CCS Safety First

At bp we will not compromise our focus on safety. Nothing is more important. It's how we live our purpose – and always will.

A history of safety:

- Carbon dioxide (CO_2) capture and transportation technologies have been operating across the globe and the US since the 1970's.
- There are more than 5,000 miles of CO_2 pipeline in the US today and over 7,000 miles worldwide.
- The underground injection and permanent storage of CO_2 began in the late 1990s and those projects are still safely storing CO_2 underground today.
- Currently, there are over 30 projects operating globally, storing over 40 million tons of CO_2 per year.

bp's safety strategy:

- We plan to drive and strengthen a robust and consistent safety culture by living our **Safety Leadership Principles:**
  - We genuinely care about each other.
  - We will not compromise our focus on safety.
  - We encourage and recognize speak-up culture.
  - We understand how work actually happens.
  - We learn why mistakes occur and respond supportively.
- This will be underpinned by focus on process safety, safety leadership and self-verification and integrated with regional priorities, all linked to bp's operating management system.

Regulatory framework for safe operations:

- In the US, the design, construction and operation of CO_2 pipelines is regulated by the US Department of Transportation Pipeline and Hazardous Materials Safety Administration.
- Underground injection of CO_2 is tightly regulated by the US Environmental Protection Agency's (EPA) Underground Injection Control program, Class VI permitting process. In Indiana the Department of Natural Resources (DNR) is authorized to issue a storage facility permit to operators that meet the criteria outlined in the recently enacted HEA1209.

Testing, testing and more testing:

- Storage sites are thousands of feet underground and undergo stringent site characterization to determine their suitability for safely and permanently containing CO_2.
- The sites are then permitted through the EPA and Indiana's DNR, which require that multiple, robust monitoring techniques are deployed to confirm that the CO_2 remains securely trapped in the reservoir interval and provide early opportunities for intervention if the system does not behave as expected.
- This monitoring may include continuous measurement of pressure and injection rate at the injection well, along with regular sampling of groundwater aquifers and measurement of pressures deep underground above the storage cap rock.

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