

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF INDIANAPOLIS)
 POWER & LIGHT COMPANY D/B/A AES)
 INDIANA PURSUANT TO IND. CODE § 8-1-)
 2.5-5 FOR PARTIAL COMMISSION)
 DECLINATION UNDER IND. CODE)
 CHAPTER 8-1-8.5 TO ISSUE A)
 CERTIFICATE OF PUBLIC CONVENIENCE) CAUSE NO. _____
 AND NECESSITY OR OTHERWISE)
 APPROVE A SOLAR GENERATION)
 PROJECT OF APPROXIMATELY 375 KWac)
 (384 KWdc) AND ALTERNATIVE REQUEST)
 FOR APPROVAL OF SAID SOLAR PROJECT)
 AS CLEAN ENERGY PROJECT)

**PETITIONER'S SUBMISSION OF DIRECT TESTIMONY OF
ROBERT A. PFLUM**

Indianapolis Power & Light Company d/b/a AES Indiana ("AES Indiana" or "Petitioner"), by counsel, hereby submits the direct testimony and attachment of Robert A. Pflum.

Respectfully submitted,



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ATTORNEYS FOR PETITIONER
 INDIANAPOLIS POWER & LIGHT COMPANY
 D/B/A AES INDIANA

CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing was served this 31st day of May, 2022 upon the following via electronic email, or First Class United States Mail, postage prepaid on:

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Office of Utility Consumer Counselor
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ATTORNEYS FOR PETITIONER
INDIANAPOLIS POWER & LIGHT COMPANY
D/B/A AES INDIANA

VERIFIED DIRECT TESTIMONY

OF

ROBERT A. PFLUM

ON BEHALF OF

AES INDIANA

SPONSORING AES INDIANA ATTACHMENTS RAP-1 AND RAP-1(C)

**VERIFIED DIRECT TESTIMONY OF ROBERT A. PFLUM
ON BEHALF OF AES INDIANA**

1. INTRODUCTION

Q1. Please state your name, employer, and business address.

A1. My name is Robert A. Pflum. I am employed by Indianapolis Power & Light Company d/b/a AES Indiana (“AES Indiana” or “Company”) whose business address is One Monument Circle, Indianapolis, 46204.

Q2. What is your position with AES Indiana?

A2. I am employed by AES Indiana as Senior Engineering Planner, supporting both Eagle Valley and Harding Street Station power plants.

Q3. On whose behalf are you submitting this direct testimony?

A3. I am submitting this testimony on behalf of AES Indiana.

Q4. Please describe your duties as Senior Engineering Planner.

A4. In my current position, I am responsible for project management of capital projects that encompass Harding Street Station and Eagle Valley power generation facilities. Given my extensive project management experience, I am leading the development of the AES Indiana Harding Street Solar Array.

Q5. Please summarize your educational and professional qualifications.

A5. I received a Bachelor of Science degree from Purdue University in 2007. I received a Master of Business Administration degree from Bowling Green State University in 2011. I have over 15 years of operations and project management experience including work in the offshore oil and gas industry.

Q6. What is your previous work experience?

A6. In 2007, I began working at Bowling Green State University in Ohio as an Operation Coordinator, where I managed operations and project management as it pertained to on-campus housing assets. In 2013, I began my career in offshore oil and gas industry where I engaged in roles of leader, mentor, trainer, and project management. I worked in some of the most dynamic and extreme work environments while providing value to some of the most demanding of clients. In 2021, I started working for AES Indiana as engineering planner, and I was subsequently promoted to my current role of Senior Engineering Planner.

Q7. Have you previously testified before a state regulatory commission?

A7. No.

Q8. Are you sponsoring any attachments?

A8. Yes. I am sponsoring AES Indiana Attachments RAP-1 and RAP-1(C) (Confidential), which are the public and confidential versions of the 5B Supply Agreement that describes the quantity, pricing, and characteristics of the Maverick™ arrays AES Indiana will purchase and sets forth the terms and conditions between AES Indiana and 5B for the purchase and shipping of the 5B Maverick™ arrays.

Q9. Are you sponsoring any workpapers?

A9. Yes. The table below lists and describes the workpapers submitted with my testimony. I also discuss the workpapers below. Notably, I sponsor confidential workpapers to support the best estimate of the Project.

1

Table 1. Workpapers

Workpaper	Description
<u>AES Indiana Workpaper RAP-1</u>	Energy density of Harding Street Station Solar Array compared to other Commission-approved projects
<u>AES Indiana Confidential Workpaper RAP-2</u>	Proposal for materials and installation
<u>AES Indiana Confidential Workpaper RAP-3</u>	Proposal for engineering services and inverter procurement
<u>AES Indiana Confidential Workpaper RAP-4</u>	Proposal for other materials
<u>AES Indiana Confidential Workpaper RAP-5</u>	Proposal for deployment of 5B Maverick™ arrays
<u>AES Indiana Confidential Workpaper RAP-6</u>	AES Indiana's engineering estimate for interconnection
<u>AES Indiana Confidential Workpaper RAP-7</u>	Proposal for environmental assessment

2 **Q10. Were these attachments and workpapers prepared or assembled by you or under**
3 **your direction and supervision?**

4 A10. Yes.

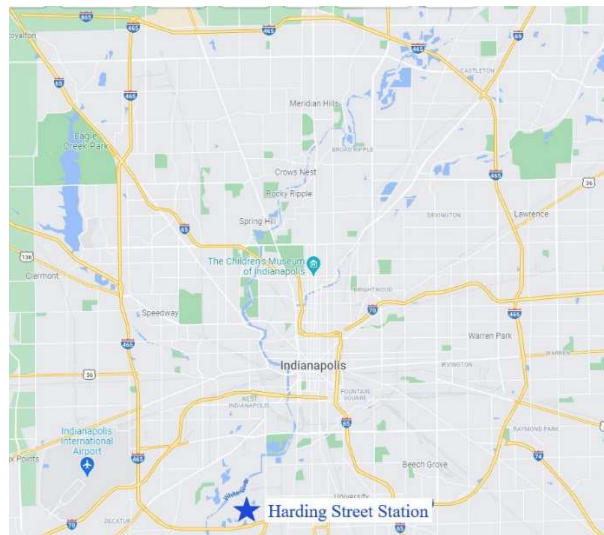
5 **Q11. What is the purpose of your testimony in this proceeding?**

6 A11. My testimony presents the solar generation facility which AES Indiana proposes to install
7 at AES Indiana's Harding Street Generating Station, which is located at 3700 South
8 Harding Street, Indianapolis, Indiana ("Harding Street Station"). I refer to the proposed
9 facility as the "Harding Street Station Solar Array" or "Project." I explain that the Project
10 will have nameplate capacity of approximately 375 kWac/384 kWdc, and discuss other
11 operational characteristics, as well as the new solar array technology the Project will utilize.
12 I present the best estimate for the Project cost and discuss the engineering, procurement,
13 and construction of the Project. I discuss the Company's proposal to install the project
14 during the fourth quarter 2022 and explain why the Project is reasonable and necessary.

Q12. Please describe Harding Street Station.

A12. Harding Street Station is located on the south side of Indianapolis, as seen below in Figure 1. The Company currently has approximately 900 MW of generation capacity located at the Harding Street Station fueled by natural gas. AES Indiana discontinued burning coal at this Station in February 2016.

Figure 1: Location of Harding Street Station Relative to Indianapolis



2. OVERVIEW OF HARDING STREET STATION SOLAR ARRAY

Q13. Please describe the Harding Street Station Solar Array.

A13. The Harding Street Station Solar Array is a 375 kWac/384 kWdc, solar photovoltaic (“PV”) electric generation facility. As seen below in Figure 2, the Harding Street Station Solar Array will be located on approximately 0.5 acres of land at Harding Street Station. A typical solar field installation requires approximately five acres to produce 1,000 kWdc.

Figure 2: Location of Harding Street Station Solar Array at Harding Street Station



The Project will utilize 5B Maverick™ arrays, which are preassembled solar arrays with monofacial solar modules designed and assembled by 5B AUSTRALIA PTY LIMITED or its subsidiaries (“5B”). The 5B Maverick™ arrays utilize a new design to improve the energy density of the solar panels compared to conventional arrangements. This new solar resource will connect to AES Indiana’s 13kV distribution network. The Harding Street Station Solar Array is expected to have an approximate net capacity factor of 19.4 percent and generate approximately 515 MWh of energy per year. The installation of the Harding Street Station Solar Array is expected to be completed by late fall 2022.

Q14. What is 5B?

A14. 5B is a multinational corporation with global headquarters in Mascot, New South Wales, Australia. 5B’s U.S. headquarters is in Austin, Texas. 5B designs and manufactures Maverick™ solar arrays, which are fully prefabricated, “plug and play” solar farms delivered “in a box” that are designed to be safer, more cost effective, and faster to deploy

1 compared to traditional single axis solar trackers or comparable solar racking solutions.¹

2 In 2020, The AES Corporation acquired an approximate 25% minority interest in 5B.^{2,3}

3 **Q15. Please describe 5B Maverick™ solar arrays in greater detail.**

4 A15. 5B Maverick™ solar arrays are fully prefabricated and prewired at 5B's factory, then
5 packed vertically so four "blocks" can be transported in a standard 40' shipping container.
6 Figures 3 and 4 below are photographs of recent installations of this technology. As
7 demonstrated in Figures 3 and 4, when they arrive at the installation site in "blocks," the
8 Maverick™ solar arrays are easily unloaded and expanded (using a fork-lift or telehandler)
9 into a ground-mount east-west solar array, requiring minimal ground penetration and no
10 cable trenching.

11 **Figure 3: Image of 5B Maverick™ Solar Array Installation**



12 ¹ 5B Maverick™ and Ecosystem, <https://5b.co/solutions>.

13 ² https://s26.q4cdn.com/697131027/files/doc_financials/2020/q2/AES-Q2-2020-Form-10-Q-FINAL.pdf#page=31.

³ 5B is a cost method investment for The AES Corporation. The AES Corporation will record income only when it receives dividends from 5B.

<https://d18rn0p25nwr6d.cloudfront.net/CIK-0000874761/1a7f8de8-b978-4dd7-b815-2027e2bcf2b2.pdf#page=46>.

Figure 4: Image of 5B Maverick™ Solar Array Installation



The design of the Maverick™ arrays allow the installation of the arrays to be completed with fewer crew members and in shorter timeframes compared to conventional solar arrays.

AES Indiana plans to install the Harding Street Station Solar Array on land that served as a coal handling area when Harding Street Station was a coal-fired plant. If conventional solar panels were to be installed in this location, the capacity is estimated to be 60 kWac versus the 375 kWac that can achieve with 5B Maverick arrays. This is a key benefit of the Project. The average energy density, measured in kWac of nameplate capacity per acre of land of other Commission-approved solar projects is approximately 123 kWac per acre with a maximum value of 167 kWac per acre and a minimum value of 83 kWac per acre. By comparison the Harding Street Station Solar Array Project has an energy density of roughly 750 kWac per acre. See [AES Indiana Workpaper RAP-1](#) for energy density information for recent Commission-approved solar projects.

3. BEST ESTIMATE OF THE HARDING STREET STATION SOLAR ARRAY

Q16. What is the Company's best estimate of the cost of the Harding Street Station Solar Array?

A16. The best estimate of the cost to complete the Harding Street Station Solar Array is identified by component in Table 2.

Table 2. Harding Street Station Solar Array Best Estimate^{4,5}

Item	Amount
5B Maverick™ arrays	
Materials and Installation	
Engineering and inverter procurement	
Other Materials	
Deployment	
Interconnection costs	
Environmental assessment	
Contingency (5%)	\$68,000
Total	\$1,419,000

This best estimate is reasonable as it is comprised of market-based proposals as further discussed below and detailed in my workpapers. AES Indiana Confidential Workpapers RAP-2 through RAP-7.

Q17. Please discuss what is included in the best estimate for the cost of the 5B Maverick™ arrays.

A17. The cost for the 5B Maverick™ arrays, which come partially preassembled and wired to reduce installation requirements, includes the costs of the arrays as well as the associated

⁴ As stated by AES Indiana witness Perry, the best estimate of the Project cost does not reflect the accrual of Allowance for Funds Used During Construction ("AFUDC").

⁵ These amounts include 1.2% of corporate administrative and general indirect costs allocated to capital projects.

1 shipping costs and sales tax. AES Indiana will purchase 960 MAV Version 2.0 modules.
2 The MAV Version 2.0 modules supply 384 kWdc of nameplate capacity. The aggregate
3 module efficiency rating for the Project is roughly 20% with an expected life of 25 years
4 and degradation factor of 0.5% per year. This information is found in the 5B Supply
5 Agreement (AES Indiana Attachment RAP-1 and RAP-1(C) (Confidential)).

6 **Q18. Please discuss what is included in the best estimate for the materials and installation**
7 **costs.**

8 A18. The materials include electrical cables, breakers, and cable boxes for the Project. This line
9 item also includes installation costs. This work was awarded to Skanska USA, Inc.
10 (“Skanska”) and a copy of the confidential proposal is included in my workpapers as AES
11 Indiana Confidential Workpaper RAP-2.

12 **Q19. Please discuss what is included in the best estimate for the engineering and inverter**
13 **procurement costs.**

14 A19. The engineering scope of work involves the engineering services, site survey and
15 documentation, and inverter procurement needed to complete the Project. This work was
16 awarded to PCI, a Salas O’Brien and a copy of the confidential proposal is included in my
17 workpapers as AES Indiana Confidential Workpaper RAP-3.⁶

18 **Q20. Please discuss what is included in the best estimate for other materials.**

⁶ The proposal contained in AES Indiana Confidential Workpaper RAP-3 references the installation of a 1 MW solar field. AES Indiana was initially contemplating a larger project and this initial engineering and procurement proposal reflected such, but as the project progressed, the Project was reduced to 375 kWac/384 kWdc. The engineering work required for a 375 kWac/384 kWdc is substantially similar to the work required for a 1 MW system as the difference in nameplate capacity between the two project options was not large enough to significantly modify the necessary scope of engineering work.

1 A20. The other materials costs include the costs of procuring and placing six inches of gravel in
2 and around the proposed site of the Project. The installation of gravel will reduce the
3 vegetation management O&M expenditures associated with the Project. It will also reduce
4 the risk of flooding at the Project site and allow the site and surrounding area to be level
5 with the rest of the remediated coal handling area at Harding Street Station. This best
6 estimate is based on the proposal set forth in AES Indiana Confidential Workpaper RAP-4.

7 **Q21. Please discuss what is included in the best estimate for deployment.**

8 A21. This cost component includes the deployment of the 5B Maverick™ arrays, which includes
9 site planning to ensure the arrays are placed in the correct position, unpacking the arrays,
10 placing the arrays in the correct location, and connecting the pre-wired systems. This work
11 was awarded to Directional Services, Inc. (“DSI”) and a copy of the confidential proposal
12 is included in my workpapers as AES Indiana Confidential Workpaper RAP-5.

13 **Q22. Please discuss what is included in the best estimate for the interconnection costs.**

14 A22. The interconnection costs include the step-up transformer, reclosure breaker, metering,
15 power line poles, power lines, and underground boring. These estimated costs are based on
16 AES Indiana’s engineering estimate. This estimate is also provided in AES Indiana
17 Confidential Workpaper RAP-6.

18 **Q23. Please discuss what is included in the best estimate for environmental assessment.**

19 A23. The environment assessment costs include the costs necessary to evaluate floodplain and
20 floodway impacts, complete a storm water management site assessment, assess regulated
21 waters characteristics, and assess impacts of the Project on any endangered or rare species.
22 The cost of this assessment is based on a proposal from GAI Consultants, Inc. (“GAI”), an

environmental consulting firm which the Company accepted. The proposal is provided in
AES Indiana Confidential Workpaper RAP-7.

Q24. Please discuss what is included in the best estimate for the contingency costs.

A24. Inclusion of contingency in cost estimates is industry standard practice. The contingency component is necessarily included in the cost estimate to allow for miscellaneous and unforeseen costs. A 5% contingency for this Project is reasonable because much of the work is under contract or supported by market-based proposals which the Company has accepted. Having much of the Project scope of work under contract or supported by a contractor proposal minimizes but does not eliminate the risk costs will exceed the best estimate of the Project cost. Therefore, it is reasonable to include the contingency component consistent with industry practice.

Q25. Please describe the process used to procure engineering services related to the installation of the Harding Street Station Solar Array.

A25. The Company proceeded in a commercially practicable manner to obtain quotes for the engineering, design, procurement, and build work associated with the Harding Street Solar Array. As explained above, the scope of work contains several disciplines. AES Indiana solicited bids from firms who could perform the entire scope of work. By obtaining bids, the Company was able to confirm the reasonableness and reliability of the cost estimates that form the basis for this work. AES Indiana selected Skanska, a contractor that is subject to Indiana unemployment taxes, thus satisfying the requirements of Ind. Code § 8-1-8.5-7(4)(B), to perform the work.

Q26. Please describe the process used to procure services related to the deployment of the 5B Maverick™ arrays.

A26. The deployment of the 5B Maverick™ arrays must be completed by an approved vendor of 5B, which limits the number of companies available to complete the work. There is currently one vendor in the area, DSI, that is approved by 5B to deploy the Maverick™ arrays. As discussed above, the cost of this scope of work is based on the proposal provided in AES Indiana Confidential Workpaper RAP-5.

Q27. What is the schedule for the Project installation?

A27. The Project installation will take approximately eight weeks, which includes mobilization, deployment of the Maverick™ arrays, installation, and interconnection work. The Company expects to complete this work before end of 2022.

Q28. How will the Company manage the Project?

A28. The Project will be managed with internal resources from AES Indiana. A dedicated project manager will be assigned to the Project. This person will be responsible for the overall project, which includes safety, quality, schedule, and cost.

Q29. Once installed, what are the operating needs for the facility?

A29. The operating activities the Project will require include cleaning of the solar panels, snow removal, and vegetation control. As a result of this Project, AES Indiana plans to gain knowledge and experience in the operation and maintenance of 5B Maverick™ arrays.

Q30. Will the Project provide operational benefits?

A30. Yes. The bifacial Maverick™ arrays are designed to produce electricity throughout sunlight hours without O&M costs related to maintaining or repairing the tracking system.

1 This compact design is also expected to reduce other O&M, such as cleaning and snow
2 removal. The Project will allow AES Indiana to gain experience with and assess the
3 operational characteristics of the Maverick™ arrays. The fast deployment of this
4 technology is another key benefit, particularly during a high inflation/high-energy price
5 environment. Finally, the Project will also allow the Company to increase its operating
6 experience with integrating additional solar energy generation at the distribution system
7 level.

8 **4. CONCLUSION**

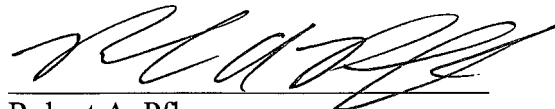
9 **Q31. Does that conclude your prepared verified direct testimony?**

10 A31. Yes.

VERIFICATION

I, Robert Pflum, AES Indiana, Senior Engineering Planner at AES Indiana, affirm under penalties for perjury that the foregoing representations are true to the best of my knowledge, information, and belief.

Dated May 27, 2022


Robert A. Pflum

**Purchase Order # 4500606633**

Execution of this document by 5B and Purchaser specified below shall constitute a valid and binding contract between such parties which (unless otherwise agreed in writing) incorporates all relevant provisions of the **attached** Short MAV Supply Agreement version 1 September 2021 (**SMSA**). References below to clauses are references to clauses of the SMSA.

Item	Clause	Description	Detail							
1.	2.1	5B	Name: 5B Industries Pty Ltd , being a company registered in Australia Unique company identifier(s): ACN 618 069 471 Unique business identifier(s): ABN 618 069 471 Business address: 41-43 Bowden St, Alexandria, NSW 2015 Postal address: As above Email: compliance@5B.com.au Representative name & email: Eden Tehan eden.tehan@5b.co							
2.	2.1	Purchaser	Name: AES Indiana, being a company registered in Indiana, USA. Unique company identifier(s): EIN 35-0413620 Unique business identifier(s): Business address: 2102 N. Illinois St, Indianapolis, IN 46202, USA. Postal address: as above Email: alexander.halter@aes.com Representative name & email: Alexander Halter alexander.halter@aes.com							
3.	3.1 & 4.1	MAVs, Delivery Date & Delivery Point	Product code	Unit	Quantity	Delivery Point	Delivery Date (days after payment of deposit, if any)	Rate per Unit	Freight ex. duties/tax	Category Price ex. duties/tax
			MAV-1502-M204-E104-AAC (Version 2.0)	Each	12	Indianapolis, Indiana	TBA			
4.	3.2	Free Issue Components	Product code	Unit	Quantity	Delivery point	Target delivery date			
			N/A	N/A	N/A	N/A	N/A			
5.	3.1	Specifications	Product code	Specification(s) MAV Version: 2.0 MAV Layout: 5P9B & 5P10B MAV Part Number: MAV-1502-M204-E104-AAC Max Wind Loading: 48m/s Max Snow Loading: To be provided as part of module certification Modules: JAM72S10-400/MR (Version 2.0) Module Certification: Attached hereto Number of Modules: 960 (Version 2.0) String Configuration: 1000V Total Size: 384,000W phase 1 with MAV 2.0 Datasheet: Attached hereto						
			MAV-1502-M204-E104-AAC (Version 2.0)							



Short MAV Supply Agreement

Executed as an **agreement**.

Executed by duly its authorised representative for and on behalf of **5B Industries Pty Ltd** (ACN 618 069 471)

.....
.....
.....
.....

Signature:

Name (print):

Capacity:

Date:

A handwritten signature in black ink, appearing to read 'Chris McGrath'.

Chris McGrath

Director

24-May-22

Executed by its duly authorised representative for and on behalf of **AES Indiana** (EIN 35-0413620)

.....
.....
.....
.....

Signature:

Name (print):

Capacity:

Date:

A handwritten signature in black ink, appearing to read 'Mark Holbrook'.

Mark Holbrook

Authorised Representative

24-May-22

Short MAV Supply Agreement

Recitals

- A. The Purchaser may engage 5B to supply MAVs.
- B. In return for supply, 5B will be paid the Price.
- C. The rights and obligations of the parties in connection with this exercise shall be governed by this document along with Purchase Orders.

Operative provisions

1 Contract documents

- 1.1 Purchase Orders. Execution by the parties of a Purchase Order being a document so titled shall constitute a valid and binding contract which (unless otherwise agreed in writing) incorporates all provisions of this document. In the case of each Purchase Order, unless the context otherwise requires, references in this document to "this document" shall be read as "this Purchase Order".

2 Parties, Personnel & subcontracting

- 2.1 Parties. The agreement constituted by this document is in each case between the parties being 5B and Purchaser each as specified in the Purchase Order.
- 2.2 Personnel. Personnel, when used in respect of a person, includes all officers, employees, agents, contractors, suppliers and consultants engaged by that person.
- 2.3 Subcontracting. 5B may, without the consent of the Purchaser, subcontract any of its obligations under this document to persons who are appropriately trained, qualified, licensed, skilled, experienced, resourced and insured.

3 MAVs & Related Materials

- 3.1 MAVs. MAVs means the MAVs specified in the Purchase Order.
- 3.2 Free Issue Components. Free Issue Components means the Free Issue Components specified in the Purchase Order. The Purchaser shall deliver to 5B Free Issue Components as specified in the Purchase Order. The Purchaser shall bear risk of loss in the Free Issue Component prior to delivery of such to 5B. Free Issue Components shall, as between the parties, at all times remain the property of the Purchaser.
- 3.3 Related Materials. Related Materials means plant, equipment (other than the MAVs), spare parts, consumables, tooling, Manuals (including updates and revisions thereto and replacements thereof, as contemplated under this document), data sheets, specifications, designs (including those in respect of specific projects, sites or other applications), software (including internet-based software and any software updates), firmware (including updates thereto), hardware and other materials or things, provided by 5B (or any of its Affiliates) to the Purchaser (including pursuant to warranty or service arrangements) and which are intended for use in connection with the MAVs.
- 3.4 Manuals. Manuals means manuals guiding the operation and maintenance of the MAVs.

4 Delivery

- 4.1 Time and place. Subject to any conditional payments first being made, 5B shall use all reasonable endeavours to deliver the MAVs in accordance with the INCOTERM to the Delivery Point during working hours on or before the Delivery Date each as specified in the Purchase Order.
- 4.2 Risk and responsibility. Subject to **clause 3.2**, 5B shall bear risk of loss in the MAVs until delivery at which point risk transfers to the Purchaser.
- 4.3 Acceptance. The MAVs shall be deemed accepted by 5B if the Purchaser does not within 72 hours following delivery by notice reject the MAVs citing detailed reasons.
- 4.4 Manuals. On or before delivery of the MAVs, 5B shall provide Manuals. The Purchaser acknowledges that 5B may by notice from time to time update, revise or replace the Manuals at its sole discretion; however, such update, revision or replacement shall not derogate from 5B's warranties under this document.

5 Cooperation

- 5.1 Operating Data. Operating Data means Operating Data being data generated from operation of the MAVs. The Purchaser shall share Operating Data with the Provider in a timely fashion and by expedient

means, and permits 5B to use such for: (a) internal research purposes; and (b) providing the Operating Data is deidentified, marketing, financing and insurance purposes, of 5B and its Affiliates.

6 Compliance

- 6.1 Laws, standards and codes. 5B, in performing its obligations under this document or exercising its rights under this document, shall comply (and shall procure that each of its Personnel comply) with all applicable and binding laws, standards and codes (including those in relation to employment, licensing, safety and environment, bribery, corruption, money laundering, terrorism, modern slavery, sanctions and boycotts).

7 Title

- 7.1 Title. Title to the MAVs shall pass from 5B to the Purchaser upon payment in-full of the Price.

8 Warranties

- 8.1 MAV Product Warranty. 5B, in respect of delivered MAVs for which the Purchaser has paid in-full, gives the Purchaser the MAV Product Warranty specified in the Purchase Order, which (except to the extent voided in accordance with its terms) shall run for the Warranty Period specified in the MAV Product Warranty, and which 5B confirms is assignable to subsequent owners of the MAVs without 5B's consent. Remedy under this Special Condition shall be the Company's sole and exclusive remedy as against the Provider for delivery of defective MAVs. Remedy pursuant to the MAV Product Warranty shall be the Purchaser's sole and exclusive remedy as against 5B for MAV defects.
- 8.2 Other warranties. 5B warrants that MAVs will be new, in good working order, fit for the Purpose specified in the Purchase Order and not subject to any encumbrance (other than customary retention of title arrangements that do not prejudice the passing of title under this document); however, 5B gives no such warranty in relation to the Free Issue Components.

9 Liability limits

- 9.1 Consequential loss. Neither party shall have any liability (under contract, tort, statute or otherwise) to the other party for consequential, incidental, indirect, exemplary, punitive or special damages, nor for loss of use, production (including electricity generation), contracts, revenue (including Green Products), profit, reputation, data or similar benefits or opportunity to earn, build or use the foregoing items or increased operating, occupancy or financing costs, in each case in connection with the Services or the Contract, regardless of the form of action and whether the Party had been informed about or might have anticipated the possibility, probability or magnitude of the relevant claim or loss. In this **clause 9.1**, Green Products means any form of certificate, right, benefit or credit capable of creation in connection with the MAVs or its operation, under any program, regime or law in relation to renewable energy production (or power generation generally) or storage, greenhouse gas emissions or carbon sequestration.
- 9.2 Delay. Delay Damages means damages (whether liquidated or otherwise) or other compensation payable by 5B to the Purchaser for delayed performance by 5B of its obligations under this document. Delay Damages shall be limited to the Delay Damages Cap on a periodic and / or aggregate basis as specified in the Purchase Order.
- 9.3 Total. The total liability (under contract, tort, statute or otherwise) of 5B to the Purchaser in connection with this document, shall be limited to the Total Liability Limit specified in the Purchase Order.
- 9.4 Exceptions. The limits under this **clause 9** shall not apply to the extent liability arises from: (a) claims or losses (if any) in respect of which a party is entitled to indemnity under this document; (b) the operation of (or failure of a party to comply with) defect rectification provisions under this document; (c) death of or injury to persons; (d) theft of, damage to or loss of property other than the MAVs; (e) breach of contractual commitments regarding, or infringement of, Intellectual Property; (f) breach of contractual commitments or other duties regarding confidentiality; or (g) fraud, wilful misconduct or wilful contravention of law.

10 Payment

- 10.1 Price. The Purchaser shall pay 5B the Price specified in the Purchase Order, by the Milestone Payments specified in the Purchase Order upon achievement of corresponding Milestones specified in the Purchase Order.
- 10.2 Taxes. The parties shall bear responsibility for payment of sales taxes, import duties, tariffs and other taxes, as specified in the Purchase Order.

- 10.3 **Exchange rates.** The Price shall adjust in accordance with net fluctuation in the exchange rate specified in the Purchase Order between the date on which 5B executes this document and the date on which the Purchaser makes the first payment under this document.
- 10.4 **Freight.** Where the Purchase Order describes the freight component of the Price as indicative, 5B assumes the risk of freight price fluctuations in the range of $\pm 5\%$ (inclusive) beyond which range the Purchaser assumes such risk and the Price shall adjust accordingly, provided 5B notifies the Purchaser about available freight pricing prior to incurring such costs.
- 10.5 **Time for payment.** The Purchaser shall pay by EFT invoiced amounts by 7 days after invoice.
- 10.6 **Interest.** Late payments shall attract interest at the lesser of the rate specified in the Purchase Order and the maximum rate permitted by law.

11 Force majeure

- 11.1 **Force Majeure Events.** A Force Majeure Event is an event (or its effects) where such event (or its effects) is (or are) beyond the reasonable control of a party. Obligations (other than payment obligations) of a party shall be suspended while and to the extent that party is prevented from performing such obligations as a result of a Force Majeure Event. Scheduled dates for performance by 5B of its obligations under this document shall be extended to the extent such performance is delayed by a Force Majeure Event.

12 Confidentiality

- 12.1 **NDA.** NDA means the NDA specified in the Purchase Order. This document incorporates the NDA and shall apply to the parties as if they were parties to the NDA and the NDA expressly applied to all purposes contemplated by this document. **Clauses 9.1 and 9.4** prevail over this **clause 12.1** to the extent of any inconsistency.

13 Intellectual Property

- 13.1 **Intellectual Property.** Intellectual Property means all industrial or intellectual property rights conferred by law or equity in any one or more jurisdictions, including inventions, patents, utility models, copyright and related rights, database rights, trademarks, service marks, design rights, circuit layouts, plant breeder's rights, rights in undisclosed or confidential information (such as know-how or trade secrets) and other rights of a like nature, whether or not registered or registrable, and whether arising before, on or after the date of this document.
- 13.2 **Licensed IP.** Licensed IP means Intellectual Property (including future copyright) subsisting in the Related Materials.
- 13.3 **Title.** The parties agree that, as between them, 5B is and will at all times remain the sole owner of all rights, title and interests in or to the Licensed IP, and that nothing in this document constitutes a transfer of ownership of the Licensed IP or any other Intellectual Property. Without limiting the preceding sentence, the Purchaser acknowledges that 5B is the registered holder of various patents, registered designs and trademarks (and applications therefor) across multiple jurisdictions (including in connection with the MAVs).
- 13.4 **Licence.** 5B grants to the Purchaser a non-exclusive, irrevocable, royalty-free and non-transferrable (unless such transfer is made solely in connection with a transfer by the Purchaser of the MAVs to a person not engaged (and whose Affiliates are not engaged) in any business that competes (directly or indirectly) with any business of 5B (or any of its Affiliates) and the Purchaser gives 5B prior notice of such transfer) licence to use the Licensed IP strictly as necessary for the Intended Use, provided the Purchaser is not in breach of payment obligations under this document. Unless otherwise agreed in writing, the licence granted under this **clause 13.4** shall be suspended effective immediately upon suspension of performance by 5B under **clause 15.2** if the basis for such suspension constitutes Default under **clause 15.1(a)(i)**, and shall be terminated effective immediately upon termination of this document by 5B under **clause 15.3** if the basis for such suspension constitutes Default under **clause 15.1(a)(i)**, and, without limiting **clause 9**, the Purchaser shall not be entitled to any compensation from 5B for loss of licence (or related opportunities) in the case of any such suspension or termination. For clarity, 5B grants to the Purchaser no licence to use the Licensed IP or any of its other Intellectual Property for any purpose, to any extent, within any region, during any period or in any circumstances, except as expressly stated in this **clause 13.4**. Additionally, the Purchaser grants to 5B a licence to use its Intellectual Property as necessary for performance of 5B's obligations under this document.
- 13.5 **Sublicensing.** The Purchaser may only sublicense the Licensed IP to persons not engaged (and whose Affiliates are not engaged) in any business that competes (directly or indirectly) with any business of 5B

(or any of its Affiliates) and provided the Purchaser gives 5B prior notice of such sublicense. 5B may only sublicense the Purchaser's Intellectual Property as necessary for performance of subcontracts permitted under **clause 2.3**. For clarity, a party may not sublicense beyond the terms of the applicable licence granted to it under **clause 13.4**.

- 13.6 **Restrictions.** The Purchaser shall not (and shall procure that its sublicensees and Affiliates and its and their Personnel, do not) reverse engineer, (other than in accordance with the Manuals) disassemble or decompile the MAVs, Related Materials or the Licensed IP or any part thereof, or copy, replicate or reproduce the MAVs or any part thereof, whether or not for the purpose of commercial exploitation.
- 13.7 **Warranty.** 5B warrants that use of the MAVs and the Related Materials for the Intended Use will not infringe any third-party Intellectual Property; however, 5B gives no such warranty in relation to the Free Issue Components.
- 13.8 **Indemnity.** 5B indemnifies the Purchaser against breach of the warranty given under **clause 13.7**.
- 14 Insurance**
- 14.1 **Supplier insurances.** 5B shall maintain with reputable insurers until at least delivery and during any defect rectification activity: (a) public liability insurance in the amount of AUD 20 million; and (b) workers compensation and employer liability insurance as required by law.
- 14.2 **Goods insurance.** The Purchaser shall maintain with a reputable insurer during all times that the MAVs is in transit marine cargo and inland transit insurance for full replacement value of the MAVs, and in respect of which 5B counts as an insured and has the right to claim directly against the policy without Purchaser consent.
- 14.3 **Evidence.** The parties shall upon request share certificates of currency for all policies they are required to maintain under this document.

15 Default, suspension & termination

- 15.1 **Default.** A party will commit Default if it: (a) fails to perform or observe any term of this document and such breach is either not capable of cure or is not cured within: (i) in the case of failure to pay amounts due, 10 business days after service of notice from the other party citing the relevant breach; or (ii) in all other cases, 20 business days after service of notice from the other party citing the relevant breach; or (b) is or becomes insolvent.
- 15.2 **Suspension.** 5B may by notice with immediate effect suspend: (a) performance of any of its obligations under this document if at any time the Purchaser has failed to pay any amount due; or (b) performance of any Milestone the corresponding Milestone Payment for which constitutes a pre-payment, until 5B receives such Milestone Payment.
- 15.3 **Termination.** If a party commits Default, the other Party may by notice with immediate effect terminate this document. If this document is terminated, 5B shall be entitled to: (a) payment for all Milestones achieved; (b) reimbursement for all costs reasonably incurred in performance of partly achieved Milestones; (c) other than in the case of termination by the Purchaser for 5B Default, reimbursement for all reasonably incurred charges arising from cancellation or deferral of or other adjustments to permitted subcontracts; and; (d) other than in the case of termination by the Purchaser for 5B Default, a margin of 15% on any entitlement under limbs (b) and (c). Termination of this document for whatever reason shall not affect the rights, remedies, obligations or liabilities of the parties which accrued up to the date of termination.

16 Assignment

- 16.1 **Assignment.** Neither party may assign or transfer any right, benefit or interest under this document without the prior written consent of the other party (which shall not be unreasonably withheld, delayed or conditioned).

17 Miscellaneous

- 17.1 **Law and language.** This document shall be governed by the laws of New South Wales, without giving effect to conflict of laws legislation. The official language of this document is English.
- 17.2 **Counterparts and notice.** This document may be executed in counterparts, which when taken together constitute one instrument, and which may be exchanged by email or in other electronic form as may notices under this document.
- 17.3 **Entire agreement.** This document constitutes the entire agreement between the parties, and supersedes all prior agreements or

understandings, whether written or otherwise, in relation to its subject matter.

- 17.4 No disadvantage. A rule of construction of contract shall not apply to the disadvantage of a party merely because that party prepared or proposed the relevant provision.
- 17.5 Business days. Business day means a day other than a Saturday, Sunday or public holiday in New South Wales.
- 17.6 Waiver. Delay or failure by a party to exercise a right or power under this document or a remedy in connection with such a right or power, or to enforce performance of an obligation on the other party, shall in each case not constitute waiver of that right, power, remedy or obligation, respectively.
- 17.7 Severability. Where any part of this document is or becomes illegal, invalid, unenforceable or void, such part shall be read down to the minimum extent required to remedy such shortcoming, or severed where reading down cannot remedy such shortcoming, and, in either case, the rest of this document shall continue to operate without amendment.
- 17.8 Survival. Provisions of this document that survive termination of this document include provisions which are expressed to or by their nature are intended to survive termination as well as provisions essential for interpretation of surviving provisions.
- 17.9 Amendment. This document may only be amended by written agreement between the parties.
- 17.10 Relationship. Unless otherwise stated in this document, the parties are not in, and this document does not create, a relationship of partnership, trust, agency, employment or a fiduciary relationship between the parties.
- 17.11 Affiliate. Affiliate means in respect of a party, any other person controlling, controlled by or under common control with such party.