. v. Abbott Labs.*, 849 F.2d 1446, 1457 (Fed. Cir. 1995); *T.J. Smith and Nephew Ltd. v. Consolidated Med. Equip. [Inc.]*, 821 F.2d 646, 648 (Fed. Cir. 1987)).

[178] *High Tech Med. Instrumentation, Inc.*, 49 F.3d at 1557 (citing *T.J. Smith & Nephew Ltd.*, 821 F.2d at 648 (15-month delay plus grant of licenses by patentee sufficient to overcome presumption of irreparable harm); *Citibank, N.A. v. Citytrust*, 756 F.2d 273, 276 (2d Cir.1985) (trademark case; nine-month delay undercuts claim of irreparable harm); *Le Sportsac, Inc. v. Dockside Research, Inc.*, 478 F. Supp. 602, 609 (S.D.N.Y. 1979) (trademark case; one-year delay "undercuts the sense of urgency that ordinarily accompanies a motion for preliminary relief and suggests that there is, in fact, no irreparable injury"); *Gianni Cereda Fabrics, Inc. v. Bazaar Fabrics, Inc.*, 335 F. Supp. 278, 280 (S.D.N.Y. 1971) (copyright case; seven and one-half month delay; plaintiff's "claimed need for immediate relief is undercut by the slow pace with which plaintiff has sought to obtain it")).

[179] *Hybritech Inc.*, 849 F.2d at 1457 (emphasis in original) (footnotes omitted).

[180] D.I. 55, Ex. B, Velasco Dep. at 75:20-76:5.

[181] *Id.*, Ex. B, 100:11-17; *Id.* Ex. C, Mullis Dep. at 122:4-8.

[182] D.I. 1.

[183] D.I. 19.

injunction. In support, defendants point to this court's decision in *Power Integrations, Inc. v. BCD Semiconductor, Corp.* where a motion for a preliminary injunction was denied, finding, *inter alia*, the:

> three-month delay between when [the Plaintiff] filed this lawsuit and brought the instant Motion–in addition to the more than eight-month delay between [the Plaintiff's] actual loss of sales to [the Defendant] and [the Plaintiff's] filing of the Motion, as well as the seven-month delay between [the Plaintiff's] filing suit in California and the filing of the Motion–also weighs against a finding of irreparable harm.[184]

Neology attempts to distinguish *Power Integrations* by arguing:

> [T]he event which lead the plaintiff to move for preliminary injunctive relief–plaintiff's loss of sales to the defendant–occurred more than eight months prior to the filing of the motion. Here, the triggering event occurred on August 22, 2011, when Neology learned that Defendants dropped market prices for 6C tags to $1.15/unit and $1.25/unit.[185]

In the instant matter, Neology was aware of Sirit's offering 6C tags for sale in the fall of 2009; tags which Neology believed, at that time, were covered by its patents. It did not file suit, however, until the end of July 2011. More importantly, Redman testified Neology was aware defendants had been awarded the Colorado contract in February or March 2011.[186] Therefore, Neology knew its *first loss of sales* to an alleged infringer occurred at the very least seven months prior to filing the instant motion. Even after filing this suit, Neology waited more than four months to seek injunctive relief. Although Neology states it did not know until late August 2011 that defendants had bid $1.25/unit and $1.15/unit on the Colorado and Utah contracts, which pricing it claims made the need for an injunction apparent, it nevertheless waited over three more months from

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[184] C.A. No. 07-633-JJF-LPS, 2008 WL 5069784 (D. Del. Nov. 19, 2008).

[185] D.I. 69 at 12 (citing *Power Integrations*, 2008 WL 5069784, at *2, *12; D.I. 22, Ex. 21 at A191; *id.*, Ex. 26 at A215).

[186] D.I. 88, Tr. at 199:13-18.

that point to file its motion. In *Power Integrations*, the court found the plaintiff's "three-month delay between . . . [the filing of] . . . the lawsuit and [bringing] the instant Motion–*in addition to the more than eight-month delay* between [plaintiffs] *actual loss of sales* . . . to the filing of the Motion . . . weigh[ed] against a finding of irreparable harm."[187] Here too, the court finds that Neology's delay similarly weighs against granting an injunction.

Neology also contends, absent an injunction, it will be irreparably harmed because defendants will continue to deny it entry into the U.S. tolling market. Neology and defendants are direct competitors in U.S. tolling industry, particularly with regard to supplying new 6C RFID tags and associated equipment. Neology maintains, although its patents entitle it to exclusivity to the nascent 6C RFID tolling market, defendants have purportedly denied Neology entry into that market by selling infringing products. Because of defendants' infringing activities, Neology claims it has only been able to secure a one-time contract to supply 3,000 6C RFID tags from the State of Utah. In contrast, Neology asserts defendants barred it access to contracts for an estimated 1.36 to 2.21 million RFID tags and related equipment in the States of Washington, Colorado, and Utah, representing 74% to 80% of recently awarded 6C RFID tag contracts in the U.S. Neology also maintains Utah's award to defendants of a five-year contract to supply 6C RFID tags has eliminated any small market share gained by its one contract, and essentially displaced it from the U.S. 6C RFID tolling market altogether.

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[187] *Power Integrations*, 2008 WL 5069784, at *12 (emphasis added); *see also id.* at *2 (stating that the plaintiff filed its motion "three months after [filing suit] in this Court . . . and more than eight months after [the plaintiff] *had begun losing sales* to [the defendant]") (emphasis added).

The evidence does not support the contention that defendants have denied, or will deny, Neology entry into the U.S. tolling market. Again, to date, only four states have awarded 6C RFID contracts. The Georgia contract was awarded to low-bidder TransCore, not defendants.[188] Consequently, defendants did not deny Neology entry into the market with that contract.[189] Regarding the Washington contract, Neology did not submit a bid. Not because of any actions by defendants,[190] rather, Neology's understanding of the restrictions from a previous litigation settlement, or Redman's failure to advise Neology of the opportunity, precluded it from placing a bid.[191] In Colorado, defendants submitted the lowest bid and won the contract. That winning bid was only twenty cents per unit less than Neology's bid; $1.25/unit versus $1.45/unit.[192] Additionally, defendants have a long-term relationship with that state's tolling authority.[193] There is also a suggestion that defendants won the Colorado contract, in part, because they bundled a number or products together to create a package in which

[188] D.I. 22, Ex. 15 at A115. The court also notes Neology has already sold 100,000 6C RFID tags to TransCore which TransCore will, in turn, provide to Georgia under its contract. Neology also expects TransCore will purchase all of the tags it provides to Georgia from Neology. D.I. 55, Ex. B at 109:4-7, 110:1-111:8; Ex. C at 98:9-12; D.I. 70, Ex. 72 at A1635 at 96:22-97:2.

[189] At deposition, Mullis acknowledged Neology would not have won the Georgia contract even if defendants had not bid. D.I. 55, Ex. C at 127:2-5 ("Q. You agree, then, don't you, that Neology would have lost the Georgia contract even if Sirit had not bid? A. Yes.").

[190] D.I. 88, Tr. at 198:16-18; D.I. 55, Ex. C at 13-18.

[191] D.I. 88, Tr. at 197:16-198:15. Had Neology bid defendants still would not have denied Neology entry into the market as Neology would likely have been awarded the contract. Defendants bid $3.00/unit in Washington, and Mullis testified had Neology bid, he believed it would have offered the same bid it offered to Georgia, $1.79. D.I. 86, Mullis Dep. at 145:13-146:1.

[192] D.I. 22, Ex. 19 at A180; *id.*, Ex. 21 at A191; D.I. 25, Ex. 56 at A1428.

[193] D.I. 54, ¶ 14 ("Federal Signal (via Sirit) has had Colorado's E-470 tolling authority as a customer for more than a decade."). Mullis was aware of Sirit's long term business dealings with Colorado's tolling authority, and acknowledged when trying to sell products to a public tolling authority, past experience with that authority can be helpful. D.I. 55, Ex. C at 150:24-151:15. Neology's Clark also states "Federal Signal offers readers that can read not only the new 6C tags, but also Colorado's older legacy tags on the Title 21 protocol. Neology does not offer such a reader." D.I. 54, ¶ 7.

the tags were included, and Neology did not similarly bundle any products with its bid.[194] Neology won the first Utah contract, albeit for only 3,000 tags, by submitting a bid of $1.59/unit that was lower than defendants' bid of $1.64/unit.[195] The last contract, Utah's second, was won by defendants who bid $1.15/unit.[196] Like the first Utah contract, this was for a modest amount of 7,000 tags which were "for purchase over a 5 year period."[197] Although defendants were awarded that contract, it is not necessarily accurate to say defendants denied access to the 6C RFID market with that award. Even if defendants had not participated in the bidding, Neology would likely not have won the contract as TransCore was the second lowest bidder at $2.17/unit; less than Neology's bid of $2.20/unit.[198]

Neology also complains defendants interfered with a request from Colorado's E-470 PHA for price quotes for 425,000 6C tags for 2012, and 150,000 6C tags for 2013 through 2016.[199] As evidence, Neology points to a September 30, 2011 email from Kristick of Colorado's E-470 PHA advising Redman that the PHA was "planning to procure 425k windshield form factor tags in 2012. For your future planning, in the years

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[194] D.I. 88, Tr. at 200:14-19. At deposition, Clark testified, although subject to separate purchase orders, the bundle of products sold to Colorado was "part of a larger lane system . . . [that included] . . . lane systems . . . a software agreement, and also . . . readers and transponders." D.I. 86, Clark Dep. at 38:16-39:9. Clark reiterated defendants' bid of $1.25/unit to Colorado "was part of the larger agreement, software services, readers, transponders. The P.O. came in separately for the transponders after they had purchased the readers and the other systems. Typically tags are the last thing to be bought because the lane system needs to be in place before they purchase the tags." *Id.*, Clark Dep. at 93:2-14.

[195] D.I. 22, Ex. 24 at A198; *id.*, Ex. 22 at A193.

[196] *Id.*, Ex. 26 at A215.

[197] *Id.*, Ex. 25 at A202; *id.*, Ex. 26 at A215.

[198] *Id.*, Ex. 26 at A215; *id.*, Ex. 27 at A217; D.I. 88, Tr. at 202:17-21. Mullis acknowledged even if defendants had not bid on that contract, Neology still had to compete with TransCore which submitted a lower bid than Neology. D.I. 55, Ex. C at 186:10-24.

[199] D.I. 70, Ex. 102 at A2010.

2013-2016, we plan to procure 150k per year."[200] At that time, Redman was in discussions with Federal Signal concerning employment at that company, and on October 3, 2011, he received an offer of employment which he accepted the next day.[201] According to Mullis, prior to his departure Redman did not advise Neology of Kristick's email, and Neology did not learn of the email until February 2012.[202] On October 27, 2011, defendants submitted a proposal to Colorado for 1,000,000 6C tags at $1.15/unit for the PHA's estimated usage for 2012-2016.[203] Taking Neology's assertions as true, the court does not view this as demonstrating *defendants* denied Neology the opportunity to bid on those 6C tags. Neology does not direct the court to any evidence that defendants, or their employees, knew of Kristick's September 30 email to Redman at Neology, or that, if they had such knowledge, they somehow conspired with Redman to keep the information from Neology. Indeed, Neology asserts "*Mr. Redman's* conduct not only prevented Neology from responding to this opportunity, but now the E-470 likely thinks Neology ignored its invitation to bid, affecting Neology's ability to bid on future contracts from Colorado."[204] Therefore, this episode does not support Neology's contention that *defendants* kept it from pursuing that Colorado contract. Based on the

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[200] *Id.*

[201] *Id.*, Ex. 70 at A1579-81 at 14:1-16:18.

[202] *Id.*, Ex. 72 at A1668 at 227:3-299:8. There is a dispute as to whether Redman made anyone at Neology aware of Kristick's September 30 email before he left the company. Although Redman does not recall whether he forwarded Kristick's email to anyone at Neology, D.I. 88, Tr. at 232:6-22, 238:5-8, he contends he discussed the email with Mullis, and the two talked about potential pricing Neology would offer for those tags. *Id.*, Tr. at 243:21-243:18. At oral argument, Mullis testified he first saw Kristick's email in February 2012 and denied he and Redman discussed Neology's potential pricing in response to that email. *Id.*, Tr. at 254:5-255:9, 257:19:4. Because the court determines the evidence does not support the contention that *defendants* interfered with Neology's ability to submit a bid to supply Colorado with tags for the 2012-2016 time-period, it need not resolve this inconsistent testimony.

[203] D.I. 70, Ex. 98 at A1998-A1999.

[204] D.I. 69 at 14 (emphasis added).

foregoing, the evidence from the previous contracts does not support Neology's contention that defendants have denied it entry into the U.S. 6C RFID market.

With regard to future denial of entry into the market, Neology also contends, like Utah's recent five-year contract, long term contracts to supply 6C RFID tags are likely to arise as more states transition to the 6C standard for their tolling operations. It speculates as more states transition to the 6C standard in the future, absent injunction, defendants will continue to deny Neology entry into the market. Specifically, it proposes Florida, North Carolina, and California are considering transitioning to 6C technology.[205] First, Neology only avers these states are *considering* transition to the 6C standard. According to Redman's testimony, neither California or Florida (or Texas) currently use 6C tags, and he is unaware of any outstanding requests for proposals from any tolling agencies in the U.S. for such tags.[206] Mullis likewise testified there are no current outstanding requests from any U.S. toll agency seeking 6C tags, and he was not aware of any state that was planning to switch to a 6C protocol within the next 18 to 30 months.[207] When asked the usual time-period from when a tolling agency requests bids until the first tag is delivered, Mullis admitted the cycles of government procurement vary from months to years, but "procurement cycles within government are very long."[208]

With regard to Florida's consideration, Neology cites an Annual Report on

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[205] D.I. 72, ¶¶ 2-4.

[206] D.I. 88, Tr. at 210:21-211:7. California, Florida, and Texas were the three states Redman was questioned about; he was not asked about North Carolina.

[207] D.I. 70, Ex. 72 at A1640 at 115:19-116:1, 116:20-117:6; *see also* D.I. 54, ¶ 12 (Clark declaration stating "[c]urrently, there are no open request from any U.S. states seeking 6C tags").

[208] D.I. 86, Mullis Dep. at 117:7-118:11; *see also id.*, Mullis Dep. at 118:12-20 ("Q. Is it true that government procurement cycles in tolling applications tend to be very long? A. Absolutely true. Q. And is it true that for the state of Georgia, that it was over a year between the time they selected the provider before the first 6C tags were delivered? A. That's accurate.").

Enterprise Operations for Fiscal Year 2010 (which ended on June 30, 2010) prepared by consultants to the Florida Department of Transportation, Turnpike Enterprise, PBS&J and HNTB.[209] Under the heading "Emerging Trends and Future Initiatives," the report merely recites:

> FTE[, Florida's Turnpike Enterprise,] plans to continue to sustain and increase the value of products by focusing on the customer experience, reusing and leveraging existing commercial products, and providing a low-cost expansion of the SunPass program. For example, FTE is evaluating new transponder technology that is currently used by the logistics industry and is based on an ISO-18000 6C open standard.[210]

Neology further notes in January 2012, the FTE announced it soon would be procuring new readers, preferably those to operate on the 6C protocol, giving the FTE the ability to migrate existing technology to the higher performing 6C tags. That announcement provided FTE would soon "begin procurement of 3- or 4-mode readers to allow them to read E-ZPass transponders."[211] Redman, however, testified that the E-ZPass IAG group does not use 6C tags.[212] Therefore, the announced reason for the procurement of the multi-mode readers, to permit reading of E-ZPass transponders, does not implicate 6C RFID tags. The report also indicates "[t]hree mode would support the SeGo *6B* variant sticker tags and the older Allegro protocol tags as well as E-ZPass IAG transponders. . . . [I]deally they'd read the 6C tags too from Georgia and other places

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[209] D.I. 25, Ex. 53 at A1300-A1311.

[210] *Id.*, Ex. 53 at A1306.

[211] D.I. 70, Ex. 109 at A2104; *id.* ("Larger main servers are being acquired with a capacity for 30m accounts rather than the present 15m to allow large populations of E-ZPass accounts to be added to SunPass.").

[212] D.I. 88, Tr. at 210:19-20; *see also* D.I. 70, Ex. 109 at A2105 (January 2012 announcement: "the University of South Florida has been asked to begin testing of TransCore's eZ-Go Anywhere dual mode transponder (E-ZPass IAG, *6B*) so Florida's Turnpike can consider offering it to Florida customers who travel north") (emphasis added).

as well as giving Florida itself *another option* for migrating to a higher performance tag."[213] According to Velasco, "FTE informally requested 6C tags from Neology to test [and] Neology submitted its 6C tags to FTE for evaluation."[214] Redman testified Neology gave Florida those sample tags to test in late 2009 or very early 2010, but, to his knowledge, Florida had not made a decision regarding transition to 6C tags.[215]

With regard to California and North Carolina, Velasco submits both the California Department of Transportation ("CalTrans") and the North Carolina Turnpike Authority ("NCTA") are considering adopting 6C tolling technology.[216] Like Florida, CalTrans asked Neology for 6C tag samples for testing, which it supplied.[217] Velasco further avers "Neology has learned that NCTA is evaluation 6C technology and soon will be issuing [a request for proposal] for 6C-compatible multi-protocol readers."[218] As with Florida, CalTrans' request for 6C tags shows, at most, that California is *considering* implementing that technology. Also, as with Florida, North Carolina's purported soon-to-be issued request for proposal for 6C-compatible *multi-protocol readers* does not necessarily mean the state will be purchasing 6C RFID tags in the near future.[219] At oral argument, counsel for Neology also admitted no knowledge as to when any bids for 6C RFID tag requests would, or might, issue.[220] At this point, it is pure speculation as to

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[213] D.I. 70, Ex. 109 at A2104 (emphasis added).
[214] D.I. 72, ¶ 2.
[215] D.I. 88, Tr. at 211:18-212:7.
[216] D.I. 72, ¶¶ 3-4.
[217] *Id.*, ¶ 3.
[218] *Id.*, ¶ 4.
[219] The court observes, other than Velasco's declaration stating "NCTA is evaluation 6C technology and soon will soon be issuing an RFP for 6C-compatible multi-protocol readers," no additional evidence in the record supports that comment.
[220] D.I. 88, Tr. at 280:9-11 ("We don't know when the bids are going to come out, but we do know we can't compete at that. They could come out tomorrow.").

if, or when, any new contracts for this technology might be available. Therefore, defendants' potential interference with Neology's successful bidding on those unknown contracts is likewise speculative and does not establish irreparable harm.[221]

Neology further notes some states now include eligibility requirements that would preclude its ability to bid on 6C RFID contracts. It gives as its only example Utah, which is presently requiring prospective bidders who supply 6C readers demonstrate they have secured at least two prior 6C RFID deployments in the U.S. as a prerequisite to bid.[222] Despite Mullis's testimony that he is not aware of any U.S. tolling agency which requires a 6C tag manufacturer to have provided tags to other U.S. tolling agencies before being permitted to bid,[223] in briefing, Neology conjectures "[o]ther states could soon follow suit and impose similar restrictions . . . which would further exacerbate the harm already caused by the Defendants' infringement and their dominance of the 6C market."[224] This speculative assumption likewise does not establish Neology is suffering irreparable harm.

Defendants contend Neology's recent financial health and attractiveness to investors shows it is not facing irreparable harm. They rely on *Power Integrations*, wherein the court found the plaintiff's recent revenue growth "does not suggest a

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[221] *See Johnson & Johnson Orthopaedics, Inc. v. Minnesota Min. & Mfg., Co.*, 715 F. Supp. 110, 112 (D. Del. 1989) ("'[T]he injury contemplated must be real, not fancied; actual, not prospective; and threatened, not imagined.'") (quoting *Cordis Corp. v. Medtronic Inc.*, 2 U.S.P.Q.2d 1845, 1847 (D. Minn. 1986)).

[222] D.I. 21 at 26 (citing D.I. 23, Ex. 33 at A280 (UDOT solicitation requesting "[a] list of references with knowledge of Offeror's 6C expertise and integration skills. Include a minimum of two Toll Agency references, including Agency, Contact name, title, phone number(s) and email address.")); D.I. 23, Ex. 34 at A306 (stating UDOT would not consider "project references from agencies outside the U.S.").

[223] D.I. 55, Ex. C at 136:17-137:1. Mullis "absolutely" expects Neology to submit a bid if any tolling agency in the U.S. is thinking about switching to 6C for their tags. *Id.,* Ex. C at 213:5-10.

[224] D.I. 21 at 26.

company facing irreparable harm."[225] Defendants argue that, similarly, Neology's recent profitability does not suggest it is facing irreparable harm. Each year from 2003 to 2008 Neology lost money, although it does not allege defendants were the cause of those losses. In contrast, from 2009 through 2011 Neology has been profitable and those are the only profitable years in the company's history.[226] Three of the four highest revenue years in Neology's history were 2009-2011, and the $21,108,875 in revenue Neology received in 2011 was the highest revenue year in Neology's history.[227] Defendants further cite Neology recently touted itself as "a leader in passive UHF and probably the only profitable company in the space."[228] Although Neology has laid off workers in its California facility, defendants note, over the last three or four years, Neology has added approximately twenty-five permanent jobs in Mexico City, and hired more than one thousand temporary workers there.[229]

Neology counters its profitability from 2009-2011 was the result of unsustainable cutbacks. Though profitable during those years, that profit was the result of drastically reducing operating expenses to make the company attractive to potential investors.[230]

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[225] *Power Integrations*, 2008 WL 5069784, at *10.

[226] D.I. 86, Mullis Dep. at 60:12-61:1; D.I. 55, Ex. D (Neology Interrog. Resp.) at 10 (reciting $446,180 net income in 2009; $2,447,892 net income in 2010; and $1,874,027 in 2011).

[227] *Id.*, Mullis Dep. at 61:19-62:1.

[228] D.I. 55, Ex. Q (Neology PowerPoint) at NEO14947. How recently this claim was made is unclear. The PowerPoint presentation itself is not dated, but contains a chart listing patents granted and applications pending, that includes the date 04/06/2010. *Id.*, Ex. Q at NEO14960.

[229] D.I. 86, Mullis Dep. at 200:7-202:2.

[230] *Id.,* Mullis Dep. at 61:23-63:5 ("[T]he P&L doesn't reflect the true condition of the company. We were in a mode of needing to find capital investor, made significant cuts to our R&D basically having decimated our R&D and engineering. You'll see . . . went from 3.4 in 2008 to–down to 1.7. That 1.7 really reflecting your basic sales and administrative cost. So we've left the company virtually without any engineering support. So on one hand, from a financial perspective, you might say that the condition of the company represents profits and looks healthy, but from an internal perspective, it's . . . reflective of the major cost-cutting initiatives.").

From 2007 to 2011, Neology's total operating expenses steadily declined, from $11,593,128 in 2007 to $4,742,559 in 2011, with the largest cuts in R&D and applications engineering.[231] Neology blames defendants' allegedly infringing activities as forcing employee layoffs, and projects further reductions in staff, including engineers, unless defendants are enjoined.[232] The evidence does not support Neology's contention that defendants' actions caused it to layoff employees to cut costs.

Neology began its cost cutting in 2009.[233] Mullis testified, the company being "in a mode of needing to find [a] capital investor" was the reason it "made significant cuts to . . . R&D . . . decimat[ing the company's] R&D and engineering."[234] Mullis felt, however, had Neology won the Georgia contract, those cost cutting measures might have been unnecessary.[235] Defendants did not win the Georgia contract and, thus, were not responsible for Neology initiating its cost-cutting initiative.[236] After beginning its cost-cutting initiative in 2009, it continued in 2010 and 2011.[237] According to Mullis, Neology had forty-eight employees in 2008, but reduced staff to nineteen employees by February 2011. Defendants, however, cannot be said to be responsible Neology's 2010

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[231] D.I. 70, Ex. 106 at A2080-A2084.

[232] D.I. 26, ¶¶ 22, 24.

[233] D.I. 86, Mullis Dep. at 123:13-19. During his deposition, Velasco similarly testified Neology began looking for investors because the company was "insolvent and losing money. . . . The market wasn't there yet. . . . We were spending too much money and trying to continue to develop the technology and the readers. We had to cut every cost that we could to sustain the company going forward. And we were basically insolvent. We had over $6 million in debt." D.I. 55, Ex. B at 51:24-52:14.

[234] D.I. 86, Mullis Dep. at 62:10-14.

[235] *Id.*, Mullis Dep. at 123:5-12 ("[W]e demonstrated profits in 2009 through that cost-cutting initiative. I think it would have been more likely, had we won [the Georgia contract], we would not have had as many cuts. We would have been able to sustain the engineering effort, and then be able to sort of parlay that experience into future programs."); *id.*, Mullis Dep. at 123:20-24 ("Q. Is it your belief that had you won the Georgia contract you would not have had to lay off as many people? A. Oh, that's an accurate–that's an accurate assessment, yes.").

[236] *Id.*, Mullis Dep. at 37:12-15 ("Q. Is it true that in 2009, Neology did not lose any bids to Sirit for 6C tolling applications? A. That's correct.").

[237] *Id.*, Mullis Dep. at 36:19-37:5.

layoffs, and the timing of the 2011 layoffs suggests they were not the result of Neology's actions. Neology did not lose any bids to defendants in 2010, and so did not cause Neology to let employees go that year.[238] The first time defendants and Neology went head-to-head in the U.S. on a contract defendants won was the Colorado contract. According to Redman, he first learned defendants acquired the Colorado contract in February or March 2011.[239] The last employees laid off, however, were in February 2011,[240] either a month after, or the same month, Redman learned defendants had prevailed on the Colorado contract.[241] It is far from clear, then, that defendants' successful bid for the Colorado contract caused that last round of layoffs in February 2011 as they occurred at a time when it is not apparent Neology knew defendants had won that contract.

In addition to contending defendants' actions caused it to layoff employees as a cost-cutting measure, Neology further argues its inability to secure U.S. tolling contracts has resulted in the loss of key employees, most notably Redman, its Vice President of Sales and Marketing, who was hired by defendants as the Vice President of Sales for North America for Federal Signal Technologies in October 2011.[242] Neology's loss of Redman was significant because he was responsible for its entire marketing and sales operations and developed, prepared and submitted bids for all 6C RFID tolling

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[238] *Id.*, Mullis Dep. at 38:6-10 ("Q. Is it true that in 2010, Neology did not lose any bids to Sirit for 6C tolling applications in the United States? A. That's correct. That's correct.").

[239] D.I. 88, Tr. at 199:13-18.

[240] D.I. 70, Ex. 72 at 198:11-14 ("Q. Have you had any layoffs since February of 2011? A. That was our last cut . . . February of 2011.").

[241] At the very least, Neology contends it was not aware of the *price* defendants had bid until months later, near the end of August 2011. D.I. 69 at 12 (citing D.I. 22 at A191).

[242] D.I. 26, ¶ 23.

contracts. Through his position, Redman developed business relationships with tolling agencies on behalf of Neology, and had access to Neology's confidential and proprietary information, including strategic business planning and development documents, product pricing, budgets, financial and performance data, sales proposals and contracts, and market forecast and strategies.[243] Redman's departure from the company does not appear be solely related to Neology's purported lack of success in winning contracts for 6C RFID tags.

Mullis acknowledged, due to the financial status of the company and resulting layoffs, there were morale issues among the company's employees and that those factors may have played a role in Redman's leaving; he also believed Redman "made a decision at the end of the day for his own personal reasons."[244] Those personal reasons could include the tense relationship between Redman and Neology's CEO Velasco.[245] At oral argument, Redman testified the financial condition of the company, as well as the future direction of the company were among the reasons he left.[246] With regard to the financial condition of the company, he mentioned layoffs and cash flow problems in the 2007-2008 time-period (before Neology was in the 6C tolling industry) and the failure to pay employees for a period of time in 2008.[247] He also complained of the company's cancellation of its dental insurance in early 2007 and slow

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[243] *Id.*

[244] D.I. 86, Mullis Dep. at 196:2-12.

[245] *Id.*, Mullis Dep. at 196:15-197:1 ("Q. Do you agree there was some tension between Mr. Redman and Neology's CEO, Mr. [Velasco]? A. Yeah. I think that's a fair assessment. Q. Is it fair to say that to your understanding Mr. Redman and Mr. [Velasco] didn't always see eye to eye about the future of Neology's business? A. Yeah. I think that's a fair assessment.").

[246] D.I. 88, Tr. at 205:13-207:8.

[247] *Id.*, Tr. at 205:13-19.

reimbursement of travel expenses.[248] The final reason he gave was he disagreed with the direction the company considering purchasing Neology planned for Neology's future; a very narrow, one-dimensional focus that meant "getting away from the toll market to some extent and getting away from a total solutions center."[249] Just because defendants may not have caused Neology's staff reductions does not mean Neology's recent positive financial health, as indicated by its profitability from 2009-2011, is analogous to the plaintiff in *Power Integrations* as defendants contend.

Regardless of the reasons behind Neology's staff reductions, those reductions occurred. "Neology employee resources are currently stretched thin, operating with five (5) administrators, three (3) engineers, and eleven (11) machine operators and technicians in the United States."[250] Mullis testified Neology is not "a sustainable business," requiring him to drastically reduce costs to a point it cannot survive if he continues with such measures.[251] Moreover, much of Neology's revenue over the past three years has come directly from the REPUVE contract in Mexico (Neology's largest tag contract), and the additional permanent and temporary employees in Mexico City that defendants reference were hired for that contract.[252] That contract is scheduled to end in July 2012.[253] Neology maintains it will be difficult to remain profitable if the price of 6C tags sold in the U.S. does not increase to a "sustainable level."[254] Because

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[248] *Id.*, Tr. at 206:15-21.
[249] *Id.*, Tr. at 206:22-207:8.
[250] D.I. 26, ¶ 22.
[251] D.I. 86, Mullis Dep. at 74:22-75:2; D.I. 26, ¶ 24 ("If Neology is unable to become profitable in the near future, it will likely be forced to layoff more employees, including its three (3) remaining engineers, or cease business operations entirely.").
[252] D.I. 70, Ex. 72 at 222:4-223:23.
[253] *Id.*, Ex. 72 at 223:10-15.
[254] D.I. 69 at 16.

Neology's recently profitability appears, in part, to be due to dramatic reductions in staff, the company's largest tag contract expiring in the very near future, and no current outstanding tolling agencies seeking bids for 6C RFID tags, its perceived financial health does not undercut its assertion of irreparable harm as defendants claim.

Defendants further contend Neology's attractiveness to investors demonstrates it is not facing irreparable harm. On December 8, 2011 Neology announced it was going to be acquired by a company called SMARTRAC.[255] As part of the acquisition, SMARTRAC paid Neology's shareholders $28 million in cash, paid off approximately $4-6 million in Neology debt, and provided Neology's shareholders with a potential additional $9 million through an earn-out provision based on results of operations in 2011 and 2012.[256] As a result of that influx of cash, defendants dismiss Neology's assertion that, absent injunctive relief, it "will have to devise other revenue streams or seek additional investor capital in order to sustain operations"[257] and contend Neology "can no longer allege that it is under-capitalized and barely able to survive."[258] Defendants' assertions are misplaced.

The money received in the SMARTRAC transaction did not go into Neology's company coffers to be used to operate the business; that money went directly to former Neology shareholders and to retire debt.[259] Defendants note Neology is now part of a

[255] D.I. 55, Ex. F.
[256] D.I. 70, Ex. 73 at A1678 at 19:5-19; D.I. 55, Ex. F.
[257] D.I. 21 at 33 (citing D.I. 26, ¶ 24).
[258] D.I. 53 at 31.
[259] D.I. 70, Ex. 73 at A1678 at 19:5-19 (Velasco testifying Neology's owners received the proceeds from the acquisition); *Id.*, Ex. 72 at A1667 at 224:1-23 (Mullis testifying the proceeds from the acquisition were earmarked for Neology's investors and the remaining undisbursed proceeds are held in trust for investors or their estates).

much larger RFID company, SMARTRAC, which is ultimately owned by JPMorgan Chase, one of the largest financial companies in the world. Neology, however, has not had any discussions with SMARTRAC "that would indicate they're going to provide any capital infusion into the company . . . ."[260] Mullis believes SMARTRAC expects the company to become a profitable sustaining business, otherwise it will be shut down.[261] Because it was Neology investors, and not the company itself, who received the bulk of the proceeds from the SMARTRAC acquisition, and in light of Mullis's testimony there is no indication of additional capital infusion from SMARTRAC, the court rejects defendants' argument that Neology is no longer undercapitalized and clearly able to survive.[262]

Neology argues it will suffer irreparable harm to its reputation because defendants' inferior tags jeopardize transition to the 6C standard. Neology notes purported problems with defendants' tags in Washington, side-by-side testing of the parties' tags conducted by Neology's Research and Development Manager, Sheshidher Nyalamadugu, and a test by the State of Utah demonstrating the superior tamper resistance of Neology's tags.[263] Neology surmises "[t]he tolling market will inevitably associate the Defendants' inferior performance with all 6C RFID technology, harming Neology's reputation."[264]

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[260] D.I. 86, Mullis Dep. at 177:5-8.
[261] *Id.*, Mullis Dep. at 177:3-12.
[262] D.I. 53 at 31.
[263] Neology also alleges defendants' "denial of Neology's entry into the U.S. tolling market" has further harmed its reputation in the tolling industry. As the court found the evidence lacking to support defendants' purported obstruction of Neology's entry into the U.S. tolling market, that evidence likewise does not support its reputational harm argument.
[264] D.I. 21 at 32.

The evidence does not support Neology's contention that defendants' tags are inferior. Neology suggests defendants' tags performed poorly in Washington, resulting in unnecessary costs incurred by the state, and led some Washington state lawmakers to criticize 6C technology generally. In June 2011, Washington announced certain "glitches" in the tolling system used on the Tacoma Narrows Bridge ("TNB") lead to some drivers erroneously being issued toll infractions.[265] The announcement listed several reasons toll infractions were cited: problems with defendants' 6C RFID tags was not among the reasons listed.[266] Washington did encounter difficulties reading defendants' 6C tags on the TNB, but those difficulties were due to the existing TransCore readers deployed at the bridge being unable to read the new tags.[267] An August 2011 report from the Tolling Expert Review Panel for WSDOT recommended for Transcore "to replace the readers or at least modules of those readers to units that read both the Transcore proprietary transponder and the 6[C] transponder ASAP."[268] Although Washington is exposed to substantial expense to replace the readers on the

[265] D.I. 22, Ex. 28 at A219.

[266] *Id.*, Ex. 28 at A219 ("[T]here are a number of reasons, particularly during the transition process to the new tolling contractor, that people might have received infractions including: A glitch with ETCC's automatic account-replenishment system, leaving some customers with inadequate funds[;] Customers who have not updated current credit card information[;] A Backlog of customer email inquiries to ETCC staff that might have left account issues unresolved before an infraction was issued[; and] Customers with new *Good To Go!* [the 6C tags] passes who did not register all of the license plates that they would use on the new account.").

[267] *Id.*, Ex. 30 at A231 ("The devices built by contractor TransCore for electronic tolling on the Narrows bridge can't read the Good to Go transponders made by a different company, Sirit Inc."); D.I. 23, Ex. 31 at A235 ("The way things are set up, the older, larger "Good to Go" sticker will work on all toll areas. But the smaller, newer sticker uses a new kind of sensor technology that the Tacoma Narrows Bridge, for now, does not have."). Also, the interoperability problems encountered by Washington was limited to the TNB. "Only the Narrows bridge has the issue with the new transponders; other tolling areas, like highway 167's HOV/toll lane, can already read both "Good to Go" stickers . . . ." *Id.*, Ex. 31 at A235.

[268] D.I. 22, Ex. 29 at A225.

TNB,[269] and potentially uncollected tolls in the interim,[270] those expenses and lost tolls are expected to be more than offset by the savings achieved by using the 6C protocol.[271] According to Clark, "[a]fter TransCore updated its readers in September 2011, the readers were able to accurately read all new 6C tags."[272]

Neology further argues "[d]efendants approached Washington claiming their tags enabled 'interoperability with legacy tolling systems in Washington state.'"[273] The December 13, 2010 Federal Signal "News Release" quoted by Neology notes:

> The Sirit ID*entity* 5200 readers and tags selected by the WSDOT will offer ISO-18000-6C technology, and are designed for long-range, high speed vehicle identification and tolling applications. The readers and tags are based on open standards and incorporate multiple protocols to enable interoperability with legacy tolling systems in Washington State, while ensuring that features and capabilities can be added as RFID technology continues to evolve.[274]

First, that news release touts defendants' *readers and tags,* noting they "enable interoperability with legacy tolling systems in Washington State." A fair reading indicates it is defendants' *readers* which "incorporate multiple protocols." A 6C tag is just that, a 6C tag. Those tags utilize the 6C protocol, not multiple protocols. Readers, on the other hand, can be manufactured to "incorporate multiple protocols" and such readers can identify 6C tags as well as, for example, older 6B tags. Apparently

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[269] *Id.*, Ex. 30 at A231.

[270] D.I. 23, Ex. 31 at A235.

[271] D.I. 22, Ex. 30 at A231 ("The Department of Transportation chose to switch to the Sirit transponders [even though the TransCore readers could not read those tags] because they would save the state much more than it loses from missed tolls."); *id.,* Ex. 31 at A235 ("[S]avings from the new transponders are expected to outweigh the costs. 'We're able to pass on $2.8 million in savings to the public,' said [Craig] Stone [head of WSDOT's toll division], who added that operating costs would also be significantly less under the new tolling system.").

[272] D.I. 54, ¶ 13.

[273] D.I. 21 at 31 (quoting D.I. 22, Ex. 18 at 175).

[274] D.I. 22, Ex. 18 at A175.

Washington was not mislead by defendants' representations, or at least did not view the interoperability of their 6C tags with existing TransCore readers as a critical issue, in light of WSDOT's decision to "switch to the Sirit transponders anyway because they would save the state much more than it loses from missed tolls."[275]

Neology further contends its side-by-side testing of defendants' and its own tags shows Neology's tags are superior. Neology maintains during Nyalamadugu's in-house testing, its "6C compliant tags outperformed Sirit's tags in every tested metric."[276] Nyalamadugu's tests found Neology's tags surpassed defendants' tags on several key areas, such as read range and tag sensitivity, and its "switch" tags (tags that can be manually turned on/off) exceeded defendants' "switch" tags when measured to detect the tag's response in the "off" position.[277] Neology also claims testing of a tag's tamper resistence by the State of Utah demonstrates the inferiority of defendants' tags. Neology points to an article on a trade web forum, TOLLROADSnews.com, reporting the UDOT's purchase of 6C tags from Neology and UDOT's testing of the non-transferability, or tamper-proof, features of the tags supplied by defendants, TransCore, and Neology.[278] The article states, "Utah tests showed both the FSTech/Sirit and the TransCore 6C sticker tags survived removal from a windshield. Only the Neology tag suffered the desired fatal injury in removal . . . ."[279] Neology argues defendants' "underperforming products . . . currently dominate the nascent 6C tolling market [and] [t]he tolling market will inevitably associate the Defendants' inferior performance with all

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[275] *Id.*, Ex. 30 at A231.
[276] D.I. 29, ¶ 4 (citing test results at D.I. 25, Ex. 57 at A1430-A1432; Ex. 58 at A1434-A1435).
[277] D.I. 29, ¶¶ 4-5; D.I. 25, Ex. 57 at A1430, A1434; Ex. 58 at A1434-A1435.
[278] D.I. 22, Ex. 22 at A193.
[279] *Id.,* Ex. 22 at A193.

6C RFID technology, harming Neology's reputation."[280] It further asserts "Utah's decision to award the Defendants a contract to supply 6C RFID tags, despite Defendants' failure to meet quality standards, incorrectly sends a message to the rest of the tolling market that Defendants' inferior tags are comparable to Neology's tags."[281]

Defendants maintain Neology's in-house testing is neither conclusive nor comprehensive. They point to an independent third party's test confirming the reliability of the tamper-proof feature of their tags, and positive responses from other independent testers associated with state tolling authorities which confirm their tags are not inferior to Neology's tags.

Defendants have several criticisms of Neology's testing they contend diminishes the significance of that testing. First, Neology did not test four of the five tags at issue; it only tested defendants' windshield tag.[282] Second, Neology obtained the tags it tested from third parties and cannot verify their chain of custody, including the age of the tags or the manner in which they had been stored and transported prior to Neology's receipt of them.[283] Also, Neology does not know from whom three of the tags tested were obtained.[284] Defendants further criticize Neology for limiting its tests to a single performance factor, read range,[285] and not testing for other factors important to a tag's

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[280] D.I. 21 at 32.

[281] *Id.*

[282] D.I. 55, Ex. S (Nyalamadugu Dep.) at 54:20-55:22 (Nyalamadugu testifying Neology tested defendants' windshield tags but not defendants' ID*entity* headlamp mount tag, ID*Entity* external license plate tag, ID*Entity* self-declaration tag, or ID*Entity* card tag).

[283] *Id.*, Ex. S at 17:17-18:8, 24:10-26:2.

[284] *Id.*, Ex. S at 17:17-18:8 (Nyalamadugu testifying to not knowing from whom Neology obtained two switch tags and one sticker tag).

[285] *Id.,* Ex. S at 28:16-30:1 (Nyalamadugu testifying Neology tested defendants' switch tags (in the on and off positions) for reader power and sensitivity, which two factors give one read range; reader power is one way to test for the read range, and the sensitivity of the tag is one way to test for read range).

performance in a tolling environment.[286]

The court gives some small weight to defendants' criticisms of Neology's in-house testing, but, even accepting those tests may shed some light on the relative quality of the parties' 6C tags, other evidence contradicts Neology's contention defendants have underperforming, inferior, tags.[287] Clark represents "[a]s part of the bid process, a candidate often submits its tags to testing to verify the accuracy and reliability of their tags. Federal Signal's tags met the requirements of Utah, Colorado and Washington."[288] That assertion is supported by individuals associated with the tolling departments of each of those states. On June 13, 2011, Tyler Patterson of WSDOT wrote to Clark to "express my appreciation[, on behalf of WSDOT,] for the tremendous support and customer service provided by your team."[289] He relayed:

> WSDOT remains very pleased with the performance of Federal Signal Technologies' Sirit IDentity Automatic Vehicle Identification multi-protocol RFID readers and ISO 18000-6C transponders [the 6C tags] on our All

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[286] Defendants also claim Neology performed its read range test no more than five times, and contrasts that to the more rigorous requirements imposed by Utah, which requires a tag be tested a minimum of 500 times to demonstrate performance compliance. D.I. 53 at 42 (citing D.I. 55, Ex. T (UDOT solicitation), at NEO0019154 (reciting, under the heading "*Phase 1b: Pre-Installation Testing / Reader Performance Proof*," the requirement to "[c]onduct scripted driving tests to provide on-site proof of read accuracies and read reporting accuracies meeting performance requirements" and specifying testing requirements including, *inter alia*, "[m]inimum 500 Express Lane transactions per site")).

[287] Defendants further point to testing by its expert on Neology's tags that purportedly show a failure to function properly in direct sunlight and, in a relatively sunny state like Utah, Neology's tags would result in failed reads of cars. D.I. 53 at 42-43. Neology responds a flawed testing methodology employed by defendants' expert led to that conclusion. Defendants' expert purportedly tested Neology's tag with the wrong side facing the sun, in contradiction to the installation instructions. D.I. 69 at 1-2. As with their criticism of Neology's in-house testing of defendants' tags, Neology raises legitimate issues with defendants' testing of its tags. Also, Redman testified he agreed that Neology's tags are quality tags and while he was with the company, he never received complaints from an end user of failures of Neology's tags. D.I. 88, Tr. at 226:11-18. Absent any evidence that Neology's tags actually deployed by Utah cannot be read in direct sunlight, and defendants' contention their tags are not inferior to the extent they will sully the reputation of 6C technology in the relevant market, the court need not determine the battle of the parties' experts' test results.

[288] D.I. 54, ¶ 9.

[289] D.I. 55, Ex. R.

> Electronic Toll Collection and Open Road Tolling operations. The read accuracy has exceeded our requirements and instilled a new level of confidence in our systems.[290]

Colorado's testing of defendants' tags was mentioned in a January 5, 2011 email from Kristick of the Colorado PHA to Neology's Redman, wherein the favorable comparability of the parties' tags was noted. Kristick informed Redman "[w]e tested your tags in the same environment as the Sirit tags and your tags performed just as well as Sirit's."[291]

The TOLLROADSnews article reporting performance of the tamper-proof feature of the parties' 6C tags also contains a UDOT official's statement that "UDOT already has a pair of FSTech/Sirit readers . . . and they read both kinds of 6C tags[, FSTech switchables, and the Neology Clean Vehicle stickers,] 'beautifully.'"[292] It further reports a specific TransCore reader "read[s] the 6C sticker tags from TransCore, Sirit and Neology at 100 percent."[293]

With regard to the tamper-proof feature of their tags, defendants emphasize independent testing done by Siemens as evidence of the reliability of that feature on their tags. In its report on "RFID TAG TAMPER PROOF TESTING," Siemens tested over 300 different types of RFID tags, from 20 different vendors, for tamper proof characteristics.[294] Although the report observed, "[a]ll tags have met successfully and consistently all intended tamper proof features when removed using ordinary attempts and means under ordinary conditions," it singled out Sirit for special praise, commenting

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[290] *Id.*
[291] D.I. 22, Ex. 19 at A180.
[292] D.I. 55, Ex. U.
[293] *Id.*
[294] *Id.*, Ex. V at 3 of 6; Ex. V, Attachment B at 3 of 9.

"[o]ut of the tested tags SIRIT tag proved to be far more reliable in tamper proof feature even under extraordinary testing method, such as using [a] very sharp razor to peel the tag off a glass surface."[295]

The court disagrees with Neology's assertions "[t]he tolling market will inevitably associate the Defendants' inferior performance with all 6C RFID technology, harming Neology's reputation" and "Utah's decision to award the Defendants a contract to supply 6C RFID tags, despite Defendants' failure to meet quality standards, incorrectly sends a message to the rest of the tolling market that Defendants' inferior tags are comparable to Neology's tags."[296] First, the positive statements of several state tolling agencies concerning defendants' tags, as well as the successful testing by Siemens, indicate their tags are not inferior to Neology's tags. With the exception of the one article by TOLLROADSnews noting the failure of the tamper-resistant feature of defendants' tags, Neology provides no evidence from an independent third party who used or tested defendants' tags finding them sub-par. To the extent Neology's tags do have superior tamper-resistant features, it is unlikely Utah's award of the second contract for 7,000 RFID tags to defendants would send an unfavorable comparison in the tolling market regarding Neology's tags with the tamper-resistant feature.[297] Indeed, the TOLLROADSnews article states among tamper-resistant tags submitted for testing, "Neology worked best" and noted "[o]nly the Neology tag suffered the desired fatal injury

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[295] *Id.,* Ex. V at 3 of 6. Of the 20 vendors whose tags Siemens tested, "Siemens shortlisted five (5) to be the best RFID manufacturers throughout the world." Sirit was included in that shortlist. *Id.*, Ex. V, Attachment A at 11 of 12.

[296] D.I. 21 at 32.

[297] Neither side has directed the court to any evidence concerning whether Utah conducted additional tests of the parties' tags in connection with the second Utah tag contract.

in removal" as the difference that "has given Neology bragging rights."[298]

Consequently, the court determines Neology has failed to demonstrate defendants' purportedly inferior tags jeopardize transition to the 6C standard, nor have those tags harmed Neology's reputation in the U.S. tolling market.

Neology alleges irreparable harm because defendants continue to put downward pressure on 6C RFID tags, resulting in market-wide price erosion. Defendants argue Neology's price erosion arguments are flawed, and, in any event, a preliminary injunction should not issue because damages would adequately compensate Neology for any harm caused by the alleged infringement.

Neology's price erosion argument centers on defendants' reduction in the price they offer 6C RFID tags, from a high of $3.05/unit and $3.00/unit for the Georgia and Washington contracts, respectively, to $1.15/unit for the second Utah contract and, also in the fall of 2011, $1.15 to Colorado.[299] Neology notes on November 10, 2010 defendants quoted Colorado between $3.05/unit to $2.25/unit, depending on the quantity ordered, which was consistent with its prior bids.[300] Defendants were ultimately awarded the contract after they lowered their offering price to $1.25/unit.[301] Neology alleges defendants dropped their price after learning they faced competition from Neology, the only other bidder.[302] Neology asserts defendants' subsequent offers of

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[298] D.I. 22, Ex. 22 at A193.

[299] *Id.*, Ex. 14 at A106; *id.*, Ex. 17 at A172; *id.*, Ex. 25 at A215; D.I. 70, Ex. 98 at A1998-A1999.

[300] D.I. 70, Ex. 100 at A2004.

[301] D.I. 22, Ex. 21 at A191.

[302] D.I. 69 at 15 (citing D.I. 22, Ex. 19 at A180). The email cited in support is Kristick's January 5, 2011 email to Redman in which Redman stated "[a]s we communicated to Sirit today, we would like to increase our quantity [from 350K] to 750K tags in 2011. I would like to know if that will affect price you can offer." Apparently, Neology reasons since Kristick advised Redman Sirit had been invited to bid, he likewise advised defendants that Neology had been invited to bid. *Both Neology and defendants reduced their bids* in response to the increased quantity Colorado requested, albeit defendants reduced their bids

$1.15/unit to Utah and Colorado have "effectively established a new low for all 6C RFID tags, *including more costly tags with advanced security features.*"[303] Neology contends at the prices offered by defendants it cannot compete "and has been effectively eliminated from all future competition for 6C RFID tag contracts in the United States."[304]

Neology suggests even if it could profitably compete at $1.15/unit, which it denies, defendants' actions demonstrate they will continue dropping prices to secure new contracts or renew existing ones. Neology argues not only can it not profitably sell tags at $1.15/unit, neither can defendants, as demonstrated by losses suffered by FSTech, the business unit that competes in the tolling market and includes Sirit. Federal Signal's 10Q, filed on November 1, 2011, reports that FSTech lost $6 million through the third quarter of 2011.[305] Through discovery, Neology has learned Sirit incurred losses of $7,596,018 between 2009 and 2011.[306] Mullis testified, in a recent conference call, Federal Signal's CEO indicated the FSTech business unit continued to lose money and specifically stated each of the three newly acquired companies within FSTech, including Sirit, was losing money.[307] According to Neology, FSTech/Sirit's losses demonstrate defendants' willingness to lose substantial money selling 6C RFID tags at a loss to win business, and, absent an injunction, the extent to which defendants will continue to drop prices for 6C tolling technology is unknowable.

Although Neology contends defendants have been selling 6C tags below cost, in

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by a larger percentage.

[303] D.I. 21 at 27 (emphasis in original).

[304] *Id.*

[305] D.I. 23, Ex. 36 at A437.

[306] *Compare* D.I. 70, Ex. 67 at A1523 (listing $65,236,982 in total Sirit shipments from 2009-2011), *with* D.I. 70, Ex. 67 at A1524 (listing $72,833,000 in Sirit operating expenses from 2009-2011).

[307] D.I. 86, Mullis Dep. at 155:10-156:2, 157:3-16, 180:1-181:4.

her declaration Clark states "Federal Signal has sold 6C tags for tolling applications to Washington, Colorado and Utah. For each of those contracts, Federal Signal's price was higher than its cost. We are not selling our 6C tags at a loss."[308] At deposition, Clark reiterated defendants do not sell their tolling tags as a "loss leader."[309] Neology disputes Clark's assertions, arguing at deposition she admitted having no personal knowledge regarding defendants' costs. When deposed, Clark acknowledged she did not determine or know which items are considered in the cost of 6C tags, but instead relied on what others told her.[310] Although Clark was uncertain whether certain indirect costs were accounted for by defendants, discovery shows defendants' assessment of profitability by product line "includes Direct Materials, Direct Labor, and Allocated Overhead," its costs directly associated with manufacturing the product, but does not include an allocation of administrative expenses.[311] Neology argues "[d]efendants cannot ignore other direct and indirect costs directly associated with the sale of its products, and it is clear that if they properly accounted for all costs, then they would

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[308] D.I. 54, ¶ 8.

[309] D.I. 86, Clark Dep. at 28:14-16 ("Q. Does Federal Signal currently sell its tolling tags as a loss leader? A. We do not."). At oral argument, Redman testified he thought it was "highly unlikely" defendants sell tags at a loss, but admitted he did not know in terms of accounting whether defendants were making or losing money on their tags. D.I. 88, Tr. at 240:24-241:18. That lack of accounting knowledge is likely due to Redman not having been involved with selling tags during his approximately six-month tenure at Federal Signal "because there haven't been any new procurements" during that time. D.I. 88, Tr. at 242:3-9.

[310] D.I. 86, Clark Dep. at 12:15-24 ("Q. You mentioned the factors that would go into the proposal, and you said there were costs, relationship with . . . the customer. A. Are you asking me do I determine cost. Q. Yes. A. I do not determine cost. Q. Who does that? A. Manufacturing and accounting."). *Id.*, Clark Dep. at 30:16-24 ("Q. So what is your information, then, in terms of determining what costs are? Are you just told . . . a price or a number for cost or are you told, look, here are all the factors that are going to weigh into what the cost is? A. We would be told a cost . . . based on volume."). *Id.*, Clark Dep at 101:25-103:18 (stating the cost of defendants' tags includes "a material component, a labor head component, and an overhead component" but she did not know if research and development, administrative expenses, or marketing are included in defendants' calculation of tag costs).

[311] D.I. 70, Ex. 67 at A1525.

come to the same conclusion as Neology. These prices are unsustainable."[312]

Although Neology criticizes the costs defendants include in their determination of the profitability of its product lines, the court is not convinced Neology has established they are selling tags at below their cost. To date, defendants' lowest bid for 6C tags is $1.15/unit. Under cross-examination at oral argument, Redman stated he was told Federal Signal did not want to go below $1.00/unit,[313] which defendants did not by selling 6C tags at $1.15/unit. Also, despite Neology's insistence of the appropriate way defendants should calculate the cost of their products, Mullis agreed: other companies may have pricing models different than Neology's; some companies simply consider the costs to make the tags when determining what price to charge; some companies look at what their competitors are doing when making their decisions on pricing; and those inside FSTech would have a better insight into how much it cost them to make one of their 6C tags.[314] With regard to FSTech's reported losses through the third quarter of 2011, Mullis acknowledged FSTech sells a range of products and he had no "insight into the performance of all of the different business lines that make up FSTech."[315] Mullis simply insisted "I know, though, as a whole, they're not making money."[316] With regard to Sirit specifically, he likewise admitted Sirit sells products other than 6C tags.[317] Also, as noted above, the *entire* FSTech business unit lost $6 million through the third quarter

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[312] D.I. 69 at 17.

[313] D.I. 88, Tr. at 225:17-23 ("Now, you heard from someone at Federal Signal that there was a breaking point of a dollar a tag; do you recall that? A. Yes, I have been told that there was a desire to maintain a price of a dollar. Q. Not go below a dollar? A. Yes.").

[314] D.I. 86, Mullis Dep. at 182:6-19, 157:17-21.

[315] *Id.*, Mullis Dep. at 156:8-14.

[316] *Id.*, Mullis Dep. at 156:15-16.

[317] *Id.*, Mullis Dep. at 181:5-7.

of 2011. Moreover, Mullis maintains Federal Signal's CEO commented during a recent conference call that each of the three companies FSTech recently acquired, including Sirit, was losing money. Continued losses overall by the FSTech business unit, and several individual companies within that business unit selling a variety of products, suggest a range of business issues within FSTech and its component companies causing that loss other than Sirit selling 6C tags under cost.

In addition to failing to convince the court defendants are selling 6C tags below cost, Neology is unable to establish the actual cost it incurs to make its 6C tags, or at the very least, the price required for a profitable sale. Velasco testified the direct cost to Neology for its tags sold to the Mexican government for the REPUVE project was approximately $1.00.[318] Mullis similarly testified, in material costs and overhead, the tags sold to Mexico cost Neology "somewhere under $1.00."[319] Velasco testified the direct cost to Neology for making tags for Utah, described as more expensive due to the advanced security features, was approximately $1.00.[320] He likewise testified the direct expense to Neology for the 6C tags provided to TransCore (without advanced security features), who, in turn, provides those tags to the State of Georgia, was also approximately $1.00.[321]

Neology's assertions of the price it must charge for 6C tags, versus the prices it offered and/or sold those tags, appears inconsistent and contradictory. Based on the

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[318] D.I. 70, Ex. 73 at 57:6-11. The tags Neology makes for the REPUVE program are comparable to those it makes for the State of Utah. D.I. 86, Mullis Dep. at 16:11-15; *see also* D.I. 88, Tr. at 226:24-227:2 ("Q. And the same tags in the Mexico Repuve program were used in the Utah I bid for 3,000 tags; correct? A. Yes, it was a very similar design.").

[319] D.I. 86, Mullis Dep. at 75:15-24.

[320] D.I. 70, Ex. 73 at 58:9-18.

[321] *Id.*, Ex. 73 at 58:19-59:9.

direct costs reported by Velasco and Mullis, it is possible for Neology to match defendants' $1.15/unit price and still make a profit relative to those direct costs. Although not as low as $1.15/unit, in his declaration Mullis states "Neology is unable to offer a competitive bid at or below $1.25/unit and remain a sustainable business model."[322] That statement indicates that *something* above $1.25/unit would permit a sustainable business model. When asked if his declaration statement meant Neology could offer prices at $1.26/unit and remain a sustainable business, Mullis responded that "*[e]ventually*, it would not be sustainable, because we would need to be able to incur the level of engineering we had back in 2008,"[323] indicating that for some period of time a $1.26/unit price would be sustainable. Even if Neology seeks to return to the level of engineering the company had in 2008, defendants are not responsible for the decrease in Neology's level of engineering from 2008 until Neology's first lost sale in a head-to-head competition in the U.S. with defendants with the Colorado contract awarded in 2011. As noted above, it is highly possible Neology did not even know it had lost the Colorado contract when it had its last round of layoffs.

At deposition, however, Mullis testified in order to have a sustainable business Neology must sell tags at approximately $1.79/unit,[324] and in his declaration stated "[i]n establishing a viable price point, Neology considers not only the company's current costs and expenses, . . . but also its $100 million investment."[325] The reference to the $100 million investment considered in establishing a "viable price point," indicates

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[322] D.I. 26, ¶ 20.
[323] D.I. 70, Ex. 72 at A1657 at 182:20-183:9 (emphasis added).
[324] *Id.*, Ex. 72 at A1657 at 184:4-8.
[325] D.I. 26, ¶ 20.

Neology is attempting to recoup all capital invested in Neology, and its predecessors, received as long ago as the late 1980s; even though only $10-20 million of that was spent on research and development.[326] Neology's tag pricing, influenced by its desire to recoup that investment, does not shed any light on the appropriateness of defendants' tag pricing or whether they are selling their tags at a loss. Moreover, Neology offered, or sold tags, at prices below what it insists must be charged in order to survive. In late 2008, Neology offered to sell 6C tags to REPUVE for $1.39/unit and was awarded that contract in 2009.[327] Neology sold REPUVE approximately 25 million tags at that price.[328] Mullis testified Neology expects to make a profit on the REPUVE contract, but qualified that statement by reiterating that profitability required reducing engineering and sales operating costs from 2008 to 2011.[329] Defendants had nothing to do with Neology's decision to bid a multi-year contract for 25 million tags, the company's largest contract, at a price below that which Neology represented must be charged to have a sustainable company by returning its engineering staff to the 2008 level.

Defendants also offered to sell tags to Colorado for $1.45/unit.[330] Despite testimony that the direct cost of 6C tags sold to REPUVE, Utah (the more costly tags with advanced security features), and Georgia (via TransCore) was $1.00/unit, Mullis testified the $1.45/unit price offered to Colorado represented a break-even price and "we would need to be upwards of $1.70 to actually demonstrate some profit."[331]

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[326] D.I. 86, Mullis Dep. at 168:7-170:8, 172:18-21.
[327] D.I. 70, Ex. 72 at A1623 at 49:14-21.
[328] D.I. 86, Mullis Dep. at 45:2-4, 82:8-12.
[329] *Id.*, Mullis Dep. at 47:3-19.
[330] *Id.*, Mullis Dep. at 184:15-17.
[331] *Id.*, Mullis Dep. at 76:7-78:1.

Neology has failed to convince the court defendants are offering their 6C tags at a loss in an attempt to drive Neology from the market, or that it cannot profitably compete with defendants at the prices they offer. Its claim that it must sell 6C tags at $1.79/unit is based on Neology's desire to recoup the $100 million invested in the company for over a decade prior to losing its first sale to defendants and to finance a return to its 2008 level of engineering. Despite that claim, Neology offered to sell Colorado 6C tags at $1.45/unit (a purportedly break-even price) and entered into the largest contract in the company's history selling 25 million tags at $1.39/unit; a price point that is profitable in light of the company's cost cutting. Defendants are not responsible for the losses Neology suffered until becoming profitable in 2009, nor the cost-cutting measures that allegedly account for the company's profitability from 2009-2011. Consequently, the court rejects Neology's price erosion theory in support of its claim of irreparable harm.

Even if the court is incorrect and defendants' purportedly infringing activities have caused some price erosion in the U.S. 6C RFID tag market, damages would adequately compensate for the harm Neology suffered. "Price erosion can justify a finding of irreparable harm."[332] However, in order to demonstrate irreparable harm the movant must show that its "price erosion damages are incapable of being quantified, or that [the movant] could not be fully compensated by a monetary award."[333]

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[332] *Symbol Techs., Inc. v. Janam Techs. LLC*, 729 F. Supp. 2d 646, 664 (D. Del. 2010) (citing *Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1382-83 (Fed. Cir. 2006)).

[333] *Symbol Techs.*, 729 F. Supp. 2d at 664-65 (D. Del. 2010) (ultimately concluding there was some evidence to suggest the defendant may be unable to pay a damages award as weighing slightly in favor of finding irreparable harm, but only considering the defendant's financial condition after determining the plaintiff failed to demonstrate the price erosion suffered could not be quantified or could not be fully compensated by a monetary award); *Power Integrations*, 2008 WL 5069784, at *11 (determining the

Here, there have only been four U.S. tolling operators that have purchased 6C tags: Georgia, Washington, Utah, and Colorado. Neology would not be entitled to any damages from its loss of the Georgia contract as it was won by TransCore, to whom Neology is supplying 6C tags at a satisfactory price in light of its other agreements with TransCore. No damages would flow from Washington as Neology did not submit a bid. Moreover, Neology acknowledges defendants did not cause the loss of either of those contracts. Nor would Neology be entitled to damages from the first Utah contract as it won that contract. Neology could not recover damages from Colorado's second invitation, in the fall of 2011, to submit bids as it did not submit a bid; for disputed reasons but, nevertheless, reasons unrelated to defendants. Therefore, Neology would simply need to establish damages from the two contracts in which defendants prevailed over Neology: the second Utah contract and the first Colorado contract.

The court agrees with defendants that damages from those two contracts is easily quantifiable "because the exact number of allegedly lost sales is known, as is the price point at which those sales would have occurred (for example, the second lowest bid in a three competitor bid)."[334] Also, Neology's potential damages appear to remain fixed at this point as there are no current requests for bids on 6C RFID tags, and there is no evidence, absent speculation, that any will be forthcoming in the near future or during this course of this litigation. Therefore, it is unlikely defendants will have the

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plaintiff had "not established that the effect of this erosion in price would not be compensable with money damages") (citing *Altana Pharma AG v. Teva Pharmaceuticals USA, Inc.*, 532 F. Supp. 2d 666, 683-84 (D.N.J. 2007) (denying preliminary injunction motion where, *inter alia*, patentee-movant failed to prove any lost market share or price erosion could not be calculated post-trial and compensated by money damages)).

[334] D.I. 53 at 32-33.

opportunity to perpetuate their alleged price erosion or expand their market share at Neology's expense. Even if new contracts are awarded before the conclusion of this litigation, Neology will be able to bid, which Mullis confirmed the company "absolutely" would do. If unsuccessful, damages Neology established entitlement to could be determined in the same way as those potentially associated with the second Utah and first Colorado contracts.

Consequently, the court finds that Neology has not carried its burden of establishing irreparable harm.

C. The Remaining Factors: Balance of the Hardships and Impact of the Injunction on the Public Interest.

In assessing the balance of the hardships factor, the court "must balance the harm that will occur to the moving party from the denial of the preliminary injunction with the harm that the non-moving party will incur if the injunction is granted."[335] Under the fourth element, although there is a public interest in protecting rights secured by valid patents, the focus of this analysis "should be whether there exists some critical public interest that would be injured by the grant of preliminary relief."[336] However, "a trial court need not make findings concerning the third and fourth factors if the moving party fails to establish either of the first two factors."[337] Because Neology has failed to carry its burden of showing irreparable harm, the court need not address the remaining two factors, the balance of hardships or the public interest.[338]

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[335] *Hybritech*, *Inc. v. Abbott Labs.*, 849 F.2d 1446, 1457 (Fed. Cir. 1988).

[336] *Id.* (footnote omitted) (finding the public interest in enforcing valid patents outweighed the adverse impact on the market caused by the alleged infringer's absence).

[337] *Polymer Techs., Inc. v. Bridwell*, 103 F.3d 970, 973-74 (Fed. Cir. 1996).

[338] *Id.*

V. RECOMMENDED DISPOSITION

For the reasons set forth above, I recommend that the court DENY Neology's Motion for Preliminary Injunction (D.I. 19), and GRANT Neology's unopposed motion for enlargement of page limitation for its brief in support of its motion for a preliminary injunction (D.I. 20).

Pursuant to 28 U.S.C. § 636(b)(1)(B), Fed. R. Civ. P. 72(b)(1), and D. Del. LR 72.1, any objections to the Report and Recommendation shall be filed within fourteen (14) days limited to ten (10) pages after being served with the same. Any response shall be limited to ten (10) pages.

The parties are directed to the Court's Standing Order In Non-Pro Se Matters For Objections Filed Under Fed. R. Civ. P. 72, dated November 16, 2009, a copy of which is available on the District Court's website, located at http://www.ded.uscourts.gov.

June 18, 2012
Wilmington, Delaware

/s/ Mary Pat Thynge
Thynge, U.S. Magistrate Judge