

Annular Pressure Buildup (APB) and Load Case Methodology

Instructor: Barry Cresap, P.E., Well Engineering Manager, Viking Engineering (Subsidiary of GATE Energy)

Professional development hours (PDH): 3

Course Description

Annulus Pressure Buildup (APB) is a critical well design consideration that addresses the effect the heat up of trapped annular fluids that typically occur during production or well control events. The integrity of the well may become compromised without any suitable method to relieve or monitor trapped annular pressures due to these thermal effects common in a deepwater or mudline wellhead system. There have been numerous case studies that have demonstrated the catastrophic effects of pressure overloading conditions in deepwater wells over the past few decades. Cascading collapse is typically the worst scenario and may inhibit future workover access down through the production tubulars; leaving the well unserviceable with the potential loss of pressure containment. Deepwater wells are very expensive but can unlock valuable resources which will be critical for future energy security. Ensuring that a deepwater well design can withstand all conceivable loading scenarios is critical to ensure its survivability and suitability throughout the life of the well.

This course is intended to provide insight into various APB failure scenarios, contributing factors, and mitigation strategies. Thermal modelling and load case methodology will also be discussed to cover a range of possible loading scenarios.

Course Materials

Participants will receive a link to download the slide presentation.



Corrosion in Oil & Gas Production (COG)

Instructor: Charlie F. Speed

Professional development hours (PDH): 6

Course Description

The objective of the course is to improve asset integrity and prolong asset lifespan through effective strategies to recognize, prevent, control, and minimize corrosion in oil and gas production.

This one day class provides participants with a valuable introduction to the toolbox to improve asset integrity & prolong asset lifespan through effective strategies to recognize, prevent, control, & tackle corrosion.

Students will gain valuable tools, checklists, and techniques for building your Corrosion Toolbox and developing effective documents for your organization such as Standards and Specifications, Manuals, and Corrosion Management Plans.

Upon completion of the class participants will have the skills to be able to:

- Recognize the various forms of corrosion and better understand the corrosion mechanisms.
- Address corrosion risk factors (Threats) and the associated consequences (Costs) in a proactive manner.
- Protect your assets from corrosion by selecting and applying the appropriate Barriers to Corrosion –
 - Materials Selection & Designing for Corrosion Control,
 - Chemical Applications (Inhibitors, Bactericides),
 - Protective Coatings & Linings, and
 - Cathodic Protection.
- Ensure the effectiveness of your Corrosion Barriers and controls through Barrier Assurances:
 - Inspection (Visual, Nondestructive Examination & Surveillance,
 - Monitoring & Analysis (coupons, probes),
 - Sampling Techniques & Lab Testing

Instructor Biography

Charlie Speed is a subject matter expert with over 40 years of experience in Materials, Inspection & Corrosion Engineering, and current Education Chairman of AMPP Southeast Louisiana Chapter. Charlie worked for and improved the corrosion control and management processes of numerous Exploration and Production Companies including Exxon, Mobil, Shell, Chevron, W&T Offshore, SBM and many others. Charlie assisted for many years in teaching a Corrosion Engineering class at the University of New Orleans.

Instructor: Howard Duhon, P.E., Principal Engineering Advisor, Viking Engineering (Subsidiary of GATE Energy)

Professional development hours (PDH): 6

Course Description

The most important skill an engineer can have, other than basic technical competence, is the ability to make good decisions. Unfortunately, the field of decision theory is vast and much of what is written is either useless in practice or downright wrong. This is largely because decision research is done in university labs with students as subjects making decisions about things they care nothing about. Very little decision research is done in the field where subject matter experts make decisions about things that matter.

This course is not about methods. The analogue to models is useful; decision models generally don't work, though some are useful on particular kinds of problems. The course is about how humans make decisions in social settings and how such decision-making can be improved. For example:

- Most people work much harder on identifying alternatives than on identifying objectives. Early identification the objectives is more important, especially in projects with multiple stakeholders.
- A focus on communication seems obvious, but communication can be counter-productive when that communication is designed to control (to get your way) rather than to inform. *And when something important is at stake communication is usually designed to control.
- The most important aspect of decision making in social settings is your theory of action, but you've probably never heard that term.
- Complex problems cannot be solved in the same way that simple or complicated problems are

We will use decision theory and complexity insights to address some typical project problems including:

- Why do most projects finish late (25% schedule overrun is average)

And finally, as a group, we will assess the deadliest accident in history (Bhopal gas release) from a decision theory perspective.

Course Materials

Making Sense and Making Decisions, A Project Engineers Guide to Making Decisions

Download PDF of the book at <https://www.gate.energy/the-brainery/making-sense-making-decisions>.

Hard copy will be provided at the course.

A description of the Bhopal accident will be provided to all participants 2 weeks before the course.

Instructor Biography

BS Chem Eng, ULL, 1974

15 years in Chemical Industry – Operations, Plant Design, Process Design

34 years in Oil Industry – Process Design, Detailed Design, PHA, SOPs, Initial Startup

SPE International Board of Directors – PFC Technical Director, 2013-2016

Founder of GATE Energy

Author of Making Sense and Making Decisions which is the basis for the course.



Deepwater Sedimentary Systems: Science, Discovery and Applications

Instructor: Jonathan (Jon) R. Rotzien

Professional development hours (PDH): 6

Course Description

This course helps industry professionals identify, understand and interpret deepwater sedimentary systems at various scales. The content of the course is based upon the book, *Deepwater Sedimentary Systems* (Elsevier, 2022, 806 p) which describes the best practices in the integration of geology, geophysics, engineering, technology and economics used to inform smart business decisions in diverse deepwater environments, this 1-day course focuses on three key themes: 1) the role of gravitational processes in forming world-class submarine fan systems in deepwater basins; 2) how the understanding of bottom currents has created a new exploration playbook for reservoir architecture in mixed deepwater systems globally; and 3) a look at the next few decades of exploration in deepwater, including a workshop on sabkha environments found in the Jurassic Gulf of Mexico. This course draws heavily on technical results gained from global field analog studies. With the multi-decadal resilience of deepwater E&P, this 1-day course serves as an essential reference for companies, government agencies, consultancies and universities around the world seeking to understand deepwater systems and how to explore for and produce resources – not just oil and gas – in these frontier environments. From an academic perspective, participants will use this course as the primer for understanding the processes, deposits and sedimentary environments in deepwater. University students taught this material will become the leaders of tomorrow in Earth’s deepwater frontier. What may take a professional dozens of courses to achieve an appreciation for deepwater sedimentary systems is provided in the reference book (top right image) available for sale to each participant, with a discount provided by the course registration fee.

This 1-day course specifically:

- Presents a holistic view of deepwater sedimentary systems, and how they’re understood by the contributions from the various technical and engineering disciplines
- Provides a diverse perspective on deepwater sedimentary systems to create an accurate picture of their processes of sedimentation using a variety of global examples
- Helps professionals and students understand how to interpret deepwater systems at various scales to inform smart business decisions

Hard copy and electronic copies of *Deepwater Sedimentary Systems* (Elsevier, 2022, 806 p.) are on sale at the New Orleans Geological Society website, under the “News & Links” tab at:

www.nogs.org.

Pre-order sales will end June 14, 2025



28th Annual Gulf of Mexico
Deepwater
Technical Symposium

Instructor Biography

Jonathan (Jon) R. Rotzien is the Founder and President of Basin Dynamics, LLC (BD). Jon holds a B.A. in Geology, with honors, from Colorado College and a Ph.D. in Geological and Environmental Sciences from Stanford University. At Stanford, he worked in the Stanford Project on Deepwater Depositional Systems (SPODDS) Research Group as a National Science Foundation Graduate Fellow and Siemon W. Muller Fellow under Professors D. R. Lowe and S. A. Graham.

In his capacity as President, he manages BD's service portfolio and plays an active role in the full suite of exploration and production (E&P) value creation, specializing in mapping, interpretation and reservoir characterization.

Jon's E&P work experience is with Hess, Shell, Devon and BP where he worked in appraisal, research and exploration. At BP, he taught deepwater sedimentary systems to industry and academic groups. This exposure to teaching led to additional training seminars with HOT Energy Group (HOT), Subsurface Consultants and Associates (SCA), American Association of Petroleum Geologists (AAPG), European Association of Geoscientists and Engineers (EAGE) and other organizations.

In addition to his business, Jon serves as lecturer and adjunct professor on geoscience, exploration, valuation and field mapping and interpretation at the University of Texas at Austin, University of Houston and South Dakota Mines.

Introduction to Geothermal and CCS Well Design

Instructor

Parveen Sachdeva, Renewables & Special Projects Manager, Viking Engineering (a GATE Energy company)

Professional Development Hours (PDH) = 3

Course Description

Extremely high temperatures in steam injection and geothermal wells, along with produced fluid chemistry, pose significant challenges in casing design for these wells. Elevated temperature reduces the yield strength of the casing, and produced brine can contain CO₂ and H₂S among other gases. High temperature can cause high annular pressure buildup (APB) in uncemented annulus and mud pockets. These factors make it challenging to select appropriate casing grade and material for geothermal wells.

CO₂ injection and CCS wells are constructed using standard oil field equipment. However, they differ from typical oil and gas wells as they have increasing pressure over the life of the well, corrosion and pitting concerns due to CO₂ and impurities in the injection stream and have a much longer regulatory lifetime and stringent regulatory requirements. CCS wells are regulated by the US EPA as part of the Underground Injection Control (UIC) program.

This course is intended to provide insight into differences between CCS & O&G wells. Effect of temperature on OCTG pipe. Special design considerations for Geothermal and CCS wells. Key loads for well tubulars and material consideration for CCS & Geothermal wells.

Course Materials

Participants will receive a link to download the slide presentation.



Instructors

Brian Boyer, Environmental Consultant, BTGap, L.L.C.

Lincoln Stroh is Vice President - Vice President, Safety & Environmental Management, J. Connor Consulting, Inc.

Jerry Landry, Operations Manager, EDI Environmental Services

Professional Development Hours (PDH) = 6

Course Description

Introduction to Western and Central Gulf of Mexico Environmental Regulations training class is a must-attend event for new and experienced engineers, geologists, operations, support and HSE professionals who want an introductory class on environmental regulations. The workshop is designed to enhance your skills and knowledge of environmental regulations affecting oil and gas operations in the Western and Central Gulf of Mexico. The course instructors have direct experience assisting oil and gas operators comply with offshore environmental regulations.

The schedule includes the following topics:

- Offshore Water Permitting Compliance
- Oil Spill Planning and Response and Safety and Environmental Monitoring Program (SEMP)
- Offshore Waste Management
- Offshore Air Quality Regulations

Instructors Biography

Brian Boyer, Environmental Consultant, BTGap, L.L.C.

Brian is the owner of BTGap, L.L.C., an environmental consulting firm located in Lafayette, LA. Brian specializes in oil and gas air quality issues for offshore and onshore oil and gas operations. His current work includes NPDES permit compliance, air emission inventories, air permitting and emission control systems. He has 37 years of experience in the environmental field.

Lincoln Stroh is Vice President - Vice President, Safety & Environmental Management, J. Connor Consulting, Inc. (JCC)

Lincoln Stroh has over 40 years of experience in maritime safety and environmental protection, with more than 25 years specializing in QHSE management systems. His expertise includes marine safety, offshore regulatory compliance, facility and vessel security, risk management, environmental protection, and oil spill response. Lincoln is a proven leader, skilled in managing teams, coordinating large-scale events, and driving effective pollution prevention and response strategies.

Jerry Landry, Operations Manager, EDI Environmental Services

Jerry Landry is the Operations Manager at EDI Environmental Services. Prior to EDI, he was the General Manager of an environmental testing laboratory. He has been in the environmental services business for over 30 years specializing in hazardous waste testing, profiling, and RCRA compliance.

Join the Student Forum at the Deepwater Technical Symposium Unlock Your Career in Energy!

The Student Forum is a unique, day-long opportunity for both undergraduate and graduate students to dive into the world of energy technology, gaining exclusive insights and building essential connections for their future careers. Whether you're passionate about oil & gas or simply curious about the diverse career paths within the energy industry, this event is designed to connect you with experts, peers, and opportunities in a way that goes beyond the classroom.

Here's why you can't miss this event:

Learn the Basics of the Oil & Gas Industry

For those just starting their career or with a non-oil & gas background, the Student Forum offers a fantastic opportunity to learn the fundamentals of the oil & gas industry. You'll get a high-level overview of the Well Lifecycle, including Exploration, Appraisal, Drilling, Completion & Production, and Decommissioning—all essential knowledge for anyone entering the energy sector. This is a perfect starting point for students eager to understand how each stage of the process works and how these phases are interconnected across different services and technologies.

Explore Cutting-Edge Technologies

Get a behind-the-scenes look at the technologies shaping the future of energy. The Deepwater Technical Symposium provides an overview of the latest innovations that will be showcased in the Technical Sessions and at the Exhibition. You'll expand your basic understanding of the Lifecycle—from Exploration to Decommissioning—and the disciplines, services, and technologies that make it all possible.

Discover Career Paths in Energy

Meet experienced professionals and hear firsthand about the diverse and exciting career opportunities available within the energy industry. Whether you're curious about exploration, drilling, or environmental sustainability, you'll have the chance to engage in casual, informative discussions with both young professionals and seasoned experts. Discover why the oil and gas industry might be the perfect fit for your skills, passion, and career goals.

Polish Your Professional Skills

- **Resume Workshop:** Learn how to craft a resume that stands out to employers in the energy industry.
- **Career Coaching:** Discover how a career coach can help you refine your job search strategy, set clear goals, and make informed career decisions.
- **Mentorship Support:** Find out how to connect with a mentor who can guide you through the next steps of your professional journey.

Network with Industry Professionals

Build your professional network by connecting with industry experts, company representatives, and fellow students. The Student Forum is an excellent platform to expand your circle, ask questions, and explore the many ways you can make a meaningful impact in the energy sector.

Don't miss this incredible chance to enhance your knowledge, gain valuable skills, and make lasting connections that will shape your career in the energy industry. The Student Forum is your gateway to the opportunities of tomorrow!



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