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Stantec

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To Whom It May Concern,

I am writing this letter to acknowledge Mr. Masoud Valinejadshoubi's many achievements in the field of zero-energy buildings. He has advanced sustainable architecture through his innovative integration of building information modeling (BIM) with adaptive design strategies. Mr. Valinejadshoubi's work in developing dynamic facade systems and harnessing temperature differentials for ventilation streamlines sustainable building design and solidifies his status as an irreplaceable asset operating at the forefront of energy-efficient architecture and building technology.

Mr. Valinejadshoubi possesses an extensive skill set and background in the field of zero-energy building that he employs in his current role as a building engineering researcher at Concordia University. To describe his background, he first obtained his B.Sc. in architectural technology from the Institute of Higher Education Tabari. Following that, he furthered his study with an M.Sc. in architectural engineering from the Islamic Azad University Central Tehran Branch. A prolific entrepreneur, he is the cofounder of Canadian immigration firm Novelty Research, Education, and Development; serves as the CEO of NovoSolTech, innovators in solar-powered window technology; and is the cofounder and CEO of Iranian building design and construction company Valadgaran Kime Khazar Co. His interdisciplinary expertise and extensive professional experience have prepared him to tackle complex challenges in the field of zero-energy buildings.

Having worked closely with Mr. Valinejadshoubi through his project, I am able to attest to his exceptional abilities. Before I do so, however, let me briefly introduce myself. I am the Design Automation Lead in Sustainability and a PhD researcher at Stantec consulting global firm based in Australia, where I focus on sustainable building practices and automation towards AI integrations. I am also the co-founder of Upgreengrade, a company dedicated to sustainable architecture. After earning my B.Sc. in architecture from Islamic Azad University, I obtained my M.Sc. in architectural engineering from Politecnico di Milano and a Ph.D. in built environment from Deakin University. In addition to my current roles, I also pursue a research interest in adaptive facades, parametric design, and energy efficiency.

Mr. Valinejadshoubi's innovative research has significantly advanced the field of zero-energy buildings, particularly his integration of BIM with sustainable design principles and advanced parametric analysis tools. Notably, he has developed comprehensive approaches that optimize energy efficiency, visual comfort, and natural ventilation in buildings, methods that facilitate the creation of highly adaptive and sustainable structures. He selected these parameters as they have an outsized impact on operational energy demand while enhancing occupant comfort. Furthermore, Mr. Valinejadshoubi devised dynamic facade systems that respond in real-time to environmental conditions, significantly improving visual comfort and reducing reliance on artificial lighting. To address existing challenges in natural ventilation, he utilized computational fluid dynamics to model airflow patterns and harness temperature differentials between sunny and shady areas, enhancing indoor air quality while minimizing mechanical ventilation needs. His research serves as a valuable resource for architects and engineers devising advanced technologies for sustainable building design, as it sets new benchmarks for adaptive building systems.

Zero-energy buildings dramatically reduce carbon emissions and operational costs but have previously been challenging to design and implement effectively. The integration of BIM tools in zero-energy buildings, essential for the management of operational energy demand, has been limited by the practical challenge of optimizing energy performance in such a complex system. Mr. Valinejadshoubi achieved a remarkable reduction in operational energy demand by incorporating renewable energy sources and passive design strategies into BIM models, opening avenues for innovative architectural solutions and systems for sophisticated energy optimization. His work supports the United States' efforts to reduce greenhouse gas emissions and operational costs, aligning with national energy efficiency goals. Moreover, his development of adaptive facades enhances visual comfort by optimizing natural light and reducing glare, which improves occupant well-being and productivity. These facades also lead to significant energy savings, contributing to more sustainable building operations. Mr. Valinejadshoubi's research promotes clean energy technologies and is crucial for reducing the national energy burden.

On a final note, Mr. Valinejadshoubi has also shaped the field through his peer review service. For example, he has been a reviewer for the International Conference On Building Energy & Environment, *Environmental Progress & Sustainable Energy,* and the *Journal of Building Engineering*. Only researchers with a demonstrated history of successful research in their field are selected to hold the reviewer role in order to adhere to high publication standards. Therefore, Mr. Valinejadshoubi's review service illustrates his recognition as an expert in the zero-energy building research community and signifies his value to the United States.

With sincere regards,

Stantec Australia Pty Ltd

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