

16th STS-AIChE Southwest Process Technology Conference

- ▶ **Using a Code of Engineering Ethics**

- ▶ **Alan Rossiter**

- ▶ **Rossiter & Associates**

Sept 22-23, 2025, University of Houston



16th STS-AIChE Southwest Process Technology Conference

Speaker Bio

Alan Rossiter is the President of Rossiter & Associates, Industrial Energy Efficiency Consultants. He recently retired from the University of Houston, where he served as UH Energy's Executive Director, External Relations & Educational Program Development.

Prior to joining UH Energy, Dr. Rossiter served in a variety of engineering and management positions in industry and in consulting.

Dr. Rossiter holds a PhD in chemical engineering from the University of Cambridge. He is a licensed professional engineer (Texas), and a Fellow of the American Institute of Chemical Engineers (AIChE). He was the 2010 Chair of the South Texas Section of AIChE.

Amongst his many publication credits, Dr. Rossiter is the lead author of *Energy Management and Efficiency for the Process Industries* (AIChE / Wiley, 2015), and he was the contributing author for Chemical Processing's award-winning monthly *Energy Saver* column from 2019 to 2022.

Sept 22-23, 2025, University of Houston





16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Disclaimer

Nothing in this presentation should be
construed as legal advice



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



A. Introduction to Engineering Ethics

Basis/Definition:

Ethics:

1. a discipline dealing with good and evil and with moral duty
2. moral principles or practice

The Merriam-Webster Dictionary, 1974, G. & C. Merriam Co.



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Professional Engineers' Continuing Education Program (CEP)

“Ethics Requirement” varies between jurisdictions.

Example (Texas):

1 PDH “in the area of professional ethics, roles and responsibilities of professional engineering, or review of the Texas Engineering Practice Act and Board Rules.”



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



The Need for a Code of Engineering Ethics (1)

There is no good and evil, only power, and those too weak to seek it...

J. K. Rowling, *Harry Potter and the Sorcerer's Stone*



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



The Need for a Code of Engineering Ethics (1)

There is no good and evil, only power, and those too weak to seek it...

J. K. Rowling, *Harry Potter and the Sorcerer's Stone*

With great power comes great responsibility

Stan Lee, Peter Parker (*Spider-Man*)



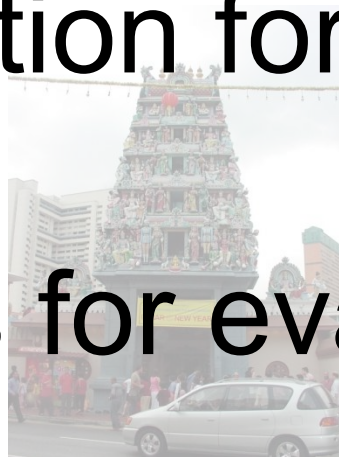
16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



The Need for a Code of Engineering Ethics (2)

In a culturally diverse society, a code of ethics provides:

- a standard of action for those who subscribe to it
- a common basis for evaluating the actions of others





16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



The Engineers' Creed

- Developed in response to a desire for a short statement of philosophy of service, similar to the Hippocratic Oath for medical practitioners
- Approved by the National Society of Professional Engineers in June 1954



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



The Engineers' Creed

As a Professional Engineer, I dedicate my professional knowledge and skill to the advancement and betterment of human welfare.

I pledge

To give the utmost of performance;

To participate in none but honest enterprise;

To live and work according to the laws of man and the highest standards of professional conduct;

To place service before profit, the honor and standing of the profession before personal advantage, and the public welfare above all other considerations.

On humility and with need for Divine Guidance,

make this pledge.

<http://www.nspe.org/ethics/eh1-cred.asp> (*Reprinted by Permission of the National Society of Professional Engineers*)



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Codes of Engineering Ethics

- NSPE Code of Ethics for Engineers (<http://www.nspe.org/ethics/eh1-code.asp>)
- Professional Societies – e.g., AIChE Code of Ethics
(<http://www.aiche.org/About/Code.aspx>)
- State Engineering Boards – e.g., Texas
(http://www.tbpe.state.tx.us/downloads/law_rules1206.pdf)
- Individual Company Codes of Ethics



16th STS-AIChE Southwest Process Technology Conference

Sept 22-23, 2025, University of Houston



AIChE Code of Ethics (November 2015)

(<http://www.aiche.org/about/code-ethics>)

The Board of Directors of the American Institute of Chemical Engineers adopted this Code of Ethics to which it expects that the professional conduct of its members shall conform, and to which every applicant attests by signing his or her membership application. Members of the American Institute of Chemical Engineers shall uphold and advance the integrity, honor and dignity of the engineering profession by:

- being honest and impartial and serving with fidelity their employers, their clients, and the public;
- striving to increase the competence and prestige of the engineering profession; and
- using their knowledge and skill for the enhancement of human welfare.



16th STS-AIChE Southwest Process Technology Conference

Sept 22-23, 2025, University of Houston



AIChE Code of Ethics - Continued

To Achieve these Goals, Members shall:

1. Hold paramount the safety, health and welfare of the public and protect the environment in performance of their professional duties.
2. Formally advise their employers or clients (and consider further disclosure, if warranted) if they perceive that a consequence of their duties will adversely affect the present or future health or safety of their colleagues or the public.
3. Accept responsibility for their actions, seek and heed critical review of their work and offer objective criticism of the work of others.
4. Issue statements or present information only in an objective and truthful manner.
5. Act in professional matters for each employer or client as faithful agents or trustees, avoiding conflicts of interest and never breaching confidentiality.



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



AIChE Code of Ethics - Continued

6. Treat all colleagues and co-workers fairly and respectfully, recognizing their unique contributions and capabilities by fostering an environment of equity, diversity and inclusion.
7. Perform professional services only in areas of their competence.
8. Build their professional reputations on the merits of their services.
9. Continue their professional development throughout their careers, and provide opportunities for the professional development of those under their supervision.
10. Never tolerate harassment.
11. Conduct themselves in a fair, honorable and respectful manner.



16th STS-AIChE Southwest Process Technology Conference

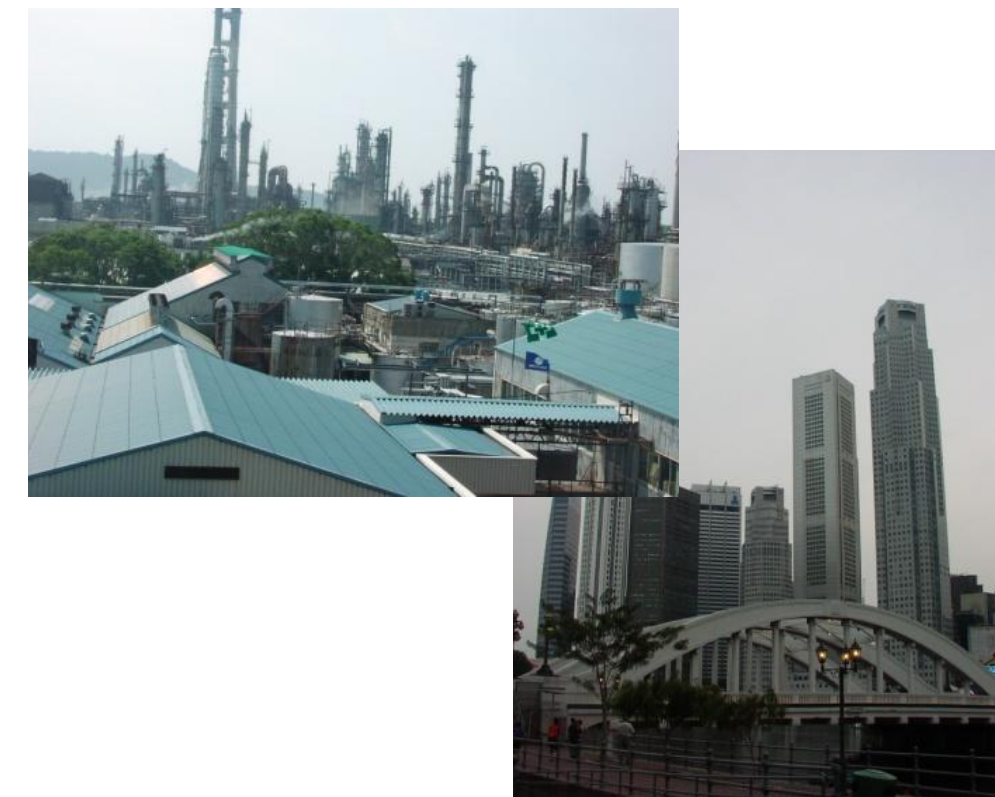
Sept 22-23, 2025, University of Houston



Engineering and Life...

Engineering projects are about building and improving things.

Life is about interacting with people.



Professional Excellence and Ethics in Engineers Blends the Two.



16th STS-AIChE Southwest Process Technology Conference

Sept 22-23, 2025, University of Houston



Key People Principle...



...respect for the other person.



Applications vary, but the principle doesn't change





16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Case Study 1

- Consultant at Client's Site with Major Unreported Pollution Issue
- Repeatedly Advised Management to Report and Correct Problems
- Management Refused
- Which Section(s) of the AIChE Code Apply?



16th STS-AIChE Southwest Process Technology Conference

Sept 22-23, 2025, University of Houston



Which Section(s) of the AIChE Code are relevant? Check all that apply.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Case Study 1 - Continued

Dilemma: Conflict within AIChE Code of Ethics

1. Hold paramount the safety, health and welfare of the public and protect the environment in performance of their professional duties.
2. Formally advise their employers or clients (and consider further disclosure, if warranted) if they perceive that a consequence of their duties will adversely affect the present or future health or safety of their colleagues or the public.



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Case Study 1 - Continued

Dilemma: Conflict within AIChE Code of Ethics

5. Act in professional matters for each employer or client as faithful agents or trustees, avoiding conflicts of interest and never breaching confidentiality.



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Case Study 1 - Continued

Resolution

Safety, health, public welfare and environment are “paramount.”

Consultant terminates contract with client and reports pollution to relevant authority.



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Case Study 1 - Conclusion

Be Aware:

- Not always a clear or simple decision.
- Check the facts.
- Don't overreact. Seek impartial advice.
- Possible negative consequences: loss of business, legal issues, etc.
- Whistleblower laws may protect you.

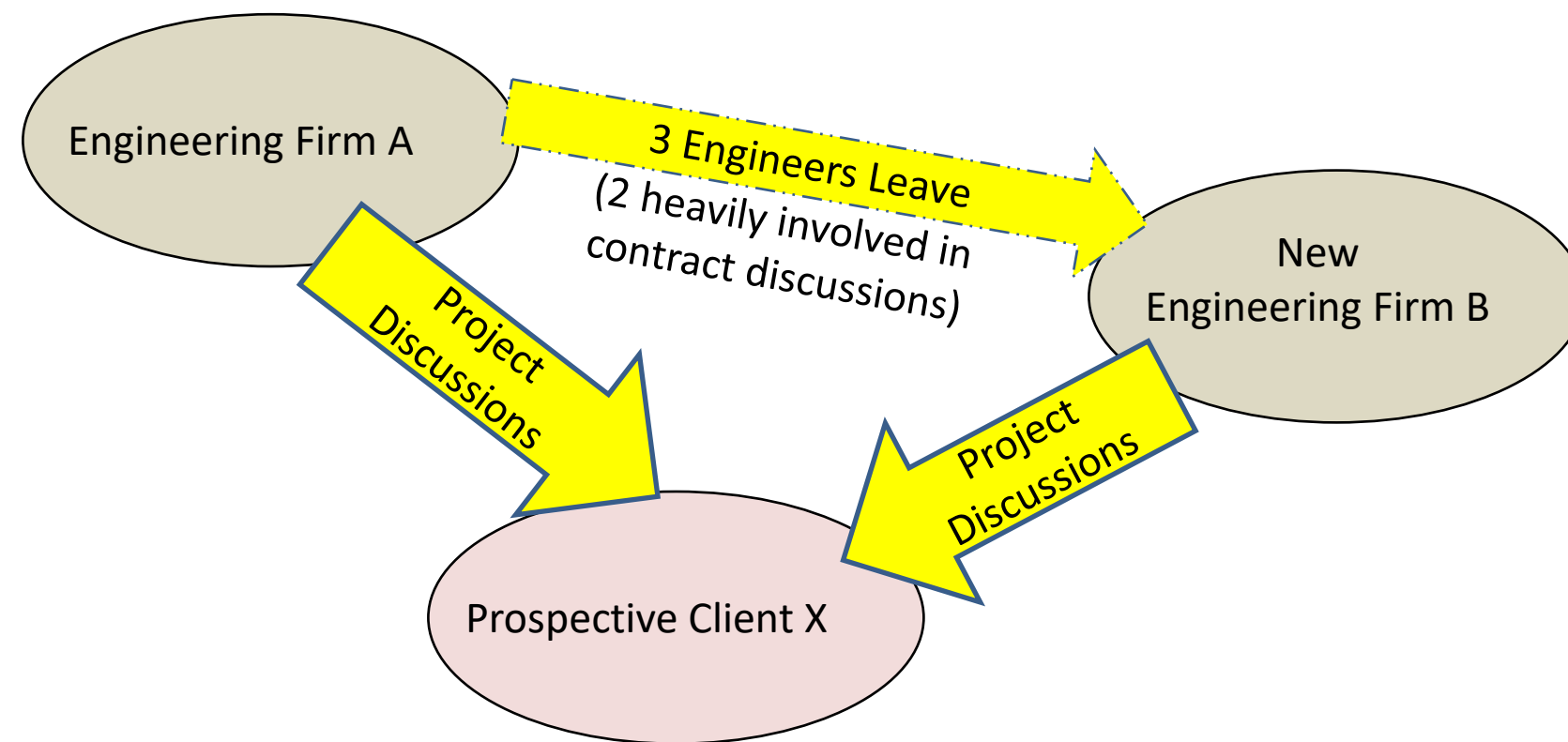


16th STS-AIChE Southwest Process Technology Conference

Sept 22-23, 2025, University of Houston



Case Study 2



Firms A & B both bid on project. Firm B wins the contract.



16th STS-AIChE Southwest Process Technology Conference

Sept 22-23, 2025, University of Houston



Case Study 2 - Continued

- Complex legal issues
 - Contracts
 - Statutes – vary by jurisdiction
- Which Section(s) of the AIChE Code Apply?



16th STS-AIChE Southwest Process Technology Conference

Sept 22-23, 2025, University of Houston



Which Section(s) of the AIChE Code are relevant? Check all that apply.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Case Study 2 - Continued

Ethical Guideline

5. Act in professional matters for each employer or client as faithful agents or trustees, avoiding conflicts of interest and never breaching confidentiality.

Also: NSPE code of ethics; case studies



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Case Study 2 - Continued

Consensus from literature cases:

- Engineers who serve a given client while employed by A may serve same client after leaving A.
- Engineers may not use specialized knowledge obtained while in employment to secure and execute projects after leaving their employer.



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Case Study 2 – Conclusion (1)

- Based on facts presented, Firm B engineers acted unethically because they used specialized knowledge obtained while in employment to secure their contract with Company X.



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Case Study 2 – Conclusion (2)

- Difficult, stressful situations.
- Balance right to seek new opportunities vs. proprietary rights of parent company.
- Where possible, seek amicable agreements.



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



Case Study 3: Conflict in the Work Place



Conflict: 1. war
2. a clash between hostile
or opposing elements
or ideas

The Merriam-Webster Dictionary,
1974, G. & C. Merriam Co.



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



a. The Set Up

- I Just Received an Email from Colleague “A”
- He accuses me of Unprofessional Conduct
- Copied to Several Other People
- How Should I Respond??



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



b. The Response...

- Hit “Reply to All”
- Justify My Actions
- Point Out Colleague A’s OWN Lack of Professionalism
- Which Sections of the AIChE Code Apply?





16th STS-AIChE Southwest Process Technology Conference

Sept 22-23, 2025, University of Houston



Which Section(s) of the AIChE Code are relevant? Check all that apply.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



c. Ethical Guidelines (1)

3. Accept responsibility for their actions, seek and heed critical review of their work and offer objective criticism of the work of others.

11. Conduct themselves in a fair, honorable and respectful manner.

Perhaps also (6): Treat all colleagues and co-workers fairly and respectfully...



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



c. Ethical Guidelines (2)
Key People Principle...

...respect for the other person.

Applications vary, but the principle doesn't change





16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



c. Ethical Guidelines (3)

Principles to Consider (i)

- Respect the Other Person
 - + Where are they coming from?
 - + How can I build them up (affirmation)?

Seek first to understand, then to be understood.
Habit 5 in Stephen Covey's "Seven Habits of Highly Successful People"

- Self-Control
 - + Manage your anger
 - + Be honest with yourself
 - + Don't respond out of insecurity



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



c. Ethical Guidelines (4)

Principles to Consider (ii)

- Relationships Before Issues
 - ✚ Keep the immediate issue in perspective
 - ✚ Think long-term
- Pursue Honest Dialog
 - ✚ Honest disagreements can be healthy
 - ✚ Conflict, handled honestly, can open up new opportunities (Functional Conflict)
 - ✚ Conflict, handled dishonestly, destroys relationships and organizations (Dysfunctional Conflict)



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



c. Ethical Guidelines (5)

A Word to the Wise...

- Delete is the most important key on your computer.



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



d. Start Over (1)

- Hit “Reply,” NOT “Reply to All.”
 - Don’t defend yourself or humiliate the other person. Remember – relationships before issues.
- Start With Affirmation
 - e.g. “I appreciate your contribution to the organization, and especially XXX.”

I will speak ill of no man, and speak all the good I know of everybody.
– Benjamin Franklin



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



d. Start Over (2)

- Thank Them for Drawing Your Attention to the Problem
- Express My Level of Understanding
 - e.g., “I think I can see your perspective”
- Explain My View of the Cause of Conflict
 - e.g., “I felt I had to act quickly because several people were becoming concerned about our lack of action.”



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



d. Start Over (3)

- Be Willing to Acknowledge Your Oversights
 - e.g., “I apologize for not informing you of my decision sooner.”
- Look to the Future
 - e.g. “I look forward to working with you as we continue to expand the reach of our organization”
 - If possible, move the dialog on to a specific different activity that you are doing or will be doing together.



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



e. The Outcome

- Colleague “B”, who was also on the distribution list for the original email, “replied to all” to defend my professionalism.
- Colleague “A” replied to my private email.
 - ✦ acknowledged he had overreacted in his original email
 - ✦ raised additional concerns, some of which I consider valid
- We resolved some of Colleague A’s issues, and worked on some others.
- We continued to work together for many years.



16th STS-AIChE Southwest Process Technology Conference
Sept 22-23, 2025, University of Houston



A Final Word on Ethics and Integrity...

...the supreme quality for a leader is unquestionably integrity. Without it, no real success is possible, no matter whether it is on a section gang, a football field, in an army, or in an office. If a man's associates find him guilty of being a phony, if they find that he lacks forthright integrity, he will fail. His teachings and his actions must square with each other. The first great need, therefore, is integrity and high purpose. - Dwight Eisenhower