



Distribution Date:
April 13, 2007

Minutes
American Petroleum Institute
COMMITTEE ON REFINERY EQUIPMENT
RISK-BASED INSPECTION SOFTWARE USER GROUP
March 21-22, 2007
Marriott Greenspoint, Houston, TX

ATTENDEES:

M. Geisenhoff – CHAIRMAN, Flint Hills Resources	S. Haines – Amerada Hess
K. Gottselig, VICE-CHAIRMAN – Lyondell Chemical	T. Poulassichidis – Hess Corporation
R. Goodman – API	C. Roberts – Total Petrochemicals
L. Kaley – Equity Engineering	L. Vincent – Total Petrochemicals
G. Alvarado – Equity Engineering	B. Smith – Irving Oil
P. Henry – Equity Engineering	E. Franz – Ashland Inc.
T. McGhee – Saudi Aramco	S. Gertler – Ashland Inc.
T. J. Gisseritanna – Seimens	J. Bumgarner – Placid Refining
B. Aupperle – Invista	K. Powers – Equity Engineering
J. Britton – DNV	C. Eckstein – Petrobras
E. Sanchez – Chevron	A. Correia da Cruz – ISQ
M. De Marco - Istituto Italiano della Saldatura	R. Costa – ISQ
D. Damin - Invista	J. Britton – DNV
J. Poret – Chevron	H. Weneck – Petrobras
K. Doggett – ConocoPhillips	B. Ray – Marathon
C. Fontenot - Invista	Kelley Van Loon – Seimens
R. Goderie – Dow Chemical	J. Vickers – Flint Hills Resources
	J. Hammerle – Petrobras
	M. Hurley – Lloyds Register-Capstone

1. OPENING AND INTRODUCTIONS

Mark Geisenhoff called the meeting to order at 8:30 a.m. The attendees were asked to introduce themselves and the meeting attendance sheet is provided in [Attachment 1](#).

2. APPROVAL OF AGENDA

The meeting agenda ([Attachment 2](#)) was approved as distributed and amended.

3. APPROVAL OF MINUTES FROM PREVIOUS MEETING

The committee approved the minutes from the October 4, 2006, meeting as distributed.

These minutes can be found on the API RBI website at:

<http://committees.api.org/standards/cre/scrbi/mtginfo/mtghm.html>.

4. FUTURE DIRECTION OF SOFTWARE USER GROUP

A. New Committee – Roland Goodman reported on the formal transfer of the API RBI software that was initiated by API in 2006 ([Attachment 3](#)) in order to refocus API on the development and incorporation of new RBI technology into 581. To help achieve that goal, a separate standards committee that will maintain and update API 581, *RBI Base Resource Document* will be formed. Formal transfer of API 581 to that committee will occur after release of the Second Edition, expected in 2007. Members of the User Group are encouraged to join this new committee as well as invite others in their company with specific technology expertise to also participate.

B. Software Agreement –The software will continue to be called the API RBI Software, and there will be a formal link between the new standards committee and the User Group to facilitate compliance with 581. In this new agreement, Equity Engineering is still accountable to API and to the User Group.

5. UPDATE ON USER GROUP STRATEGY AND FUTURE DIRECTION

A. API RBI Project Strategy – Lynne Kaley presented a RBI project summary of activities since the October 2006 meeting and project strategy developed at the last User Group meeting ([Attachment 4](#)). User Group company membership has grown from 18 companies at the end of 2001 up to 41 companies in 2007, with 7 companies joining since the last meeting in October 2006. The international membership has also increased with 7 companies operating outside the US and 7 multi-national companies.

The presentation describes the short- and long-term objectives of the group and provides a plan of updates and patches through 2010. The focus of the project activities in 2007 will be on customer feedback and software improvements as a result of input from software user focus groups. In addition, training demands to support plant inspection and engineering personnel needs is expected to continue or increase for the next 3 or more years.

ACTION: Antonio Correia da Cruz volunteered to take the lead in development and further improvements in the draft boiler module.

- B. RBI Training Update – Lynne Kaley presented a summary of the training activities in 2006 and current plans for 2007 and beyond ([Attachment 5](#)). It is important to note that while training is a key vehicle for attracting new User Group member companies, training also creates a need for consulting support and additional training. The roll-out of international training courses will be planned with consideration for these support needs.

A total of 183 participants were training in 10 courses offered in 2006. Current training requests (16) for 2008 are expected to increase with over 300 participants in 2007. This increased demand will require Equity Engineering to modify the training course to accommodate larger classes as well as development of a modular curriculum for beginner and advanced user needs.

ACTION: Ken Gottselig/Allison Hardy, Carlene Fontenot, Tim McGhee, Brent Ray volunteered to work on a task group with Equity to develop and refine the training program.

- C. Marketing and International Activity Update – Greg Alvarado presented a summary of the International Marketing plan for API RBI software and international activities ([Attachment 6](#)). The current User Group membership consists of 44 companies/sites (21 corporate; 7 service providers; 16 sites) and a total of 41 licenses. Requests for information and pricing are increasing and represent industry worldwide.
- D. Marketing and International Activity Update – Lynne Kaley reported on plans for a European User Group meeting in 2008 ([Attachment 7](#)) with Ken Gottselig acting as chairman. A location for the meeting needs to be determined and publicity started by the end of 2007.

ACTION: Ken Gottselig, Antonio Correia da Cruz, Marco de Marco, Scot Haines and Carey Roberts volunteered to work on a task group with Equity to develop the meeting plans and publicity.

- E. Focus Group Activity – Greg Alvarado reported on the focus group planning and results from a focus group conducted during the international meeting on March 20, 2007 ([Attachment 8](#)). Focus groups are a structured market research process to solicit market feedback. These groups will be used to identify future needs and software improvements from users.

6. RBI USER EXCHANGE DISCUSSION & TECHNICAL TOPICS

- A. MTI RBI Conference Update – Mark Geisenhoff reporting on the RBI seminar sponsored by MTI in Galveston, TX this month. The conference was well attended with representatives from chemical, petrochemical and refining companies. It is clear that RBI has been widely accepted and implemented throughout the US and internationally. The presentations from the meeting are included as a reference ([Attachment 9](#)).
- B. Inspector Summit – Greg Alvarado reported on the February 2006 Inspector Summit sponsored by API in Galveston, TX that was a success with more than 600 attendees,

representing broad industry with international participation from chemical, petrochemical, oil & gas and refining. This type of summit will be held every two years.

- C. The Report of The BP U.S. Refineries Independent Safety Review Panel (Baker Report) – Greg Alvarado discussion on the findings of the Baker Report ([Attachment 10](#)). The Baker report was prepared by an independent panel commissioned by BP to assess and report on the effectiveness of BP North America’s corporate oversight of safety management systems at its refineries and its corporate safety culture, as an urgent recommendation by The U.S. Chemical Safety and Hazard Investigation Board (CSB) to the BP Global Executive Board of Directors. Page 184 of the report stresses the importance of measurement and monitoring to process safety performance.
- D. Current User Activities – Each attendee was asked to describe the implementation status of RBI in their companies. They were also asked to comment on how they are establishing risk targets within their company and whether they were using the new consequence modeler. Users reported that RBI is being used extensively in the industry with a wide range in extent of implementation. Most companies have used the risk target ranges suggested from analysis of V3 unit studies reported at the User Group meeting in August 2005. Use of the new consequence modeler was varied and it was noted that use of the PRD and bundle modules required the user to use the new modeler.

Sharing emphasized the need for more training as V8 is implemented in plants. There was a request for worked examples to demonstrate the proper use of the software when introducing V8 methodology to plant personnel. An excel spreadsheet defining the minimum data requirements for calculation of Risk to be used with the import/export tool was requested. It was emphasized that NACE and API standards have been updated since the original development of the damage modules in 581. These updated standards need to be reviewed and appropriate changes made to the API 581 and the API RBI software.

ACTION: Equity Engineering will provide an excel spreadsheet and an import/export file for use with V8 ([Attachment 11](#) & [Attachment 12](#), respectively). Users are to rename Attachment 12 to basic_minimum.rbx and save to apirbi_installation/import/ folder.

ACTION: The 581 Standards Committee should review all NACE and API references and provide recommendations updating and accuracy of the damage modules in the API 581 and the API RBI software.

After discussion it was noted that the User Group companies have an opportunity to share experiences and practices on risk targets.

ACTION: Equity Engineering will organize a ½ day exchange on Risk Targets and establishing targets using API RBI methodologies.

7. LINKS TO API RBI SOFTWARE

- A. Meridium – Vinay Nihalani, Mark Gurley and Jeff Apel demonstrated the managed link between API RBI and Meridium. The link provides an export/calculation/import facility to update risk information in Meridium from the API RBI software. Final testing of the link is currently underway before final release in April 2007.
- B. PCMS – Brian Odenbach and Ed Heard demonstrated the developing managed link between API RBI and PCMS. Phase 1 of the project is complete with the Users tool to import data through the data update feature in PCMS. Phase 2 will start soon to share and transfer data between the tools without manual data upload by the user.

8. SOFTWARE STATUS

- A. SCARAB Log Review – Lynne Kaley reported that 136 issues have been entered on to the SCARAB website since release of V7, with 132 addressed and 4 remaining for consideration and resolution. No technical changes or bug fixes will be made to the software unless it is entered on this site. The SCARAB site address is <http://208.40.63.53/scarab/issues/>.
- B. March 2006 Release V8.0 – Lynne Kaley summarized the software development status which is provided in [Attachment 13](#). Version 8.02 will be released in March and includes the new heat exchanger bundle module as well as expanded reporting for all equipment types. No more major releases are planned for 2007. Only patches for minor updates and bug fixes will be released until input and implementation of focus groups can be completed (expected release in February 2008).

9. TECHNICAL TOPICS

- A. PRDs – Jason Vickers from reported on the results of a pilot study for PRD RBI performed at the Pine Bend refinery ([Attachment 14](#)).
- B. Consequence Model Third-Party Review – Phil Henry presented final results from the consultant that was hired to review the new consequence model ([Attachment 15](#)).
- C. Consequence Model Recommendations – Phil Henry presented recommendations for future consequence model improvements ([Attachment 16](#)).
- D. Heat Exchanger Bundle Module Demonstration – Phil Henry demonstrated new capabilities in the revised Heat Exchanger Bundle module. The module has an expanded filtering capability that uses a Weibull distribution approach and provides a results graph.

10. NEW BUSINESS

- A. Deaerators – It was reported that API RBI does not currently model deaerator cracking problems effectively. There is a need to consider corrosion fatigue as a separate mechanism to better handle deaerator damage mechanisms (reference NACE 590).

- B. Ethanol Cracking – It was suggested that API RBI consider the affects of ethanol cracking on tanks and piping.

ACTION: Equity Engineering will add corrosion fatigue and ethanol cracking to list of technology development for the API RBI methodology.

11. NEXT MEETING

The next User Group Meeting will be held on October 22-25, 2007, in Houston, TX. The first day International Meeting (October 22nd) will be held at the Equity Engineering offices at:

Two Corporate Plaza
2625 Bay Area Blvd., Suite 325
Houston, TX 77058
Phone 281-480-0556
Fax 281-480-2063

This first day will be dedicated to the international users by offering them a forum to present and discuss their questions and challenges in using the software. The location of the User Group meeting October 23-25, 2007 will be at the South Shore Harbour Resort and Conference Center (<http://www.sshr.com/>) with a group dinner on Wednesday, October 23rd.

South Shore Harbour
Resort & Conference Center
2500 South Shore Blvd.
League City, TX 77573
800-442-5005

A block of rooms will be reserved and attendees notified prior to the meeting.

12. API 581 BALLOTING

- A. Part 3 COF Ballot Review** – Phil Henry reviewed all Part 3 ballot comments with the group. All comments and suggestions were discussed and resolved, with actions for resolution identified.
- B. Part 2 POF Ballot Review** – Lynne Kaley reviewed all Part 2 ballot comments with the group. All comments and suggestions were discussed and resolved, with actions for resolution identified.

C. Part 1 Bundle Module Ballot Review – Phil Henry reviewed all Heat Exchanger Bundle ballot comments with the group. Approximately ½ of the comments and suggestions were discussed and resolved, with actions for resolution identified. The ballot response was not a consensus ballot with only 10 of 29 ballots returned. Equity will resolve all comments and the User Group will review the bundle module again as part of the ballot for Part 1.

13. ADJOURNMENT

Having no additional business, the meeting was adjourned at 3:00 p.m.

Respectfully submitted,

A handwritten signature in black ink that reads "Roland Goodman". The signature is written in a cursive, flowing style.

Roland A. Goodman
goodmanr@api.org