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31 August 2021

By Email: ListingsComplianceSydney@asx.com.au

ASX Limited
Exchange Centre
20 Bridge Street
SYDNEY NSW 2000

Attention: Corey Lian

Dear Corey

Archer Materials Limited: Query Letter

We refer to your letter of 25 August 2021 (**Your Letter**).

Capitalised words or expressions used, but not defined, in this letter have the meanings ascribed to them in Your Letter.

Using the numbering contained in Your Letter, AXE responds as follows:

1. Archer first became 'aware' of the information when it received email correspondence of confirmation of the grant of the Japanese patent by the Australian patent attorneys who are authorised to provide this confirmation. The email was received after the market close on 19 January 2021, and Archer lodged the announcement with ASX before the market open on 20 January 2021.

   [12]CQ chip patents have been applied for in multiple overseas jurisdictions, and each jurisdiction is subject to its owns laws and customs. Archer is not an expert in the many foreign laws and customs regarding the grant of patents in each overseas jurisdiction, and many are in languages other than English. We rely on the advice of patent attorneys. To make sure that the market is fully informed, Archer believes that it is prudent to wait until we receive written confirmation of the grant of a patent from the Australian patent attorneys before announcing the patent grant to the market.

   We understand that the Australian patent attorneys procedure is to wait until they receive notifications from the agents in the relevant jurisdiction, who are registered and authorised to receive the correspondence from the relevant foreign patent office. We understand that the Australian patent attorneys do not bypass relevant overseas attorneys or monitor individual databases regularly as there may be other factors that the Australian patent attorneys are not aware of affecting the grant of the patent.

   We understand that the absence of information on patent databases should not be taken to mean that the application has not been granted and that the presence of information on patent databases should not be taken to have been immediate. This means that the date of grant

shown on the document or a website is not always the same as the date that the applicant was made aware of the patent grant.

2. Archer first became 'aware' of the information when it received an email correspondence of confirmation of the grant of the South Korean patent by the Australian patent attorneys who are authorised to provide this confirmation. The email was received at 12:58PM 10 August 2021 (Sydney time), and Archer lodged the announcement with ASX 1:52PM 10 August 2021 (Sydney time).

3. Please refer to our responses to questions 1 and 2 in the announcement titled "Response to ASX Query" lodged with ASX on 20 August 2021.

   No announcement was made regarding the objections in the examination report from I.P. Australia regarding the ^{12}CQ chip related patent application in Australia as such objections are routine and the receipt of which, in and of itself, has no consequence on AXE's business.

   In contrast, the progression to National Phase for the A1 Biochip was significant as the failure to have progressed to the National Phase by the required due date would have effectively precluded AXE from obtaining patent protection and, in turn, impinged upon the potential commercialisation of the A1 Biochip in the U.S.A.

4. Refer to the answer to question 3 above and the announcement titled "Response to ASX Query" lodged with ASX on 20 August 2021 regarding why the US National Phase for the biochip application was announced to the market.

   The announcement regarding the First Office Actions for Australia, U.S.A and the Peoples' Republic of China were announced together in a single announcement as, although these intermediary steps were not necessarily price sensitive in, and of, themselves, when taken together, AXE considers that they still warranted a progress report being provided to the market at the time.

5. No.

6. No. The patent applications in the National Phase in each of the respective jurisdictions initially involved the prosecution of 16 claims. As part of the routine application and review process, 14 claims were arrived at and granted in Japan and 13 claims were arrived at and granted in South Korea. It is not unusual to revise claim structures in order to meet the patentability requirements under the relevant country patent laws. The reduced claim numbers has no consequence on the potential ^{12}CQ chip viability.

7. No, AXE has not yet met the commercial milestones. The commercial milestones are linked to the achievement of certain technical results. The option is a 'call' option and grants Archer the right, and not the obligation, to buy the Licensed IP from the University of Sydney. Archer will decide at the time whether or not it intends to exercise the option and will notify the market accordingly.

8. No. The option gives Archer the right to enter into negotiations with the University of Sydney to purchase the Licensed IP. Archer may also elect <u>not</u> to exercise the option and not to purchase the Licensed I.P but to continue with the current exclusive license.

   The decision whether or not to exercise the option and whether or not to buy the Licensed IP will be a commercial decision based on prevailing market conditions at the time. It is too soon

for Archer to decide whether or not it intends to exercise the option to purchase the Licensed IP. Archer will notify the market when it decides whether or not the Company elects to exercise the option.

9. Not applicable for the reasons given in the responses to questions 7 and 8 above.

10. The answer to question 8 is "no" and, and we respond accordingly:

    a. Yes. The option to acquire the Licensed IP is still valid.

    b. The license fee payable by AXE is:

        i. the annual amount of $10,000 (subject to CPI adjustment); plus

        ii. annual royalty payment equal to 5% of net sales plus 5% of sublicense receipts, with a minimum royalty of $50,000 per annum payable after 12 December 2022; plus

        iii. certain fees, costs and expenses (including patent attorney and legal fees) incurred in obtaining the grant and maintenance of the patents.

    c. In respect of the statements in paragraph L:

        i. AXE considers the patent applications to be "core company assets" as the patents, if granted, will provide AXE with defined intellectual property protections. AXE relies on the common language interpretation of the terms "core" and "assets" when describing the patent applications. In this context, "assets" means "advantage, strength or benefit", and we are not applying the strict accounting definition of the term "asset". The non-accounting use of the term "asset" is used every day in business. For example, we note that it is not uncommon for companies to refer to "trust" or "people" as valuable "assets" of a company, and neither of these "assets" can be included in the balance sheet.

        AXE's technology and intellectual property is "core" or essential to the company's business in the same way that software or technology is core to the business of many companies.

        The Intangible Assets that appear in AXE's Statement of Financial Position represent only those costs permitted to be capitalised according to AASB 138 and include the cost of patent applications plus associated legal and licence fees. It is important to note that in AXE's Financial Report for the half-year ended 31 December 2020 ("Half Year Report"), AXE has also recognised $381,495 of expenditure that did not meet the criteria required to be capitalised pursuant AASB 138 and was separately classified in the Statement of Profit or Loss and Other Comprehensive Income on page 11 of the Half Year Report as 'Advanced Materials research and development expenditure.'

        For the reasons given above, we think it appropriate for AXE to describe the patent applications as "core company assets" as the intellectual property that underpins the patent applications is essential to the company and provides AXE with an advantage over our competitors.

ii. Archer has an exclusive license to the Licensed IP required to develop the ^{12}CQ chip. Archer does not need to own the Licensed IP to be able to develop the ^{12}CQ chip, just like:

(A) a mining or oil and gas company only has a license to explore a tenement and does not own the underlying land;

(B) a retail, finance or other business only has a lease or licence to occupy a building or premises and does not own the underlying land; or

(C) a company that licences software to build a blockchain ledger or to develop a software as a service product,

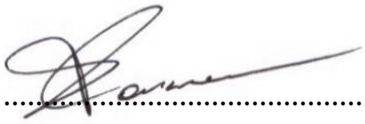
but is still allowed to refer to their development project as their own.

Archer believes that naming our quantum computer chip project the ^{12}CQ chip project is consistent with naming conventions used by almost all ASX listed companies. The "^{12}CQ" name has been trademarked by Archer and is independent of the license agreement with the University of Sydney.

11. Confirmed.

12. Confirmed.

Yours sincerely,



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Damien Connor

Company Secretary

Archer Materials Limited (ACN 123 993 233)

25 August 2021

Mr Damien Connor
Chief Financial Officer and Company Secretary
Archer Materials Limited
Lot 14, Frome Rd
Adelaide, SA 5000

By email: d.connor@archerx.com.au

Dear Mr Connor

Archer Materials Limited ('AXE'): Query Letter

ASX refers to the following:

Continuous Disclosure

A. AXE's announcement titled "First patent granted for 12CQ quantum computing chip" released on the ASX Market Announcements Platform ('**MAP**') on 20 January 2021, which disclosed the granting of a Japanese patent (No. 6809670) associated with AXE's "**^{12}CQ"** quantum computing chip technology (the '**Japanese Patent**').

B. The Japan Platform for Patent Information's website,[1] which discloses that the certificate in relation to the patent referred to in paragraph A was issued on 5 January 2021.

C. AXE's announcement titled "South Korean patent granted for 12CQ quantum computing chip" released on MAP on 10 August 2021, which disclosed the granting of a South Korean patent (No. 10-2288974) associated with AXE's ^{12}CQ quantum computing chip technology (the '**South Korean Patent**').

D. The Korea Intellectual Property Rights Service's website,[2] which discloses that the patent referred to in paragraph C was issued on 5 August 2021.

E. AXE's announcement tiled "Quantum tech patent portfolio progress update", released on MAP on 1 March 2021, which was not marked "price-sensitive" by AXE on lodgement via ASX Online, and which said (relevantly) (emphasis added):

"International patent application ("IPAs") associated with the ^{12}CQ chip are lodged in six jurisdictions … The additional IPA in Japan recently resulted in the first granted patent for ^{12}CQ chip ("JP Patent") (ASX ann. 20 Jan 2021). The granting of the JP Patent (Patent No. 6809670) has led to the advance of the patent granted process and procedures for IPAs in several jurisdictions. ***First Office Actions ("FOAs") have been received from Patent Offices of the United States of America, China, and Australia. Receiving FOAs is a key step in the process for the grant of a patent in the administering jurisdiction. … The Company will continue to release key progress in its patent prosecution to ASX."***

F. AXE's announcement titled "Response to media speculation", released on MAP on 20 August 2021, commenting on an article published by the Australian Financial Review on 19 August 2021 alleging that AXE had not disclosed that IP Australia had "objected to multiple claims" in a patent application. The announcement said (relevantly):

"The formal term for the status of the ^{12}CQ chip related application remains filed and, importantly, the patent application has not lapsed and has not been refused. … The issues raised in the examination

[1] https://www.j-platpat.inpit.go.jp/c1800/PU/JP-2018-548247/765FA2B5A2B30B952BC910AE8912D37EC13E63C2FA993233D096904459F5B9E8/10/en
[2] http://eng.kipris.or.kr/enghome/main.jsp

report are known as 'objections' and the Company has until 11 February 2022 to provide the information and clarifications required. … The commencement of the patent application review by the National Office and issuing of an examination report is known as a First Office Action."

G. AXE's announcement titled "Biochip patent application enters US National Phase", released on MAP on 16 August 2021, which said (relevantly) (emphasis original):

- *"[AXE] is pleased to announce the Company's 100% owned patent application related to its graphene-based biochip technology … has progressed to the National Phase of the patent granting procedure and has been filed in the US and assigned a US Application Number, which now allows the Company to pursue and achieve patent granting in the US for the respective patent application."*
- *"**Patents are required for successful commercialisation in the semiconductor industry.**"*

H. ASX's letter to AXE dated 17 August 2021, and AXE's response dated 20 August 2021, released together on MAP on 20 August 2021. The letter referred to AXE's 16 August 2021 announcement and to ASX guidance on the application of Listing Rule 3.1 to the effect that, generally, information concerning an application for a patent is not material and so does not require disclosure under Listing Rule 3.1 as it is only when an entity is granted a patent that it receives a valuable asset in the form of the patent's protection. AXE's response said, relevantly:

"For an early stage company such as AXE who is currently focussed on the commercialation [sic] of only two patent families, the progression to the National Phase and filing In [sic] the U.S.A is a significant milestone as failure to have done so within the designated timeframe would have meant that AXE would have lost its priority status under the PCT ["Patent Cooperation Treaty"] *and, effectively, precluded AXE from obtaining patent protection In [sic] the U.S.A. This would, in turn, significantly impinge upon the commercialisation of the A1 Biochip in the U.S.A. …*

I. Listing Rule 3.1, which requires a listed entity to immediately give ASX any information concerning it that a reasonable person would expect to have a material effect on the price or value of the entity's securities.[3]

Intellectual Property Development

J. AXE's announcement titled "Exclusive licence for breakthrough quantum computing IP", released on MAP on 12 December 2018, which disclosed (relevantly, emphasis added) that:

- *"Archer and the University of Sydney Commercial Development and Industry Partnerships (CDIP) have executed an exclusive licence agreement that allows Archer to develop and commercialise room-temperature quantum computing technology"* (the '**Licensed IP**');
- *"The binding licence agreement gives Archer exclusive international rights to develop and commercialise the Licenced IP. The key terms of the Agreement remain confidential. The technology that is the basis of the Licenced IP will need to be realised through development. The Licenced IP has been filed through a patent cooperation treaty (PCT) application by the University of Sydney (University) in the geographic areas covered by a European Patent, Australia, United States of America, Japan, Republic of Korea, and China.* ***Archer has an option to acquire the Licensed IP, following the occurrence of commercial milestones linked to the technology development. Archer may sub-license its rights to the Licenced IP*** [sic]***."***

[3] Chapter 19 of the Listing Rules provides that "an entity becomes aware of information if, and as soon as, an officer of the entity (or, in the case of a trust, an officer of the responsible entity) has, or ought reasonably to have, come into possession of the information in the course of the performance of their duties as an officer of that entity an entity."

- *"**Over the next 12 months, Archer will exploit the Licensed IP materially in accordance with the Commercialisation Plan**. The Commercialisation Plan includes a number of interdependent technical and commercial development milestones in each financial year quarter"*
- *"**The University is responsible for prosecuting and maintaining registration of the patents related to the Licenced IP [sic].** The prosecution of the patents in various countries and regions will allow Archer the commercial freedom to operate and market entry to the US, Europe and Australasia. To expedite commercial milestones Archer intends to partner and collaborate with infrastructure providers, software developers, manufacturers, and distributors in the semiconductor industry."*

K. AXE's announcement titled "Progress towards single qubit quantum measurements", released on MAP on 9 March 2020, which disclosed that AXE still held an "exclusive international licence" to patents protecting the ^{12}CQ technology.

L. AXE's announcement dated 16 August 2021 referred to above at paragraph G, which also disclosed (relevantly, emphasis added):

*"**Archer's patents and patent applications are core Company assets** that allow for value creation through any future technology development, licensing, monetisation, and transactions for revenue generation. Patent applications‡ related **to the Company's ^{12}CQ chip** are progressing in later stages of the patent granting procedures in the US and Europe."*

Financial Statements

M. AXE's Half Yearly Report and Accounts, released on MAP on 24 February 2021, which disclosed in the Statement of Financial Position on page 12 that intangible assets totalled $109,170 at 31 December 2020, against total assets of $19,032,953.[4] ASX observes that no further information appears to have been provided in relation to the composition of assets classified as intangible assets.

Request for information

Having regard to the above, ASX asks AXE to respond separately to each of the following questions and requests for information:

1. Please explain why the Japanese Patent was announced by AXE on 20 January 2021 when the patent was issued on 5 January 2021.
2. Please explain why the South Korean Patent was announced on 10 August 2021 when the patent was issued on 5 August 2021.
3. Please explain why AXE did not disclose that it had received objections to its Australian ^{12}CQ application which, if not overcome within 12 months, will result in that application lapsing, but considered entry into the National Phase for the biochip application warranted disclosure under Listing Rule 3.1.
4. Why did AXE announce the Australian, USA and Chinese "First Office Actions" in relation to the ^{12}CQ application together and as a non-price sensitive announcement, but announced the US National Phase for the biochip application under Listing Rule 3.1?
5. Has AXE received any examination results in relation to the biochip application?
6. Did AXE successfully obtain protection under the Japanese Patent and the Korean Patent in respect of all its claims in those respective applications? If not, how many claims were granted protection?

[4] ASX acknowledges that $10,000,000 relates to 'Exploration and Expenditure', which is due to be disposed of by AXE.

7. Did AXE meet the commercial milestones outlined in paragraph J to enable AXE to exercise the option to buy the Licensed IP?

8. Has AXE, through the option mentioned in paragraph J or otherwise, acquired the Licensed IP from the University of Sydney?

9. If the answer to question 8 is "yes", please identify the announcement in which this was disclosed to the market. If no announcement was released, please explain why not, and provide details.

10. If the answer to question 8 is "no":

    a. Is AXE's option to acquire the Licensed IP still valid?

    b. How much does AXE pay annually in order to maintain exclusive access to the Licensed IP?

    c. Please provide the basis for AXE's statements in paragraph L. above, specifically:

        i. Why does AXE consider patent applications to be "core company assets", when intangible assets compose a small proportion of AXE's total assets?

        ii. Why does AXE refer to the ^{12}CQ Chip as "the Company's ^{12}CQ chip" when AXE is a licensee?

11. Please confirm that AXE is complying with the Listing Rules and, in particular, Listing Rule 3.1.

12. Please confirm that AXE's responses to the questions above have been authorised and approved in accordance with its published continuous disclosure policy or otherwise by its board or an officer of AXE with delegated authority from the board to respond to ASX on disclosure matters.

When and where to send your response

This request is made under Listing Rule 18.7. Your response is required as soon as reasonably possible and, in any event, by no later than **9:00 AM AEST Friday, 27 August 2021**. You should note that if the information requested by this letter is information required to be given to ASX under Listing Rule 3.1 and it does not fall within the exceptions mentioned in Listing Rule 3.1A, AXE's obligation is to disclose the information 'immediately'. This may require the information to be disclosed before the deadline set out in the previous paragraph and may require AXE to request a trading halt immediately.

Your response should be sent to me by e-mail at **ListingsComplianceSydney@asx.com.au**. It should not be sent directly to the ASX Market Announcements Office. This is to allow me to review your response to confirm that it is in a form appropriate for release to the market, before it is published on the ASX Market Announcements Platform.

Trading halt

If you are unable to respond to this letter by the time specified above, you should discuss with us whether it is appropriate to request a trading halt in AXE's securities under Listing Rule 17.1. If you wish a trading halt, you must tell us:

- the reasons for the trading halt;
- how long you want the trading halt to last;
- the event you expect to happen that will end the trading halt;
- that you are not aware of any reason why the trading halt should not be granted; and
- any other information necessary to inform the market about the trading halt, or that we ask for.

We require the request for a trading halt to be in writing. The trading halt cannot extend past the commencement of normal trading on the second day after the day on which it is granted. You can find further information about trading halts in Guidance Note 16 *Trading Halts & Voluntary Suspensions*.

Suspension

If you are unable to respond to this letter by the time specified above, ASX will likely suspend trading in AXE's securities under Listing Rule 17.3.

Listing Rules 3.1 and 3.1A

In responding to this letter, you should have regard to AXE's obligations under Listing Rules 3.1 and 3.1A and also to Guidance Note 8 *Continuous Disclosure*: Listing Rules 3.1 – 3.1B. It should be noted that AXE's obligation to disclose information under Listing Rule 3.1 is not confined to, nor is it necessarily satisfied by, answering the questions set out in this letter.

Release of correspondence between ASX and entity

We reserve the right to release a copy of this letter, your reply and any other related correspondence between us to the market under listing rule 18.7A.

Questions

If you have any questions in relation to the above, please do not hesitate to contact me.

Kind regards

Corey Lian
Compliance Adviser, Listings Compliance (Sydney)