

Tender Ref No: JTC25T0146



06 March 2026

To: All Applicants

CORRIGENDUM NO. 3

JTC DECARBONISATION LIVING LAB INNOVATION CALL 2026 (DECAL2.0)

Challenge Statement - Energy Efficient Buildings - Transforming existing building operations for a low-carbon future

Please take note of the following amendments/clarifications to the above Innovation Call, which shall form part of the original Innovation Call document issued.

1. NEW DOCUMENT

“Corr 3 CS5_Specification of existing AHUs in RH.pdf”

“Corr 3 CS5_Past 6-months feedback on thermal comfort.pdf”

Please refer to below link for the documents.

<https://www.ipi-singapore.org/jtc/1089/problem-statement/energy-efficient-buildings-transforming-existing-building-operations-for-a-low-carbon-future.html>

2. CLARIFICATIONS

Please take note of the clarification shown in Annex A which are made in response to the queries received.

3. CLOSING DATE

This Innovation Call Closing Date has been extended by 1 week from the earlier closing date of 9 March 2026. The **new Closing Date is 16 March 2026 (Monday)**, not later than 4.00pm.

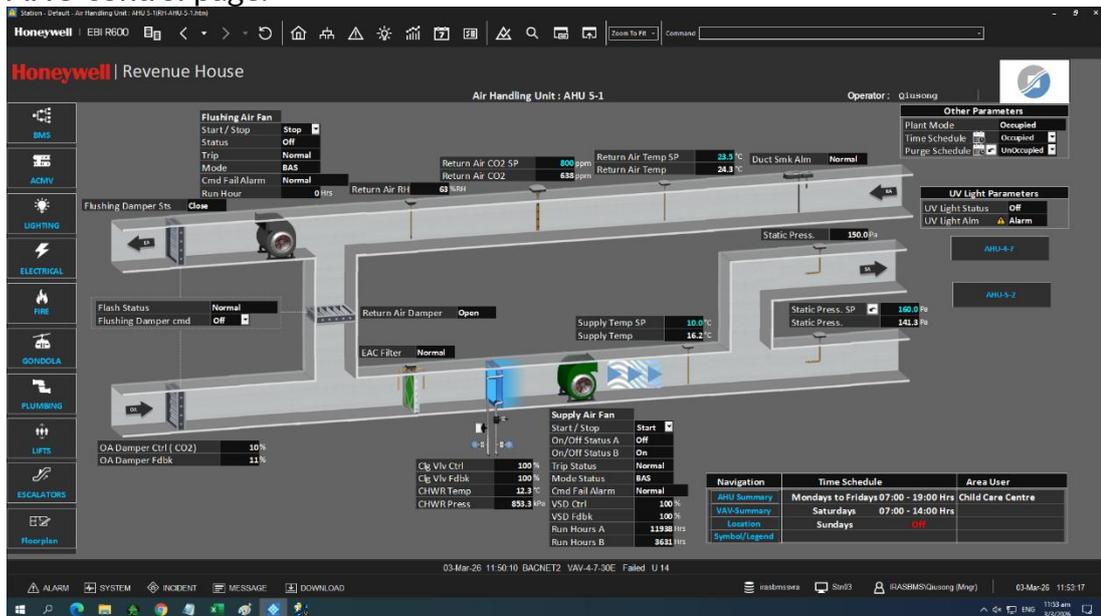
Your faithfully,
Md Rusydi (Mr.)
Sr Contracts Manager
Contracts and Procurement (Corporate) Division

(This is an electronic document. No signature is required.)

Annex A

Challenge Statement 5																									
Q1	As part of the proposed energy saving solutions, are cloud based systems allowed in this challenge? If cloud solutions are permitted, will the revenue house cover the integration costs with the existing BMS? If so, will these costs be included under the grant funding or considered outside the grant scope?																								
A1	<p>Currently all our systems are non-cloud based systems. However, should the proposal involve cloud based systems, tenderer should provide necessary safeguard with detailed proposal before implementation.</p> <p>Any costs related to integrating the proposed solution with the existing Building Management System (BMS), including cloud integration if applicable, should be included within the overall project scope and reflected accordingly in the project budget.</p>																								
Q2	Please provide the current chiller plant efficiencies for both the airside and the waterside in terms of kW per RT.																								
A2	The current chiller plant efficiencies for waterside and airside are 0.613 kW/RT and 0.265 kW/RT respectively.																								
Q3	Kindly share the specifications of the existing AHUs as well as the specifications of the new AHUs planned for the replacement of the 31 units.																								
A3	<p>Please refer to the attached document 'Corr 3 CS5_Specification of existing AHUs in RH.pdf'</p> <p>We are unable to share the specifications of the new AHUs planned for the replacement as the tender is not launched yet.</p>																								
Q4	Please provide the building's total energy consumption for the past twelve months.																								
A4	<p>Below is the building's total energy consumption (kWh) for the past 12 months:</p> <table border="1"> <tbody> <tr> <td>Jan-25</td> <td>894,181</td> </tr> <tr> <td>Feb-25</td> <td>840,954</td> </tr> <tr> <td>Mar-25</td> <td>932,568</td> </tr> <tr> <td>Apr-25</td> <td>925,946</td> </tr> <tr> <td>May-25</td> <td>914,075</td> </tr> <tr> <td>Jun-25</td> <td>886,494</td> </tr> <tr> <td>Jul-25</td> <td>929,452</td> </tr> <tr> <td>Aug-25</td> <td>856,053</td> </tr> <tr> <td>Sep-25</td> <td>834,132</td> </tr> <tr> <td>Oct-25</td> <td>873,453</td> </tr> <tr> <td>Nov-25</td> <td>845,588</td> </tr> <tr> <td>Dec-25</td> <td>857,663</td> </tr> </tbody> </table>	Jan-25	894,181	Feb-25	840,954	Mar-25	932,568	Apr-25	925,946	May-25	914,075	Jun-25	886,494	Jul-25	929,452	Aug-25	856,053	Sep-25	834,132	Oct-25	873,453	Nov-25	845,588	Dec-25	857,663
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Q5	Based on the "Typical Office Plan" slide, what's the implementation coverage for this project? Is it covering Levels 1 and 2? If so, are we using this typical plan to determine the solution areas' coverage?
A5	<p>There are no restrictions on the proposal. The coverage is entirely at the tenderers' discretion.</p> <p>Tenderers may use the typical office plan to determine coverage for the office tower spanning from L6 to L24. L1 to L5 comprise the podium block, which features different layout plans.</p>
Q6	Based on the "ACMV System in Revenue House" slide, are the 71 AHUs and 167 FCUs the total count for L1 and L2?
A6	No, the 71 AHUs and 167 FCUs serve the entire building.
Q7	Are we required to include preventive maintenance and services in the scope? If, yes, what's the duration for the preventive maintenance and services?
A7	<p>This Innovation call is targeted to support the development of innovative, mid-to-high Technological Readiness Level (TRL) technologies for onsite trial and deployment, i.e. $TRL > 7$. Refer to Section 4.1 of document '02_Information_DECAL2.0.pdf'.</p> <p>Applicant is required to submit the commercialisation plan on how the company intends to commercialise the solution. The info on maintenance scope and cost (e.g. rate per month or year) could be included as part of the proposal. Refer to Section 13 of document '04_JTC Template on Project Proposal_DECAL2.0.docx'.</p> <p>Refer to the link for the documents.</p> <p>https://www.ipi-singapore.org/jtc/challenge/1089/statement-details.html</p>
Q8	Could we arrange an additional site visit to the office areas to better understand the current occupant habits, riser layouts, and the condition and number of FCUs, among other relevant aspects?
A8	<p>Applicants are encouraged to submit any queries through the Clarification form (link provided below), as the first option so that all questions can be properly consolidated and addressed.</p> <p>https://form.gov.sg/695e380305f2931fd85ae97d</p> <p>Should there be a high volume of requests for additional site visits, we will consider arranging another session and will inform all applicants accordingly.</p> <p>For building information, refer to Q22.</p>
Q9	Sensor Infrastructure & Data Access: Is there existing availability of temperature, humidity, and CO2 sensors at the floor level throughout Revenue House?

	Additionally, what is the feasibility and process for accessing the data center or installing new sensors if needed?
A9	<p>Current Sensor Infrastructure:</p> <ul style="list-style-type: none"> • Temperature monitoring is available through the existing ACMV system • Humidity sensors are not currently deployed • CO2 monitoring is limited to sensors installed at the AHU level only <p>Data Access and Additional Installations: Any requests for data access or installation of new sensors will be evaluated based on the submitted proposal.</p>
Q10	What are the specific zones or floors within Revenue House that experience the most comfort complaints (warmth, stuffiness, excessive coldness), and can we identify any recurring patterns in these occurrences?
A10	Please refer to document 'Corr 3 CS5_Past 6-months feedback on thermal comfort.pdf' for the past 6-months on thermal comfort feedback. There may be limitations currently in identifying hotspots automatically, unless they are manually logged by users. Tenderers can propose solutions to identify and address these hotspots as preventive measures.
Q11	What are the detailed specifications and current operational schedules of the existing AHU system? Furthermore, what are the current control strategies in place for the AHUs (e.g., constant volume, variable air volume, scheduled setpoints, fresh air intake management)?
A11	<p>AHUs are generally scheduled to operate between 6.30am to 8.00am and shut down between 6.30pm to 7.30pm, Monday to Friday (excluding public holidays). AHU control strategies are based on return air temperature, refer to below print screen on AHU control page.</p> 
Q12	What are the typical occupancy patterns and peak loads for various areas of Revenue House, especially given the high daily human traffic during peak tax periods? What

	are the critical operational requirements (e.g., system uptime, security) that any energy and comfort optimization solution must rigorously adhere to?
A12	All office floors are occupied during regular working hours, whilst B1 training rooms and L5 have event-based occupancy patterns. Peak filing periods occur annually between March and April, with concentrated activity at L1 Taxpayer and Business Service Centre (TBSC). Peak loads generally follow calendar trends, including school holidays, public holidays, and festive seasons. Any energy and comfort optimisation solution must rigorously adhere to critical operational requirements, particularly BMS operations, data centre operations, and security operations.
Q13	Please clarify whether the proposed solution is allowed to interface with the existing Building Management System (BMS) to: <ul style="list-style-type: none"> • Monitor operational data (e.g., flow rates, valve status, temperatures); and • Exchange control signals or parameters for system optimization. Kindly also advise if there are any restrictions, approval requirements, or cybersecurity considerations.
A13	Connection to the building BMS network to monitor flow data, valve status, and provide parameters to equipment shall be assessed and subject to Building Owner's approval as it involves an external source connection.
Q14	Please clarify whether the awardee is permitted to: <ul style="list-style-type: none"> • Install additional sensors or cameras in common areas; or • Access existing systems to obtain footfall or occupancy data, for the purpose of cooling optimization. Please also clarify any applicable data privacy or approval requirements.
A14	Installation of additional cameras/sensors or tapping into existing cameras at entrances, lifts, or escalators for footfall data collection is possible, provided there is adequate space to house the equipment and the existing cameras are capable of such integration, subject to Building Owner's approval. Cameras should not invade privacy or be installed in sensitive areas. For cooling optimisation, the solution should tap into the BMS system.
Q15	Can we request the number of BMS points currently deployed in IRAS building, the layout of the building, if possible, the DB location for lighting control because lighting is also another source for the energy consumption.
A15	It is not possible to provide the complete list of BMS points currently deployed in the IRAS building. For building information, refer to Q22.
Q16	Are there empty space for 2m(L) x 2m(W) x 2m (H) at the top 3 floors of AHU Room, and what is the chilled water pressure at the top 3 floor of AHU?
A16	No, the AHU rooms on the top 3 floors do not have empty space measuring 2m(L) x 2m(W) x 2m(H) available. The AHU chilled water pressure at the top 3 floor of the building is as follow: <ul style="list-style-type: none"> • L22 – 20 – 25PSI • L23 – 15 – 20PSI • L24 – 10 – 15PSI

Q17	What is the chilled water supply temperature setpoint?
A17	The chilled water supply temperature setpoint is 8.8°C.
Q18	What is the communication protocols for the existing BMS for the FCU and AHU controllers, and whether third-party integration to the BMS is permitted under the current DECAL 2.0 innovation call.
A18	The current BMS vendor is Honeywell, and the communication protocol is Modbus. Third-party integration to the BMS will only be permitted subject to building owner's approval based on the submitted / awarded proposal.
Q19	Does the testbed solution site apply to all 24 floors in the IRAS building for CS5?
A19	The testbed solution need not be applicable to all floors in Revenue House as there are tenanted floors.
Q20	How many MCCBs are there per floor in the IRAS building for CS5?
A20	A typical office floor has 24 MCCBs.
Q21	What is the implementation period if awarded?
A21	The tender is expected to be awarded in July/August 2026. Any physical installation or modification works should be completed within 6 months (by February 2027), with care taken to avoid the annual peak filing period between March and April. The overall project duration should not exceed 12 months.
Q22	Can the following building information (e.g. schematics diagram, as-built plan) relevant to the test site be shared? (i) Electrical single line diagram (ii) Historical operational data for chillers plant (iii) ACMV system schematic diagram, equipment schedules (iv) Floor plan (for selected area) (v) Electrical power plan (for selected area)
A22	Applicant can submit the request through the following link, the DECAL2.0 team will reach out to the applicant. An Undertaking of confidentiality need to be signed prior the information to be shared. https://form.gov.sg/695e380305f2931fd85ae97d