



DAVID T. HULETT, PH.D., FAACE



Dr. Hulett is a Principal Consultant and Cost & Schedule Risk Analysis Partner affiliated with Long International. He has conducted many risk analyses, focusing on quantifying the risks and their implications for project cost and schedule, and many schedule assessments. Dr. Hulett is a Principal with Hulett & Associates, LLC (H&A), and has focused for the last 28 years on quantitative schedule risk analysis, integrated cost-schedule risk analysis and project scheduling best practices. H&A clients are in oil & gas, aerospace, construction, pharmaceuticals, and transportation. They are located in the US, Canada, South America, South-East Asia, Europe and the Middle East. H&A has pioneered the Risk Drivers approach as applied to schedule risk and integrated cost and schedule risk analysis, and he has recommended adopting this method for new and emerging Monte Carlo software to serve the needs of his high-end risk analysis customers.

Dr. Hulett has experience in applying Risk Drivers and risk prioritization using iterative simulations to large multi-year projects leading to proactive risk mitigation planning for better project results. From these analyses, the client learns: the probability of achieving the cost and schedule with the existing project plan, the amount of time and cost contingency required to achieve a desired level of certainty, which priority risks drove the analysis results, and which risk mitigation actions address the risks.

Dr. Hulett has held strategic planning positions at TOSCO, an oil company, and at TRW in aerospace and defense. In the federal government, Dr. Hulett managed offices in the Federal Energy Agency (FEA), the Department of Energy (DOE) and the Office of Management and Budget (OMB). He was an economist with the Federal Reserve Board of Governors. Dr. Hulett was also an Instructor in the Economics Department at Harvard University.

EDUCATION

Ph.D., Economics, Stanford University, 1966

B.A., Special Program for Public and International Affairs (Woodrow Wilson School),
Princeton University, 1961

PROFESSIONAL AFFILIATIONS

Project Management Institute (PMI)

Fellow of Association for the Advancement of Cost Engineering International (AACE International)

International Cost Estimating and Analysis Association (ICEAA)

International Center for Complex Project Management (ICCPM)

TECHNICAL EXPERIENCE

Representative cost and schedule risk analysis experience includes:

- Understanding the project's objectives and parameters, participants, and environment within which it is conducted.
- Evaluating the project schedule against industry-accepted best scheduling practices to ensure accuracy in Monte Carlo simulation.
- Supervising the application of summary-level resources costed without padding for risk to schedule activities.



- Interviewing project participants and other knowledgeable SMEs to derive candid and unbiased risk information including the identity of risks not already included in the Risk Register, the probability that the risk will affect the project cost and schedule, the impact if it occurs on activities' durations and costs (e.g., burn rate per day), and the activities that will be impacted (usually project phases such as construction, piping, commissioning).
- Modeling the risks' implications for the project schedule. Using modern Monte Carlo simulation software, derive consistent integrated cost and schedule results that can show the possibility of finishing on time and on budget following the current plan and how much contingency of cost and time are needed to achieve a desired level of certainty. Facilitate a risk mitigation workshop with the project team to develop a strategy that will improve the project's prospects for finishing dates and cost at completion. Simulate the post-mitigation scenario to assess the workshop's work.

PROJECT EXPERIENCE

Dr. Hulett has conducted cost and schedule risk analyses for many projects and for commercial and government clients. Most recently, he has assisted energy companies with risk analyses of offshore production platform, pipeline, chemical and other and processing plant projects. Representative projects include the following:

Chemical Plants

- A schedule risk analysis for a large intermediate chemical plant construction project for BASF in Germany. For this project, the analysis team created an analysis schedule, which was a smaller representation of the detailed schedule. Other chemical plants analyzed include one for thyssenkrupp and for Petronas.

Liquified Natural Gas Plant

- Anadarko is planning an LNG plant to be constructed in Mozambique. This facility is to commercialize an offshore gas deposit with offshore wells and piping, to be processed onshore with, initially, 2 trains of LNG facilities. Export facilities require a Jetty to be constructed. This project is fast approaching FID.

Offshore Natural Gas Production Platform

- Cost and schedule risk analyses for several offshore natural gas production platform projects including pipelines to shore in south-east Asia for Petronas, the national oil company of Malaysia. The analysis included modeling some interesting weather impacts on the success of the schedule. Another was risked for Petrobras in Brazil.

Natural Gas Processing Plant

- Schedule risk analysis of a natural gas processing plant for Encana in Calgary, Alberta. The plant is located in the north of British Columbia. Some risks included the isolation of the project and the labor market for specific trades.

Export Refinery

- Cost and schedule risk analysis of the 400,000 barrel-per-day YANBU export refinery in the Western Province of Saudi Arabia for ConocoPhillips, then a partner with Saudi Aramco. ConocoPhillips withdrew from this project.



Natural Gas Pipeline

- Construction of a natural gas pipeline in Borneo for Petronas. Challenges included land ownership and access problems, fabrication of the line pipe, clearing and grading in a mountainous terrain with many water crossings, and securing a large compression station. Other pipeline projects for Petronas and Kinder Morgan were risk analyzed as well.

Government Buildings Construction

- Cost and schedule risk analysis of the construction of the US Capitol Visitor Center in Washington DC for the US Government Accountability Office (GAO). Challenges included multiple prime contractors, construction linked to many historic and operating federal buildings including the Capitol building. Analyses supported testimony to Congress.
- Retrofit the 100-year old Cannon House of Representatives Office Building, a \$3/4 billion project over 10 years, for the US Architect of the Capitol (AOC). Other projects for the AOC include repair of the US Capitol Building Dome and repair/refurbish the stone work on the US Capitol building.
- Schedule risk analysis of the construction of the US Department of Transportation headquarters building in Washington DC for the US General Services Administration (GSA). Challenges included the consolidation of the information systems of several DOT units that was to be accomplished in the move.
- Schedule risk analysis of the construction of a Veterans' Administration hospital in Las Vegas, NM for the US GAO. The challenges included analysis of a schedule that was incomplete and the intersection of the strategy of the construction company with the needs of the VA hospital personnel.

PROFESSIONAL EXPERIENCE

Long International, Inc.

Los Angeles, California (November 2013 to Present)

Dr. Hulett is a Cost & Schedule Risk Analysis Partner affiliated with Long International. He has conducted many risk analyses, focusing on quantifying the risks and their implications for project cost and schedule, and many schedule assessments. As a Cost & Schedule Risk Analysis Partner with Long International, Dr. Hulett performs project cost and schedule risk analyses and evaluates project schedules against industry best scheduling practices.

Hulett & Associates, LLC

Los Angeles, California (1990 to Present)

Dr. Hulett is a Principal with Hulett & Associates, LLC and has focused for the last 25 years on quantitative schedule risk analysis, integrated cost-schedule risk analysis and project scheduling best practices. He consults for clients and trains both in-house and public courses in risk and scheduling as well as some Monte Carlo simulation packages. His clients include commercial companies, national oil companies (Petronas in Malaysia and Petrobras in Brazil) and US Government agencies. Many of the projects have been large and recognizable (e.g., the San Francisco – Oakland Bay Bridge project, the US Capitol Visitor Center, the YANBU Export Refinery Project, and the move of the US Department of Homeland Security to the new campus at the St. Elizabeth's site). He has been an active participant and leader in developing industry standards for project risk management and analysis and project scheduling for the Project Management Institute (PMI) and for the Association for the Advancement of Cost Engineering (AACE) International. He is also a leader in developing methodologies; for instance, the Risk Driver method for driving simulations and the iterative simulation approach to prioritize projects for risk mitigation using Monte Carlo simulation of



project cost and schedule and ensuring that evolving simulation engines (e.g., Safran, Polaris, Acumen and JACS) have this methodology built-in.

TRW

Manhattan Beach, California (1984 to 1987)

Dr. Hulett was appointed as a Director in the Strategic Planning group located in the TRW corporation headquarters in Manhattan Beach, CA. He was subsequently assigned to the Commercial Electronic Equipment program business group exploring merger and acquisition possibilities. He then was Director, Development Planning for Systems and Equipment in the Electronic Components Group conducting strategic planning until that division was spun-off in 1987.

Tosco Corporation

Los Angeles, California (1980 to 1984)

Dr. Hulett was Director, Research in the Oil Shale Planning Department for TOSCO Corporation. In that position, he researched and prepared strategic plans for Tosco's domestic and international oil shale business. He was the main author of the economics volume of the company's successful application for a \$1.2 billion loan guarantee from the Department of Energy for the development of the Colony Oil Shale Project. He participated in negotiations with the French bank, Paribas, for a joint project to study oil shale mining for the King of Morocco. He also assisted in the analysis and negotiation with a consortium of Japanese companies for a joint venture oil shale project in Utah, the Sand Wash Oil Shale Project.

Department of Energy (DOE)

Washington, DC (1977 to 1980)

In the new US Department of Energy Dr. Hulett was the Director of the Energy Source Analysis office. He supervised the analysis and forecasting of the US supply of energy from oil and gas, coal, electrical, nuclear and emerging technologies. He was responsible for the volumes of the analysis and forecasting segments of the annual report to Congress from the Administrator of the Energy Information Administration.

Federal Energy Agency (FEA)

Washington, DC (1977)

Dr. Hulett was the Assistant Administrator of Data and Analysis in the US FEA. As such, he directed staffs in the analysis and forecasting of the nation's demand and supply – including oil and gas, coal, electrical, nuclear and emerging technologies – and collection of energy data. He held this position until the formation of the US Department of Energy in late 1977.

Office of Management and Budget (OMB)

Washington, DC (1970 to 1977)

Dr. Hulett was the Chief of the Economic Statistics branch of the OMB's Statistical Policy Division. He managed a staff that was responsible for budgeting, coordinating and forms clearance for the economic statistics activities of the main statistical agencies including the Bureau of Labor Statistics, the Census Bureau and the Bureau of Economic Analysis of the Commerce Department, the IRS of the Treasury Department, and the statistics division of the Agriculture Department.



Board of Governors of the Federal Reserve System (FRB)

Washington DC (1967 to 1970)

Dr. Hulett was a research economist in the Division of Research and Statistics at the Federal Reserve Board (FRB). His responsibilities included estimating equations for financial sectors for the FRB-MIT-Penn Econometric Model of the United States. Several people at the participating organizations estimated this model, which was used to analyze the economy and monetary and fiscal policies.

Harvard University

Cambridge, Massachusetts (1965 to 1967)

Dr. Hulett was an Instructor in the Department of Economics at Harvard. He had responsibility for developing and teaching undergraduate courses in Money and Banking and in Capital Markets as well as teaching sections of the introductory economics course. He had advisory responsibilities and conducted econometric research into money and banking issues. He was consistently rated as one of the best teachers in the department.

PUBLICATIONS AND SPEAKING ENGAGEMENTS

“Journey Map to a More Mature Schedule Risk Analysis (SRA) Process,” *Cost Engineering Journal*, March/April 2019.

“Integrated Cost and Schedule Risk Analysis,” with Andrew Avalon, P.E. PSP, *Long International, Inc.*, June 2015.

“Integrated Cost-Schedule Risk Analysis Using the Risk Driver Approach,” Qatar PMI Meeting, February 19, 2014.

“Integrated Cost-Schedule Risk Analysis,” *Cost Engineering Journal*, November/December 2012.

“Integrated Cost-Schedule Risk Analysis,” Gower, 2011.

“Integrated Cost-Schedule Risk Analysis using Monte Carlo Simulation and a CPM Schedule,” Recommended Practice 57R-09, AACE, 2011.(update is in AACEI peer review)

“Practice Standard for Project Risk Management,” PMI, Deputy Project Manager, 2009.

“Practical Schedule Risk Analysis,” Gower 2009.