

RPSEA Ultra-Deepwater Technology Conference

Meeting – July 22, 2010 Notes

Morning Session

Rich Haut

- Focus
 - Enhance technologies to minimize incidents
 - Identify what else can go wrong in ultra-deepwater
 - Identify, develop, and improve proactive and reactive response procedures and processes- what is needed to minimize time needed to respond to incident
 - Help to identify what is needed to minimize environmental impact
 - Develop understanding of marine life/wildlife that may be affected by incidents
- Outcomes
 - List of Prioritized Research Ideas.
 - Report draft in August (volunteers needed) final report out as White Paper in September
- The Process
 - Question cards
 - Break out sessions
 - Attendees from all over
 - Safety moment and point out that Greg Anderson 24/7 author is here.

Dr. S. Holditch Texas A&M–

- History of RPSEA
- Membership – now 180 companies (26 universities)
- Research Projects (~35 currently)
- Benefits to University
- RFPs coming out for 4th round of research –energy policy act specifies that RPSEA should develop technologies, and do it safely. Originally farming out oversight to other groups, the Board is now steering ship in different manner.
- Current portfolio of projects detailed.
- But the world has changed, the plan is to streamline management and pull project management in house
- Goal is to have a document – it will say here are what else can happen and how can we do research to find solutions (mentioned Governor’s Gulf program)
- Questions:
 - IP? - -retained by research group
 - RPSEA as a point organization for crisis response? No – job is to identify best projects to work on – best way to spend \$ -also plan to have RPSEA funding sources from other areas.
 - What are metrics for measuring effectiveness? James P. – says Program Advisory Committees SAH to quantify success – see how it makes jobs, makes oil and gas,

Dr. Ed Overton LSU

- (an environmental chemist – for 40 years)
- A comment on dispersants (dispersed oil can't come ashore, by definition)
- Effects of spill – both fisheries and offshore jobs stopped
- Area affected – in La. 7700 miles of coastline (40 million ft vs. Fla. 16MM ft)-80% of Gulf life cycle food chain starts in the marshes. 200 to 300 miles of coast line impacted –
- Specific marsh habitat, characteristics, when oil comes ashore, big problem. Higher tides will make it worse.
- Offshore oil characteristics – very patchy – western extent roughly due South of Lake Charles five hours East and 100 miles offshore – the deeper you go the lower the concentrations
- Topo map of sea floor shows deep water circulations plus shallow water wind and wave action- not sure where plume is – do not know fate of droplets – nor their characteristics-what happens to the oil that stays in the canyon?
- Reason for dispersing was to keep it away from surface vessels (emissions) –oil is a light oil, has VOAs – composition changing as it is modified and dispersed
- Affects ecology of environment, surface ecology, deep water ecology, near shore ecology, onshore marsh ecology,
- Geology is being changed as marshes
- Economic impact (natural events vs.. human impacts)
- Sociological – human health of cleanup workers, people being told their life is changed forever (locals think their lives are over) – by over stating the impacts we are causing the impacts. Examples- in Alaska people are impacted while environment has recovered. Mouth runners are impacting people's lives)
- O₂ is necessary to erode environment – anaerobic presence of oil doesn't affect environment. In aerobic environment oil converts to CO₂ –
- Best case no further leaks – nature cleans it up
- Worst case – further leakage – food chain problems – oxygen depletion
- Most likely – gradual return in 2 to 3 years – most environmental monitors will return to normal – a danger of over remediation – in-situ burning isn't impacting anywhere –dispersants at depth a big question
- Comparison to Exxon Valdez – there nearly normal 2 to 3 yrs – all monitors (including clams) shrimp coming back oysters maybe extra year in Gulf
- Recommendations walk the walk and support the recovery process – use \$ from royalties to support research –
- **Develop a sensible energy policy for the nation.**
- Q: dispersants? strong soaps all components are licensed for food products
- Q how to collect oil and measure particle size (from sub micron to 100 microns in diameter)
- Q seeps vs.. spill A fingerprints work ok. More it weathers, the less the difference – weathered oil is a nuisance – but not problem. FLA hysteria is uncalled for.
- Q: problem of O₂ depletion? Yes – that is part of the problem – but it is the lesser of two evils – impact of oil coating is suffocating vs. toxic
- Q oil in marsh – how extensive? Efforts? A: not horrible 20 ft inland and is a mess where it is

(about 200 miles of coast).

- Q tropical event good? Yes – offshore nature will disperse it – near shore it is bad if nature drives it ashore (disregard collateral damage) coastal erosion if plants die.
- Q (C. Cheatam) what if no dispersants? – A should have skimmers to get oil – there were skimmers in Boston harbor-they should have been engaged by Feds.
- Q peroxide on marsh? – no – a live environment –there is no good way to go through technologies that have been proposed – good ideas were not identified. Baseline of what we have might be good to have.
- Q: in situ burning? No if thick enough to burn its thick enough to skim – in the marsh may be ok if it gets deeper into the marsh.
- Q clarification on dispersed

Congressman Brady – 10:45

- Serving in 7th term The Woodlands representative –
- 2 bills passed yesterday (Rich intro)
- Tom Williams has helped in the round tables – SAH too Skip Ward coming up next week – impact of moratorium going forward.
- Details are sketchy – he is concerned that BP tragedy is being used to push other agendas – i.e. moratorium even in shallow waters
- Impact on region and country will be severe
- There is a rush in congress to get various bills out before the August recess. There may be two bills out within the next three weeks. These bills could have a negative effect on business in the gulf.
- How to encourage smaller footprint efforts. Afraid of impacts of these hasty bills.
- Q: Pace of legislation – too fast don't know what happened. A: a poorly thought out process – others thank its opportunity to shift towards renewable.
- Blow out preventer ct assumes what happened –
- Other two bills will cut off flow of energy from U.S.
- SAH Comment: RPSEA \$\$ are going to offshore research package wind solar and NG together wrong thing to do to divert money away from NG research.
- Brady believes NG is transition to a greener future .Still have a lot of work to do but still a lot of members don't know difference is between NG and oil.
- Q: How can we educate Congress? A: be very clear and vocal publically on bad legislation – slow down of permitting and the moratorium – communicate the answer – every sector of energy sector reach out to Congress and educate them. Bring them to your companies offer to be a resource to them – make a phone call to your local member of congress – Spend time to reach out across the aisle to others who don't know the impact.
- Q: Expanding safety and environment technology is possible to help alleviate resistance to industry? A: New standards new technology will help us move forward. The bulk of Congress would respond positive
- Q Oil spill response bill revived. \$48 million to pay in to effort. A: This year Congress has no budget for federal government Brady don't know what budget is going to be 12 topics – after election in Nov. one massive budget begins spending won't be known til next year after election ---probably support – but omnibus bills are chaotic scramble behind closed doors.
- Q: (Duane Burgoyne) Can we redirect energy in Congress joint govt. –industry funding for

resources to have response capability. A: Announcement yesterday (1 billion \$ cleanup fund program) was great step forward.

- Q: Most oil production in world is outside US but how about production from other areas? Do we become vacuum cleaner of the planet?. A: Congress doesn't worry about that. The US will become at n even more precarious energy situation. Comment: how about allowing a research organization to study the question?
- C: General public is dumb; what are messages that need to go to the people? A Technology and practices have incredible capability. Poor response to this will cause loss of jobs. 70% of all congressional districts have energy related jobs. Michigan has 41,000 energy related jobs. From trades to high tech. It must be our task to educate.
- Medina-Cetina: – integrated risk assessment program across industry ?A: perfect sense to do this- take every opportunity to prevent that –create an independent assessment of risk before implementation

Panel Session: What's Going On?

- Rich Haut – Paul Doucette - follow up on Congressman Brady:
 - RPSEA and HARC cannot lobby in Congress but the Energy Research Coalition construct (known by Art S., TEW, Rich, Steve Beach etc) can share risks and help
- Write down a question if you have
- Write down research ideas.
- Tom Williams, Greg Anderson (Safety 24/7), Paul Martin (MMS), Quenton Dokken (marine scientist), David Dietrich (ocean models – deep currents)
- TEW Talk (all information posted on RPSEA and HARC)
 - DOI report etc. July 12 – step backwards
 - Moratorium on Gulf no rules to play by.
 - Industry is trying to say level of risk different from high risk wells vs.. safe wells ***
industry needs to define high risk wells***
 - Joint Industry Task Forces - ,this meeting is hoping to complement the work of the tasks forces. (see slides)
 - Three needs – must be addressed by this group
- Assurance on status of drilling
- Assurance of status of
- Status of response (1 \$billion announcement)
- Everyone look at 30 day needs.
- Paul Martin MMS (ret.) Technology Assessment Program
 - New organization can't say anything.
 - TAP contains oil spill response research program –funded more than 600 projects, including in situ burning – droplets in deep water (Norway) In fact the research program was put on the shelf.
 - 1992. New MMS Created Senior positions filled by BLM mission was leasing not safety or research or environmental studies program – was no support for TAR. Burgoyne of LSU only funded projects.
 - After Exxon Valdez – commission formed to study research needs for oil spill research – committee went away after two years.

After a time Ohmsett was transferred (National oil Field Response Test station) in New Jersey. <http://www.boemre.gov/tarprojectcategories/ohmsett.htm>

Under Martin, set up research in topics including OTRC support.

At present MMS understaffed, under funded, not connected.

- Quenton Dokken Gulf of Mexico Foundation 361 882 3939 <http://www.gulfmex.org/>
- Was involved in Vera Cruz spill of 1979.
- Now, as then, the Gulf isn't going to die.
- His message is that O&G touches everything
- Works with TAMU Corpus Christi David Yoskowitz (enviro economist)
- Marine Ecosystem Service – contribution from marine and coastal systems that impact life
 - Regulations
 - Cultural services
 - Nutrient cycling
- They must quantify ecosystem services to give metrics of services provide (\$ value of mosquito bog)
- Challenge to identify mechanisms need to more fully incorporate values for ecosystem services in the decision making process
- Application of ecosystem valuation
 - Land use planning (despite the blowout- most of impact comes from land use)
 - Marine spatial planning – http://en.wikipedia.org/wiki/Marine_Spatial_Planning
 - Conservation priorities
 - Useful to better direct limited funding

David Dietrich (AquaSea) at HARC

- Predicting paths and future distribution of suspended hydrocarbons
 - Complicated by nearby turbulent mesoscale eddies
- Ocean model may be used if statistically supported
- Prior studies in 1994 and 1997 simulations in GoM
 - Journal of Cosmology 1994 NS 1997
 - <http://journalofcosmology.com/About.html>
- his early model results imply material would not go through the Gulf Coast strait into Gulf Stream
- referred to super tanker accident off Spain
 - <http://www.greenpeace.org/international/en/news/features/supertanker-leaking-oil/>

Greg Anderson

- Well control assessments find bad well control practices
- Why do they occur –the culture and the people
- Behavioral elements related to well control (i.e. dictatorial company man)
- Well control company should also include the behavioral component of a BMP
- Example of driller not turning pump off and top man disconnecting safety harness
- New York times article

- http://www.nytimes.com/2010/07/22/us/22transocean.html?_r=1&ref=gulf_of_mexico_2010

His message is a culture of safety – got to remember the people side of the triangle

Questions for panel

- Q: how does a company assess the culture A: – got to have quantitative and qualitative – start with on line survey then one on one interviews. Do we know where culture of safety is today
- Q: Risk. Sec. Salazar’s desire to manage risks. (TEW) they want to eliminate risk
- Q: (PM) oil gas industry slow to accept new technology -- Remedies? : A: what is likelihood question –depends on company- their opinions all over the map. Have to go company to company.
- Q: Are underwater plumes real? A: Dietrich – doesn’t know (QD) clouds of droplets –haven’t seen any data on concentration of plumes.
- Q: John Q Public – why did spill happen? What can industry do to keep it from happening again. A; (DD) real chain of responsibility. (PM) equipment and technology was there – can’t guarantee it won’t happen if human is there. (GA) kicks are normal – how you respond to those kicks (TEW) O&G industry vilified by admin. So different leadership
- Q: testimony shows deckhands helping (GA) when it comes to safety – not a positional thing – it is a belief about safety – anyone should have training and human nature
- Any focus on other topics – flowlines asset integrity management (TEW) yes – from the well on is a focus National Academy Marine Engineering looking at whole system
- Importance of near field model vs. ocean models – (DD) Inconclusive answer – limited observations (need more detailed data and information) future forecasting is also poor
- Most urgent requirement for Research – go to get people to go back to work. Step up to plate and make an immediate plan –what other things (TEW) –
- GA says proactive things are important look further training and education and prevention
- GM says better have a good management program for money spend. Transparency of results – got to put results out to public
- QD says \$1 billion needs to keep it going – look at entire array (from one end to another – need to have “what if” planning for as many scenarios as possible.
- DD says multi-disciplinary effort is needed. Accident scenario might be good.
- Rich Haut 20 more questions – typed up and will include them in a package

Results of Preventive measures Breakout

(Tom Williams, Dave Burnett Facilitators)

Software/modeling

Equipment

Well ops m/c

- Management of change
- “a barrier element” until it gets addressed.

Training –

- well designs –

NTSB for industry

Mutual P&I associations like uk tankers

Results of Ecosystem Breakout

Figuring out what we already know

- linkages among species
- Abundance
- Type of habitats – sensitivity

Modeling

- How to assimilating data impacts across scales–

high quality monitoring

- Coastal region ok but deep gulf sparse data
- Industry government ngo collaboration of what types of measurements are needed
- Look at opportunity to monitor off platforms and ships –collaboration on environmental monitoring air, water
- Need to put a value on the ecosystem (ecosystem valuation is emerging area)
- Baseline knowledge of ecosystems of the world (Pugh Foundation –seafloor
- Being sure that when we collect data that we have a model/data interaction
- Data management how to find a shepherd for this data (Sensorpedia by Dr. Bryan Gorman ORNL –gormanbl@ornl.gov)

Purpose of Meeting

- What is needed to understand the impact on the ecosystem
- What is needed to understand the value of the ecosystem at risk?

Results of third breakout session

- Flow measurement from the source
- Improved subsurface measurements (untreated oil was supposed to rise – but dispersants have prevented that – tracking that volume and quantifying its impact
- Improved skimming technology

Other topics

- Define containment and capacity requirements – coming up with reasonable scenarios (i.e. 100k per day spill)
- Look at combining collection and intervention
- Preinstalled wellbore emergency stop (BOP backup) in the wellbore
- Improved top kill methods
- Improved bioremediation measures

No pipeline specific items, few subsea structures

- Art S – response plans and processes training and testing for kit deployments
- No discussions about hurricane – quick disconnects etc?

There should be a project addressing well abandonments i.e Well plugging

- 9000 additional wells that are set to be plugged (permanently or temporarily) or zones isolated within the next three years in the GOM
- What if rig was off of well when the temporary plug failed?
- What if previously drilled wells loose wellbore integrity
- What if subsea equipment fails during production?
- What if subsea earthquakes and mud slides hit subsea production equipment or any other infrastructure?
- decommissioning of entire structures

Final wrap up

- TEW suggestions: must address hurricane, FPSO, pipelines, LNGs
- Look at the Piper platform disaster what can we learn
- Congressman said we need to know something now. How about emergency funding now?
- James Pappas – in the past the committees have done evaluation – now this meeting will develop the information to send to the advisory committee may be something we could do.
- Is there a way to let them know ? of course.
- How about stretching risk assessment to include Challenger – or nuclear submarines
- As a 501 c3 you can get an earmark from congress. Also can go to a subcommittee and get them to ask you to do scholarly analysis on specific policies.