

DAVID HALLIDAY, AGRA Coast Limited (predecessor to AMEC Dynamic Structures Limited)

David Halliday received a B.Sc (Honours) in Mechanical and Production Engineering from the University of Strathclyde, Glasgow, Scotland, in 1968, and did his Post Secondary Education at Inverness Technical College, Scotland, receiving his National Certificate in Mechanical and Electrical Engineering. He is currently the Director, Special Projects, AGRA Coast Limited (predecessor to AMEC Dynamic Structures Limited). He is responsible for design, fabrication & erection of large optical & radio telescope structures for international markets. He is also Vice President, AMEC Dynamic Structures Limited, Port Coquitlam, B.C. Past positions include: Chief Engineer/Construction Manager, Britain Steel Ltd, in charge of all activities as they related to construction, including design of structures and of erection schemes and control of resources; Project Engineer, Canron Western Bridge, in charge of design and development of erection schemes for large structural mechanical projects; Research Engineer, Rolls Royce/Ferranti, member of research team responsible for the design and development of friction welding equipment to be used for the joining of dissimilar metals.

He is currently a member of the following Committees and Boards: UBC Advisory Committee, Civil Engineering Research Programs, Herzberg Institute of Astrophysics.

Halliday has been responsible for the total design, manufacturing and construction for the following optical telescope enclosures: Gemini 8-meter Telescope Enclosures: two 900 ton rotating enclosures, one located on Mauna Kea, Hawaii and the other on Cerro Pachon, Chile; W.M. Keck II Telescope Observatory, Mauna Kea, Hawaii: 750 ton rotating dome and a 200 ton structure supporting a 10-meter segmented primary mirror and secondary optical equipment; Starfire Optical Range – Telescope Enclosure – Phillips Laboratory, U.S. Air Force, New Mexico Retractable 150 ft. diameter aluminum enclosure; Sir William Hershel Observatory, La Palma, Canary Islands - Part of Northern Hemisphere Observatory 300 ton rotating dome housing 4.2 meter telescope; Canada France Hawaii, Mauna Kea - 250 ton Rotating Dome housing the 3.5 meter CFHT telescope; Sir Isaac Newton Telescope Enclosure, La Palma, Canary Islands - Part of Northern Hemisphere Observatory 120 rotating dome housing 2.5 meter telescope. He has also worked on the structures and components for the Canada France Hawaii Telescope, Keck II, and the California Association for Research in Astronomy, Owens Valley Sub-Millimeter Radio Telescopes.

Halliday has been involved with the I.R.A.P. (Industrial Research Assistant Program) with several others, directing research program to investigate second generation optical telescope structural solutions. This program developed a new telescope concept where the telescope and its enclosure were designed as one operating unit. He was also part of a Research program to develop design solutions for Radio Telescope structures to be used in an array configuration. The work done by the team members on this project is internationally recognized. He was also involved in a study of Radio Telescope antenna space frame structures, examining space frame geometric configurations ideally suited for use as the backing structure of sub-millimetre antennas up to the 10-meter class. These design solutions are now being used by N.A.S.A and J.P. L. (Jet Propulsion Lab), in the design of an optical communications research facility. As part of the I.R.A.P. he is currently involved with Development and concept design of telescope enclosure support system. The challenge of this program is to design a self-steering bogie support system for large telescope enclosures that will transfer minimum dynamic and thermal interference to telescope structures. Much of the revolutionary design concepts already developed within this program are being used on one of our latest projects. Mr. Halliday is presently supervising U.B. C. Engineering students working on this program.