



# **Risk Based Inspection Program Update**

September 19, 2007  
San Antonio, TX



# Outline

- Strategic Objectives (2006)
- Project Achievements
- User Group membership
- API RBI User Group Direction
  - Creation of API 581 RP standards group
  - Transition of leadership for User Group
  - International Acceptance of API RBI

# API RBI Vision

API RBI is a Management Tool that is:

- The premier RBI methodology accepted by jurisdictions worldwide
- Part of a plant's work process
- Involved in every plant mechanical integrity decision

# API RBI Project Achievements

- API RBI methodology and software rewritten
- User Group Membership growth since October 2001:
  - From 18 to 46 companies
  - From 5 to 14 companies outside North America
  - From 4 to 7 multi-national companies
  - Industries: Petrochemical, Chemical, Production/Gas Plant facilities, Pharmaceuticals and consulting/service companies
- Equipment modules added:
  - Pressure Relief Devices
  - Heat Exchanger Bundles
  - Atmospheric Storage Tanks
  - Quantitative Consequence modeler

# API RBI Membership

<b>ADGAS (1)</b>	<b>Hess</b>	<b>Petroquimca (1)</b>
<b>Ashland Chemicals</b>	<b>Ineos (1)</b>	<b>Pfizer (1)</b>
<b>Bayer Chemicals</b>	<b>Invista</b>	<b>Placid Refining (1)</b>
<b>Berwanger</b>	<b>IRISNDT</b>	<b>Praxair (1)</b>
<b>BP</b>	<b>Irving Oil (1)</b>	<b>Qatar Chemicals (1)</b>
<b>Braskem S/A (3)</b>	<b>ISQ</b>	<b>Repsol-YPF (1)</b>
<b>Chevron</b>	<b>Italian Welding Inst.</b>	<b>Saudi Aramco</b>
<b>CHS Energy (1)</b>	<b>JGC Plantech</b>	<b>Shell GS</b>
<b>ConocoPhillips</b>	<b>Lloyds Register</b>	<b>Slovnaft (1)</b>
<b>CP Chemicals</b>	<b>Lyondell Chemicals</b>	<b>Spectra Energy (1)</b>
<b>DNV</b>	<b>Marathon</b>	<b>Suncor (2)</b>
<b>Dow</b>	<b>Methanex (1)</b>	<b>Sunoco</b>
<b>Enap Sipetrol (1)</b>	<b>Pasadena Refining (1)</b>	<b>Tesoro (1)</b>
<b>Flint Hills Resources</b>	<b>PDVSA</b>	<b>Total Petrochemicals</b>
<b>Georgia Pacific</b>	<b>Petrobras</b>	<b>Valero</b>
	<b>Petro-Canada</b>	

# API 581 Standards Committee Transition

- API 581 Rewrite and Ballot Status
  - API 581 2<sup>nd</sup> Edition – (3 Parts)
    - + Part 1 – Inspection Planning Using API RBI Technology (includes PRDs and Bundles)
    - + Part 2 –Probability of Failure Analysis in an API RBI Assessment
    - + Part 3 –Consequence Analysis in an API RBI Assessment
  - 2<sup>nd</sup> Ballot response for Parts 2 and 3 due Sept. 2007
  - 1<sup>st</sup> Ballot response for Part 1 due Oct. 2007
  - Oct. 2007 User Group meeting to resolve comments
- Ballot of 581 is expected to be completed by early 2008 with the new document available in the first quarter.
- A list of action items for each Part will be provided for the first meeting of the standards committee from the ballot.
- Expected start of 581 standards committee is Spring 2008.

# API RBI Software User Group Transition

- Existing software license transfer (6 mos.) transition period ending.
- Concentration of effort in 2007 has been on GUI and user defined enhancements.
- A software support Help Desk and procedure was implemented in August 2007.
- Provide 1 major release/year.
- Develop expanded RBI training curriculum
  - Beginner and advanced user modules
  - Course event offering in 2008
- Rework of the POF calculation
  - RSF approach being developed to be tested.
  - A key first step towards consistency with FFS (API 579) practices.

# International Acceptance of API RBI

- Lead international exposure with API 581 technology.
- ESOPE (European Symposium on Pressure Equipment) 2007) – API booth and (2) RBI related papers presented
- Planning European User Group meeting Fall 2008.
- Promotion for European training course and User Group meeting in 2008.
- Other international venues with risk determination and inspection planning emphasis being evaluated.

# Recommendations

- Prepare for formal API 581 standards committee, group leadership and membership for Spring 2008 meeting.
- Action list for first meeting will be provided at conclusion of API 581 2<sup>nd</sup> Edition ballot process.