

**Carbon Sequestration Leadership Forum**

[www.cslforum.org](http://www.cslforum.org)



## Task force : Performance based standard site safety and integrity

CSLF meeting

13 October 2009

London



## Context

- conciliation meeting between the IEA, CSLF and GCCSI identifies, among the 24 recommendations suggested to the G8 in 2008, those which should need complementary information.
- Among the four recommendations addressed to the CSLF Technical group, one asks us to specify reasons adduced by the recommendation n°14: "*Governments with stakeholders need to develop performance based standard site safety and integrity*".
- Technical group decided to create the task force during the last meeting in Oslo, 2 April 2009
- Members:
  - Canada, France, Japan, Netherland, South Africa, United States



## Mandate

- Procedure reviewing
- Guidelines
- Temporary and less formal task-force

## Agenda

- Mid April 2009: detailed scope of work proposed to task-force members
  - Proposal of a practical agenda in order to achieve the report
    1. Producing of a first draft (France, end of August)
    2. *Circular exchanges and discussions (September)*
    3. *Final report (end of October)*
- Only the first item is achieved



## State of work

- Content of the Draft report
  - state of the technical requests necessary for the establishment of performance and safety standards.
  - various regulation approaches to be used possibly to guarantee the safety and integrity of the storage sites on the basis of technical criteria described previously.
  - In conclusion, main knowledge gaps which will need to be covered in order to make this technology acceptable to the various stakeholders.



## State of work

- Technical requirements for performance-based standards
  - Exposure effects
    - Review of exposure effects on human health, ecosystems and groundwater
    - Acceptable concentration limits
      - Except for human, too few data available
  - Risk level
    - Computation of risk level
      - Uncertainties too high, no real computation possibilities
    - Notion of “acceptable risk level”
      - f. i. expressed in term of number of fatalities per year



## State of work

- Technical requirements for performance-based standards
  - Monitoring for performance quantification
    - Number of solution for short term monitoring (operation phase)
    - Less solutions for long term monitoring (post-closure phase)
  - Conclusion
    - Performance standards are loosely connected to safety standards
    - Safety assessments have to be based on potential exposure
      - Need to know the conditions of exposure of vulnerable assets



## State of work

- Regulation requirements for performance-based standards for storage site safety & integrity
  - Two options:
    - Performance-based approach
    - Prescriptive-based approach
  - Review of existing regulation
    - From IEA roadmap
    - From EU funded project (STRACO<sub>2</sub>)



## State of work

- Regulation requirements for performance-based standards for storage site safety & integrity
  - Conclusion
    - Regulatory documents assign goals rather than means to achieve them
    - Lack of experience makes difficult the establishment of criteria
      - ⇒ Need flexibility at the development stage
    - S&I performance will depend on the capacity of monitoring techniques
      - to locate and quantify the volume of stored CO<sub>2</sub>
      - to detect and quantify leaks





## Follow-up

- Contribution for task-force members

## Future of the task-force

- Overlaps are identified with the RA task-force
- Issues addressed to the Technical Group
  - Must we merge the RA TF and the SI TF and extend its goals
  - Must we precise the limits of the SI (perf. except RA)
  - Must we create a new TF (performance for all the CCS value chain)