

**SBD-2010**, Beijing, China, June 20-26, 2010

## **CALL FOR PAPERS**

The 20th International Offshore and Polar Engineering Conference

### **4<sup>th</sup> ISOPE Strain-Based Design (SBD) Symposium: Pipelines**

The 4<sup>th</sup> symposium on the strain-based design of pipelines will be held at the annual conference of ISOPE in 2010. The response to the prior three symposia has been outstanding. This symposium will highlight the continued development in this highly critical area for new energy pipelines. SBD is the preferred design method, and often necessary technically and economically, for pipelines expected to experience high longitudinal strains. SBD encompasses both strain demand and strain capacity. At least two limit states are associated with SBD: *tensile rupture* and *compressive buckling*. SBD in recent years has been driven primarily by the need to construct pipelines in arctic regions, areas prone to seismic activities, deep-water offshore, and other areas with high probability of large ground movements. This symposium will cover all aspects of science, technology, and applications of SBD of pipelines. The organizing committee cordially invites scientists and engineers from academia, industry, and regulatory authorities to share their latest advancements.

#### **Suggested Technical Topics**

##### **Applications of SBD**

- Linepipe specifications for SBD
- Pipeline project experience with SBD
- Construction practice for SBD
- Codes and standards development
- Limit states design for SBD applications

##### **Strain Demand**

- Estimation of applied strains
  - Frost heave
  - Thaw settlement
  - Earthquake
  - Land slide
  - Mine subsidence
- Soil/pipe interactions

##### **Strain Capacity**

- Material design for SBD
  - High strain hardening capacity
  - Resistance to strain aging
  - Weld and HAZ properties
  - Balance of strength and toughness
- Development of weld defect assessment procedures (ECA)
  - Welding essential variables and procedure qualification tests
  - Weld property specifications
  - Defect assessment models
  - Material response under cyclic strains and dynamic loading
- Material testing methods
  - Small scale low constraint tests
  - Structural scale tests
  - Full scale validation tests
  - Reliability and consistency of testing methods
- Emerging issues for SBD
  - Effects of bi-axial loading
  - Effects of misalignments and geometric imperfections

#### **Symposium Organizing Committee:**

**Drs. Yong-Yi Wang and Ming Liu**, Center for Reliable Energy Systems  
(CRES) [ywang@CRES-america.com](mailto:ywang@CRES-america.com), (614) 808-4872

**Dr. Eiji Tsuru**, Nippon Steel Corporation  
[tsuru.eiji@nsc.co.jp](mailto:tsuru.eiji@nsc.co.jp), 81-439-80-3103

**Dr. Brian Newbury**, ExxonMobil Development Company  
[brian.d.newbury@exxonmobil.com](mailto:brian.d.newbury@exxonmobil.com), (281) 654-6679

#### **Key Dates:**

- Abstracts due: **November 20, 2009**
- Manuscript for review: **Jan. 15, 2010**
- Final papers due: **March 24, 2010**

Interested authors should send abstracts to one of the organizing committee members or submit online at [www.isopec.org](http://www.isopec.org). The abstracts MUST include the contact author's postal address, e-mail address, telephone and fax numbers.