

# Working group: Performance based standard site safety and integrity

CSLF meeting March, 15, 2010 Pau

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#### 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, <u>France</u>, Japan, Netherland, South Africa, United States

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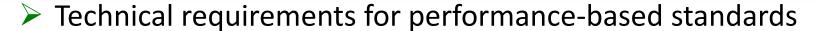
# Agenda

- > Final comments on the text
- Endorsement of all members of the working group
- Propose recommendations to submit to the TG

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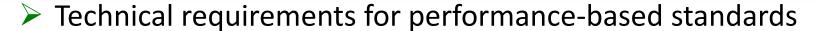
- Content of the Draft report
  - state of the technical requests necessary for the establishment of safety standards.
  - various regulation approaches to be used possibly to guarantee the safety and integrity of the storage sites on the basis of technical criteria described previously.
  - In conclusion,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

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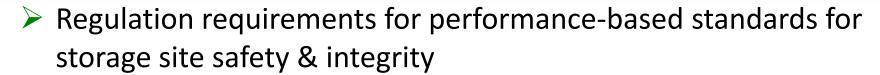
- Exposure effects
  - Review of exposure effects on human health, ecosystems and groundwater
  - Acceptable concentration limits
    - Except for human, too few data available
- Risk level
  - Computation of risk level
    - Uncertainties to high, no real computation possibilities
  - Notion of "acceptable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

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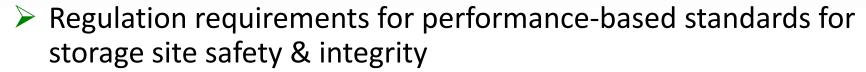
- Monitoring for performance quantification
  - Number of solution for short term monitoring (operation phase)
  - Less solutions for long term monitoring (post-closure phase)
- Conclusion
  - Performance standards are loosely connected to safety standards
  - Safety assessments have to be based on potential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

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- Two options:
  - Performance-based approach
  - Prescriptive-based approach
- Review of existing regulation
  - From IEA roadmap
  - From EU funded project (STRACO<sub>2</sub>)

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- 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 CO2
    - to detect and quantify leaks