



**UNIVERSITY OF TORONTO**  
**FACULTY OF APPLIED SCIENCE & ENGINEERING**

**Memorial Tribute to**

**DOUGLAS NAPIER**

**Professor Emeritus**  
**Department of Chemical Engineering**  
**and Applied Chemistry**

**February 28, 2020**

Be it resolved –

THAT the Council of the Faculty of Applied Science & Engineering record with sincere regret the death on January 20, 2020 of Professor Emeritus Douglas Napier at the age of 96.

Professor Napier graduated from the University of London with a BSc in Chemistry in 1944. He later received an MSc in Electrochemistry from the University of London and then completed a PhD in Chemical Engineering at Imperial College in London in 1951. His career began with several positions in industrial research in the UK including being the Head of the Chemical Projects Section at Vickers Research Ltd from 1957 to 1965. From 1965 to 1980 he was a Sr. Lecturer in Industrial Hazards at Imperial College. In 1980, Doug and his wife Joan made a big leap and moved from London ‘across the pond’ so that Doug could join the Department of Chemical Engineering and Applied Chemistry at the University of Toronto as a Professor in the area of Industrial Hazard Control. Professor Napier was hired by then Chair, Dean Emeritus Michael Charles, to build up our competence in safety and to lead the development of our fourth year course in Chemical Plant Design. The chemical plant design course that he started was mandatory for all students and became a ‘flagship’ course remembered by all graduates. Though the course has changed over the years, its basic structure has remained as a model of a capstone course where industry and teams of students work together on the innovative design of chemical processes that serve society.

Professor Napier was a Charter Engineer and Charter Chemist who was a highly respected expert in many aspects of industrial hazard control, including fires and explosions, chemical plant safety and risk assessment. His research involved applying fundamental chemical engineering concepts including transport phenomena and thermodynamics to model the consequences of industrial releases of chemicals. His work went well beyond the technical, recognizing that the prevention of chemical releases required an understanding of the failure mechanism – both of the equipment, and also of the people. He was a pioneer in the impact of engineering on society and the environment. Professor Napier was an active and highly sought after participant in many

landmark projects and incidents across the spectrum of industrial loss prevention in chemical manufacturing; his role in these projects were varied and included being an advisor, assessor, consultant and expert witness. He was a Fellow of the Royal Society of Chemistry and the Energy Institute and a founding member of the Combustion Institute.

Over his career Professor Napier supervised five PhD and seventeen master's students and he mentored countless undergraduate students and colleagues. Former students would recall how his eyes would light up when he would describe the importance of avoiding a BLEVE (pronounced blevy), which is an acronym for a Boiling Liquid Expanding Vapour Cloud Explosion! Colleagues commented that he was extremely sharp and knowledgeable and would come to meetings with a few sharp pencils, an eraser, a calculator and a few sheets of recycled paper and no computer.

Professor Napier had a profound impact on our Department, the University and the world as someone committed to the design of inherently safer chemical plants. His legacy lives on in that work and in the work of the many professionals he mentored who are dedicated to excellence in health, safety and the environmental performance of the chemical industry.

Be it further resolved –

THAT this tribute to Professor Emeritus Douglas Napier be inscribed in the minutes of this Council meeting, and that copies be sent to his family as an expression of the respect and gratitude of the members of Council.

*Prepared by Professor D. Grant Allen*