

Carbon Sequestration Working Group

Meeting Notes

Dec 3-4, 2008

Cheyenne, Wyoming

Dec 3

9:00 – 9:15 AM Introductions (See attendee list below) and Program Review

9:15 – 9:30 Overview of existing financial assurance programs in WY DEQ – Dan Clark
- See attached chart

9:30 – 11:30 Presentations by

- Chiarra Trabucchi – Industrial Economics, Inc - unable to attend
- Lindene Patton - Zurich Financial Services Group – See Slides
 - Risk Management Focus – not necessarily a science based issue – public policy equally if not more important
 - Historical framework based on fossil fuels context – mineral rights and regulatory environment
 - CCS insurance different – private asset risk and public common good
 - Legal paradigm critical to insurability – classic conflict of laws – penalty arena problematic
 - Need to make sure that permit grantors have a stake in failure of permitted system – this is a public policy issue – requires careful planning and good legislation to set the stage for responsible CS

NOTE: Big issue with “moral hazard” related to parties which might be protected by insurance but not have risk – pore space ownership vs mineral rights

- Insurance sends a price signal when risk increases – moves customers toward good stewardship
- Understanding liability variables is key – range of claimants, local statutes,
 - o Minimize likelihood of inadvertent release
 - o Detect problems early
 - o Project and plan for any needed corrective action
- See matrix of tools and applications
- See liability framework slide for examples of existing programs
- Rick Hawkinberry – Willis Environmental Practice – See Slides
 - Broker Role/Function – match need with available resources
 - Understand risk and underwriter sensitivity to risk – match product with situation
 - CS is new – no precedents to refer to – need more study and flexibility
 - Challenges mitigated by some parallels in existing market – RSL, pollutant coverage, geology and traditional construction/infrastructure projects
 - Other challenges more difficult to project – duration of policy, unforeseen regulatory shifts, litigation pressure

- Ways to increase insurability – provide detail on CO₂ stream characteristics and geology; demonstrate abandoned wells are plugged, potable water protected, 3rd party protection reliable monitoring, accidental release response plan, show parallels with existing programs, identify and address unknowns
- Regulatory issues – cyclical markets/availability of funds – flexibility in tools is critical – “or other methods acceptable to the Director”

11:30 – 12:00 Followed by questions/discussion and opportunity for public input

- Southern Cal Edison question about long tail (duration of post closure period) and impact on companies that want to move ahead with CS
- INL comment on value of high quality CS sites in WY

12:00 – 1:00 PM Lunch hosted by DEQ for working group members and presenters

1:00 – 3:00 Panel discussion and group work on risk assessment/financial assurance questions

- See info gathering notes below

Dec 4

9:00 – 9:45AM Technical presentation and discussion on CO₂ behavior in geological sequestration applications – Dwight Peters, Schlumberger - See Presentation Slides

9:45 – 10:15 Presentation on a Rocky Mountain region initiative to encourage CCS programs - Rick Adcock, Camco Global - See Presentation Slides

10:15 – 11:00 Technical presentation and discussion on carbon capture technology – Frank Alix, Powerspan - See Presentation Slides

11:00 – 11:30 Review/refine group work products and plan for next phase of our work

- See notes attached

11:30 – 12:00 Opportunity for public input and wrap-up/adjournment – next meeting the week of Jan 5, 2009

Info Gathering Session:

- Clear Definition of stages (with time component)
- Clear responsibility in each stage
- Landowner responsibility
- A Liability Time Frame
- Specify acceptable forms of bonds and Financial Assurance mechanisms
- Clear definition of the role of the state
- Staffing
- Skill levels of staff
- Quantify the risk (at least order of magnitude – what risks not to cover)
- Flexibility to match requirements to the type of project
- Make recommendations on all forms of acceptable financial assurance
- Recommend /or not a pool or fund – if yes, details on how it works
- How will be administer the program
- Use language to allow changes as we learn more – flexibility
- Assignment of reasonably expectable liabilities – what are the liabilities - liability CAP
- What will this cover (transport, sequestration, etc.)
- Long term liability transfer
- Who will be in charge of financial assurance program – organizational design
- Recommend ways to provide public notice, covenants, land uses, etc.
- Look at adjustable forms of financial assurance commensurate with risk of site specific issues (we don't know what we don't know)
- Clear definition of tasks that fall under bonds, financial assurance (group risk management tasks and the tail and the time frame)
- Recommend Financial assurance for risks that fall outside regulatory oversight/responsibility
- Estimate size of pool and revenue stream
- Identify each piece of risk in project-like terms
- Think about impacts of our recommendation on ability to get and cost of financial assurance
- Maintain flexibility & balance on various stages
- How to apportion bond/financial assurance responsibility among multiple injectors

CARBON SEQUESTRATION WORKING GROUP MEETING ATTENDEES

DECEMBER 3-4, 2008

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