

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HANWHA SOLUTIONS CORPORATION,

Petitioner,

v.

MAXEON SOLAR PTE. LTD.,

Patent Owner.

Case No. IPR2024-01198

U.S. Patent No. 11,251,315

**PETITIONER'S NOTICE OF INTENT TO DESIGNATE
MARK D. SELWYN, A PROVISIONALLY RECOGNIZED PTAB
ATTORNEY, AS BACK-UP COUNSEL PURSUANT TO 37 C.F.R. § 42.10(c)**

Pursuant to 37 C.F.R. §42.10(c)(2), Petitioner Hanwha Solutions Corporation respectfully submits this Notice of Intent to Designate Mark D. Selwyn, a Provisionally Recognized PTAB Attorney, as Back-up Counsel for Petitioner in this proceeding, Case No. IPR2024-01198.¹ Petitioner has conferred with counsel for Patent Owner, and Patent Owner does not oppose Mark D. Selwyn serving as back-up counsel in this proceeding.

I. APPLICABLE RULES

Pursuant to 37 C.F.R. § 42.10(c)(2), “[a]ny counsel who is not a registered practitioner, who has been previously recognized *pro hac vice* in a Board proceeding, and who has not subsequently been denied permission to appear *pro hac vice* in a Board proceeding shall be considered a provisionally recognized PTAB attorney.” “If a party seeks to be represented in a proceeding by a provisionally recognized PTAB attorney, that party may file a notice of intent to designate a

¹ Petitioner is concurrently filing a Notice of Intent to Designate Mark D. Selwyn, a Provisionally Recognized PTAB Attorney, as Back-up Counsel for Petitioner in the following related proceedings, Case Nos. IPR2024-01199 and IPR2024-01203. *See* Petitioner’s Updated Mandatory Notices, IPR2024-01198, Paper 16 at 3 (identifying related IPR proceedings).

provisionally recognized PTAB attorney as back-up counsel.” *Id.* at § 42.10(c)(2)(ii). The notice should (i) “[i]dentify a registered practitioner who will serve as lead counsel,” and (ii) “[b]e accompanied by a certification in the form of a declaration or affidavit in which the provisionally recognized PTAB attorney attests to satisfying all requirements set forth by the Board for pro hac vice recognition of a provisionally recognized PTAB attorney and agrees to be subject to the USPTO Rules of Professional Conduct set forth in §§ 11.101 et seq. of this chapter and disciplinary jurisdiction under § 11.19(a) of this chapter.” *Id.*

II. FACTS DEMONSTRATING MARK D. SELWYN IS A PROVISIONALLY RECOGNIZED PTAB ATTORNEY

On August 8, 2024, Petitioner filed a petition for inter partes review in IPR2024-01198 directed to U.S. Patent No. 11,251,315. Petitioner’s lead counsel, David Cavanaugh, is a registered practitioner (Registration No. 36,476).

Mark D. Selwyn was recognized *pro hac vice* by order of the Board, pursuant to motion of the type described in 36 C.F.R. §42.10(c)(1), in *Hanwha Solutions Corporation v. REC Solar Pte. Ltd.*, Case No. IPR2021-00988; and *Hanwha Solutions Corporation v. REC Solar Pte. Ltd.*, Case No. IPR2021-00989. *See* Decision Granting Petitioner’s Motions for Pro Hac Vice Admission of Mark D. Selwyn 37 C.F.R. § 42.10, Case Nos. IPR2021-00988 & IPR2021-00989, Paper 21 (Mar. 10, 2022). Filed herewith is a certification in the form of a declaration

(Ex.1088) in which Mr. Selwyn attests to satisfying all requirements set forth by the Board for *pro hac vice* recognition of a provisionally recognized PTAB attorney.

Respectfully submitted,

By: /David L. Cavanaugh/
David L. Cavanaugh
Registration No. 36,476

Counsel for Petitioner

CERTIFICATE OF SERVICE

I hereby certify that, on April 24, 2025, I caused a true and correct copy of the following materials:

- Petitioner's Notice of Intent to Designate Mark D. Selwyn, a Provisionally Recognized PTAB Attorney, as Back-Up Counsel Pursuant to 37 C.F.R. § 42.10(c)
- Petitioner's Updated Table of Exhibits
- Exhibit 1088

to be served on Patent Owner via electronic mail to:

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Petitioner's Table of Exhibits

No.	Description
1001	U.S. Patent No. 11,251,315 B2 (“USP315”)
1002	File History for U.S. Patent No. 11,251,315 B2 (App. No. 16/877,255) (“USP315FH”)
1003	Declaration of Dr. Zachary Holman Regarding U.S. Patent No. 11,251,315
1004	Declaration of June Munford
1005	Complaint for Patent Infringement, <i>Maxeon Solar Pte. Ltd. v. Hanwha Solutions Corp., et al.</i> , Civil Action No. 2:24-cv-262 (E.D. Tex. Apr. 19, 2024), ECF No. 1 (“Complaint”)
1006	U.S. Patent App. Pub. No. 2014/0311567 (“Choi”)
1007	U.S. Patent No. 8,207,444 (“Cousins”)
1008	D.C. Marvin, S.L. Froedege, Interdigitated Back Contact Solar Cell Analysis and Design Recommendations for Space Use,” Space Systems Division Air Force Systems Command, Report 88D-TR-90-04 (“Marvin”)
1009	RESERVED
1010	F. Granek, High-Efficiency Back Contact Back-Junction Silicon Solar Cells (2009) (Ph.D. Dissertation, Fraunhofer Institute for Solar Energy Systems ISE) (“Granek”)
1011	U.S. Patent App. Pub. No. 2013/0240029 (“Smith”)
1012	A.A. Istratov, H. Väinölä, W. Huber, E. R. Weber, “Gettering in silicon-on-insulator wafers: experimental

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No.	Description
	studies and modelling,” Semicond. Sci. Technol. 20: 568–575 (April 2005) (“Istratov”)
1013	EP1732142A1 (“Froitzheim”)
1014	JP07-106611 (“Okayasu”) (Translation)
1015	Translation Declaration for Okayasu
1016	N. G. Tarr, “A polysilicon emitter solar cell,” IEEE Electron Device Letters, vol. 6, no. 12, pp. 655-658, Dec. 1985 (“Tarr”)
1017	U.S. Patent No. 6,262,359 (“Meier”)
1018	Zachary C. Holman, Electron Transport in Amorphous Silicon (May 2005) (Thesis Presented to The Division of Mathematics and Natural Sciences, Reed College) (“Holman-Thesis”)
1019	P.J. Verlinden, R.A. Sinton, K. Wickham, R.A. Crane, and R.M. Swanson, “Backside-contact silicon solar cells with improved efficiency for the ’96 world solar challenge,” in Proceedings of the 14th European Photovoltaic Solar Energy Conference, Barcelona, Spain, 96-9 (1997) (“Verlinden”)
1020	R.A. Sinton and R.M. Swanson, “Simplified backside-contact solar cells,” IEEE Transactions on Electron Devices, 37 (2), 348-52, (1990) (“Sinton”)
1021	R.R. King, R.A. Sinton, R.M. Swanson, “Studies of Diffused Phosphorous Emitters: Saturation Current, Surface Recombination Velocity, and Quantum Efficiency,” IEEE Transactions On Electron Devices, Vol. 37, No. 2 (Feb. 1990) (“King”)

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No.	Description
1022	W.P. Mulligan, D.H. Rose, M.J. Cudzinovic, D.M. De Ceuster, K.R. McIntosh, D.D. Smith, and R.M. Swanson, Manufacture of solar cells with 21% efficiency, in Proceedings of the 19th European Photovoltaic Solar Energy Conference, Paris, France, 387-90 (2004) (“Mulligan”)
1023	J. Nelson, The Physics of Solar Cells, Imperial College Press, Chapters 1, 3, 4, 7, 9, 10 (2003) (“Nelson”)
1024	R. F. Pierret, Semiconductor Device Fundamentals, Addison-Wesley Publishing Company, Inc., Excerpts from Chapters 1-4 (1996) (“Pierret”)
1025	S.J. Fonash, Solar Cell Device Physics, Elsevier, Excerpts from Chapter 2 (2d Ed. 2010) (“Fonash”)
1026	C. Hu, R.M. White, Solar Cells: From Basics to Advanced Systems, McGraw-Hill, Chapter 3 (1983) (“Hu”)
1027	O. von Roos, B. Anspaugh, “The Front Surface Field Solar Cell, A New Concept,” Proceedings of the 13th IEEE PVSEC, pp. 1119-1120 (1978) (“von Roos”)
1028	E. van Kerschaver, G. Beaucarne, “Back-contact Solar Cells: A Review,” Prog. Photovolt: Res. Appl. 14:107-123 (2005) (“van Kershaver”)
1029	U.S. Patent No. 8,222,516 B2 (“USP516”)
1030	U.S. Patent No. 4,234,352 (“Swanson-352”)
1031	J. Bultman, I. Cesar, B. Geerligs, Y. Komatsu, W. Sinke, “Methods of emitter formation for crystalline silicon solar cells,” Photovoltaics International 6, pp. 69-80 (2012) (“Bultman”)

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No.	Description
1032	U.S. Patent No. 5,444,001 (“Tokuyama”)
1033	I. Perichchaud, “Gettering of impurities in solar silicon,” Solar Energy Materials & Solar Cells 72:315–326 (2002) (“Perichchaud”)
1034	Mark John Kerr, Surface, Emitter and Bulk Recombination in Silicon and Development of Silicon Nitride Passivated Solar Cells (2002) (Ph.D. Thesis, The Australian National University) (“Kerr”)
1035	U.S. Patent App. Pub. No. 2012/0006392 (“Gupta”)
1036	File History for US 9,520,507 B2 (App. No. 14/579,935) (“USPA935FH”)
1037	File History for US 9,899,542 B2 (App. No. 15/213,273) (“USPA273FH”)
1038	File History for US 10,170,642 B2 (App. No. 15/876,927) (“USPA927FH”)
1039	File History for US 10,658,525 B2 (App. No. 16/228,165) (“USPA165FH”)
1040	P. Procel, V. Maccaronio, F. Crupi, G. Cocorullo, M. Zanuccoli, “Analysis of the Impact of Rear Side Geometry on Performance of Back-Contact Back-Junction Solar Cells,” 2014 Fotonica AEIT Italian Conference on Photonics Technologies, Naples, Italy, 2014, pp. 1-4, IEEE (2014) (“Procel”)
1041	M. Hermle, F. Granek, O. Schultz, S. W. Glunz, “Analyzing the effects of front-surface fields on back-junction silicon solar cells using the charge-collection

No.	Description
	probability and the reciprocity theorem,” J. Appl. Phys. 103, 054507 (2008) (“Hermle”)
1042	J. E. Cotter, J. H. Guo, P. J. Cousins, M. D. Abbott, F. W. Chen, K. C. Fisher, “P-Type Versus n-Type Silicon Wafers: Prospects for High-Efficiency Commercial Silicon Solar Cells,” IEEE TRANSACTIONS ON ELECTRON DEVICES, VOL. 53, NO. 8, (Aug. 2006) (“Cotter”)
1043	S.W. Glunz, R. Preu, D. Biro, “Chapter 1.16: Crystalline Silicon Solar Cells – State-of-the-Art and Future Developments,” Comprehensive Renewable Energy, Elsevier (2012)
1044	P.J. Verlinden, R. M. Swanson, R. A. Crane, “7000 High-efficiency Cells for a Dream,” Progress In Photovoltaics Research and Applications, VOL 2. 143-152 (1994) (“Verlinden-1994”)
1045	U.S. Patent No. 4,665,277 (“Sah”)
1046	M. Green, “Silicon solar cells: evolution, high-efficiency design and efficiency enhancements,” Semiconductor Science & Technology 8 (1993) (“Green”)
1047	A.A. Istratov, H. Hieslmair, E.R.Weber, “Iron contamination in silicon technology,” Appl. Phys. A 70, 489–534 (2000) (“Istratov-2000”)
1048	A. Metz, R. Meyer, B. Kuhlmann, M. Grauvogl, R. Hezel, 18.5% Efficient First-Generation MIS Inversion-Layer Silicon Solar Cells, 26th PVSC (1997) (“Metz”)
1049	D. De Ceuster, P. Cousins, D. Rose, D. Vicente, P. Tipones, W. Mulligan, “Low Cost, High Volume Production of >22% efficiency silicon solar cells,” 22nd European

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No.	Description
	Photovoltaic Solar Energy Conference, 3-7 September 2007, Milan, Italy, pp. 816-819 (“De Ceuster”)
1050	RESERVED
1051	M.D. Lammert and R.J. Schwartz, “The interdigitated back contact solar cell: a silicon solar cell for use in concentrated sunlight,” IEEE Transactions on Electron Devices, ED-24 (4), 337-42, (1977) (“Lammert”)
1052	D. Lysáček, M. Lorenc, L. Válek, “Structure and gettering properties of polycrystalline silicon layers,” Proceedings of the 16th Joint Seminar Development of Materials Science in Research and Education, Czechoslovak Association for Crystal Growth, published by Czech and Slovak Crystallographic Association, Praha 2006 (ISBN 80-901748-7-6) p. 40-41 (“Lysacek”)
1053	K. Ishisaka, H. Tanaka, T. Nakashizu, “Gettering Properties of Silicon Wafer Covered by Polysilicon,” NIPPON STEEL TECHNICAL REPORT No. 59 (Oct. 1993) (“Nippon”)
1054	BP Solar Global Marketing, BP-MSX-120, 120-Watt Multicrystalline Photovolataic Module (“BP-MSX-120”)
1055 – 1056	RESERVED
1057	P. Stradins, A. Dameron, S. Essig, V. Lasalvia, B. Lee, Y. Liu, J. Luo, W. Nemeth, A. Norman, M. Page, “Passivated Tunneling Contacts to N-Type Wafer Silicon and Their Implementation into High Performance Solar Cells,” NREL Conference Paper (Dec. 2014) (“Stradins”)
1058	D. M. Chapin, C. S. Fuller, G. L. Pearson, “A New Silicon p-n Junction Photocell for Converting Solar Radiation into

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No.	Description
	Electrical Power,” Journal of Applied Physics 25, 676 (1954) (“Chapin”)
1059	W. Shockley, H. J. Queisser, “Detailed Balance Limit of Efficiency of pn Junction Solar Cells,” J. Appl. Phys. 32, 510 (1961) (“Shockley”)
1060	A. Goetzberger, W. Shockley, “Metal Precipitates in Silicon p-n Junctions,” J. Appl. Phys. 31, 1821–1824 (1960) (“Goetzberger”)
1061	S.W. Ing, Jr., R.E. Morrison, L.L. Alt, R. W. Aldrich, “Gettering of Metallic Impurities from Planar Silicon Diodes,” J. Electrochem. Soc. Vol. 110, No. 6 pp. 533-537 (1963) (“Ing”)
1062	E. J. Mets, “Poisoning and Gettering Effects in Silicon Junctions,” J. Electrochem. Soc. Vol. 112, No. 4, pp. 420-425 (1965) (“Mets”)
1063	Petition for Inter Partes Review of U.S. Patent No. 11,251,315, Canadian Solar Inc. v. Maxeon Solar Pte. Ltd., Case No. IPR2024-01038, Paper 1 (June 25, 2024) (“CSI-1038-Petition”)
1064	A. A. Istratov, W. Huber, E. R. Weber, “Experimental evidence for the presence of segregation and relaxation gettering of iron in polycrystalline silicon layers on silicon,” Appl. Phys. Lett. 85, 4472–4474 (2004) (“Istratov-2004”)
1065	KR1020130044982 (“Choi-982”) (Translation)
1066	Translation Declaration for Choi-982
1067	RESERVED

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No.	Description
1068	U.S. Patent No. 6,998,288 (“Smith-288”)
1069	CN 1949545A to Li (“Li”) (Translation)
1070	Translation Declaration for Li
1071	RESERVED
1072	R. J. Komp, Practical Photovoltaics Electricity From Solar Cells, 3rd Ed., Chapters 1-3, 6 (2002) (“Komp”)
1073	T. Krygowski, A. Rohatgi, D. Ruby, Simultaneous P and B Diffusion, IN-SITU Surface Passivation, Impurity Filtering and Gettering for High-Frequency Silicon Solar Cells, 26 IEE Photovoltaic Specialists Conf. 29 September - 03 October, 1997 Anaheim, CA (1997) (“Krygowski”)
1074	J. Benick, J. Rentsch, Ch. Schetter, C. Voyer, D. Biro, R. Preu, PECVD PSG as a Dopant Source for Industrial Solar Cells, Presented at the 21st European Photovoltaic Solar Energy Conference, September 4-8, 2006, Dresden (2CV.4.26) (“Benick”)
1075	M. Green, Silicon Solar Cells Advanced Principles & Practice, Centre for Photovoltaic Devices and Systems, Chapters 2, 10 (1995) (“Green-1995”)
1076	Petition for Inter Partes Review of U.S. Patent No. 11,251,315, Canadian Solar Inc. v. Maxeon Solar Pte. Ltd., Case No. IPR2024-01194, Paper 1 (July 19, 2024) (“CSI-1194-Petition”)
1077	B. Paudyal, Y. H. Yoon, D. Cornwell, P. Shaw, F. Machuca, “Identification of metal impurities in crystalline silicon wafers,” IEEE (2011)

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No.	Description
1078	S. Pizzini, M. Acciarri, S. Binetti, “From electronic grade to solar grade silicon: chances and challenges in photovoltaics,” <i>phys. stat. sol. (a)</i> 202, No. 15, 2928–2942 (2005) (“Pizzini”)
1079	U.S. Patent No. 9,496,437 (“Harley”)
1080	U.S. Pat. App. Pub. No. 2013/0164879 (“Cousins-2011”)
1081	“Cypress Announces Investment In Designer and Manufacturer Of Ultra-High-Efficiency Silicon Solar Cells” available at https://investors.sunpower.com/static-files/103bae51-d5a4-46f3-ae4c-efc7d65b968a (last accessed Aug. 6, 2024) (“Sunpower-2002”)
1082	“SunPower Announces World’s Most Efficient, Low-Cost Silicon Solar Cell” available at https://investors.sunpower.com/static-files/4e352cd3-71ed-45ca-a441-165e996c8222 (last accessed Aug. 6, 2024) (“Sunpower-2003”)
1083	D.P. Fenning, A.S. Zuschlag, M.I. Bertoni, B. Lai, G. Hahn and T. Buonassisi, Improved iron gettering of contaminated multicrystalline silicon by high-temperature phosphorus diffusion, <i>Journal of Applied Physics</i> , 113, 214504 (2013) (“Fenning”)
1084	D.H. Neuhaus and A. Munzer, “Industrial Silicon Wafer Solar Cells,” <i>Advances in OptoElectronics</i> , Vol. 2007, Article ID 24521, 1-15 (2007) (“Neuhaus”)
1085	Email chain between Counsel and Trial Board, dated December 11-12, 2024
1086	Plaintiff Maxeon Solar Pte. Ltd.’s Disclosure of Asserted Claims and Infringement Contentions, <i>Maxeon Solar Pte.</i>

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	<i>Ltd. v.Hanwha Solutions Corp., et al.</i> , Civil Action No. 2:24-cv- 262 (E.D. Tex. Nov. 21, 2024)
1087	Docket Control Order, <i>Maxeon Solar Pte. Ltd. v.Hanwha Solutions Corp., et al.</i> , Civil Action No. 2:24-cv- 262 (E.D. Tex. Nov. 25, 2024), ECF No. 33
1088	Declaration of Mark D. Selwyn in Support of Petitioner’s Notice of Intent to Designate Mark D. Selwyn, a Provisionally Recognized PTAB Attorney, as Back-Up Counsel Pursuant to 37 C.F.R. § 42.10(c)