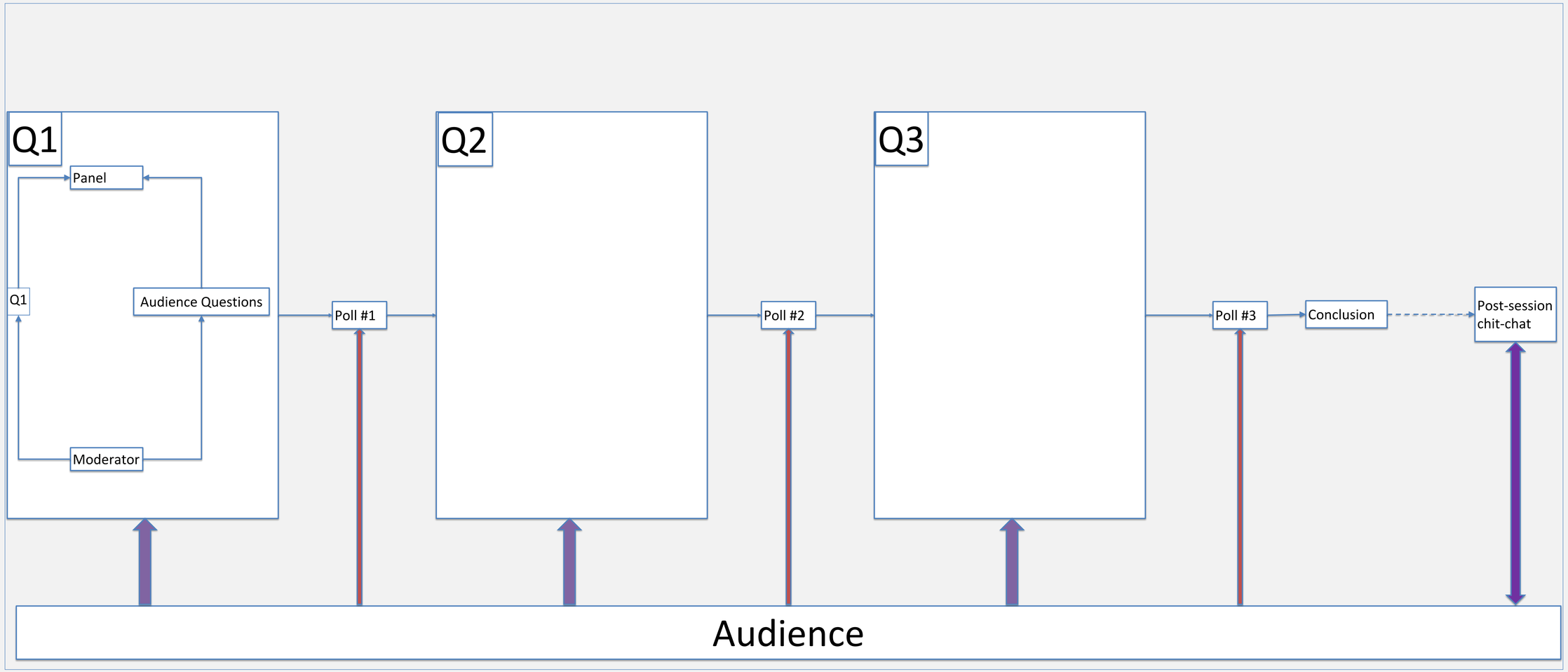
Hazard analysis for Nuclear Automation

Defeating Digital Demons

Technical Session #T7
Chair: Stephanie Coffin
Coordinator: Paul Rebstock
Liaison: Mauricio Gutierrez
Moderator: Sushil Birla

Technical Session #T7 Flow



First Poll

(Can hazard analysis suffice for safety evaluation of a system lacking design diversity?)

1. Did the discussion indicate whether sufficient scientific evidence exists to support the assertion that safety evaluation of a reactor protection system based on state-of-the-art methods for hazard analysis can be as effective as the current practice based on design diversity?

2. Did the discussion indicate substantial consensus among the panelists?

3. What is your opinion on the question, “Can state-of-the-art methods for hazard analysis enable safety evaluation of a reactor protection system (which does not incorporate design diversity) with the effectiveness achieved in current practice (which is based on the system having design diversity)?”

Second Poll

(Can the requisite quality of hazard analysis be assured independently with consistency?)

1. Did the discussion indicate whether sufficient scientific evidence exists to support the assertion that the quality of hazard analysis needed (to avoid design diversity) can be evaluated independently with consistency?

2. Did the discussion indicate substantial consensus among the panelists?

3. What is your opinion on the question, “Can the results of hazard analysis (of the quality needed to avoid design diversity) be evaluated independently with consistency”?

Third Poll

(Do we know what it takes for the hazard analysis to be that good?)

1. Did the panel discussion indicate whether sufficient scientific evidence exists to support the assertion that the conditions needed to achieve the requisite quality of hazard analysis are well understood and measurable?

2. Did the discussion indicate substantial consensus among the panelists?

3. What is your opinion on the question “Are the conditions needed to achieve the requisite quality of hazard analysis well understood and measurable”?

Conclusion

Thank you, panelists:

- Mark Vernacchia and Shem Malmquist for bringing to us knowledge from your experiences outside the nuclear application sector.
- Dr. John Thomas and Prof. Alan Wassyng for bringing to us knowledge from your empirical research across diverse application sectors.
- Matt Gibson and Paul Butchart for bringing to us knowledge from your experience in the nuclear application sector.

Thanks to the technical support staff and the conference organizers for help making this session happen.

Thank you ALL for participating in this session. The session is closed.

For remaining questions, contact: Paul.Rebstock@nrc.gov