Are you a Professional or Just an Engineer?
What is a Professional

- Is a professional defined by:
  - Level of Education
  - Job Title
  - Complexity of Job Description
  - Salary Grade
  - Society Perception
  - Degree of Supervision Required

Or is it something else?
Definition of Professional

Arnold Thesis Number 1: There is no objective definition of a professional job or assignment. There is only a definition of “professional behavior”.

Arnold Thesis Number 2: Anyone who acts in a “professional manner” is by definition a “professional” no matter what the job assignment, level of education, etc.

Arnold Thesis Number 3: A “professional” always looks out for the best interest of his project, client, and society. This requires balance and judgment.

Arnold Corollary to Thesis Number 3: A “professional” does NOT make decisions based on his best interest, the best interest of his employer, or personal convenience.

So let’s discuss “Professional Behaviors” that will define if you are a “Professional”.
1st Principle: Spend the Client’s Money As If It Were Your Own

Any job is a potential license to steal from your employer, client, etc.

Definition of Client

- The public
- The client or employer
- The project
- Internal “clients”

Each individual must think about what he is doing in context of the best interest of the “client”.

The drag reducer example

You must constantly ask yourself “Am I spending my time and thus the client’s money wisely.”

You must not just carry out a task. You must understand how that task fits the client’s needs.
2nd Principle: We Owe the Client One Strong Argument

- Professionals are hired for their brains
- You are not allowed to say:

  “I knew there was a better way but they wanted it done this way”.

  “I knew he wouldn’t listen”.

  “This is standard practice, even though it doesn’t make sense in this context.”
3rd Principle: “Shut up and Do What the Client Wants”

- Why might a client disagree:
  - You could be wrong
  - Different data
  - Comfort
  - Ego

Best interest of the client

Handle disagreements with care

Station controls example

But don’t forget the following trump all
  - Technical reality
  - Safety
  - Ethics
Exception: Technically It Will not Work

- Some things just technically won’t work. If a client does not agree:

  First make sure you are right.

  Understand that you screwed up the first time in not explaining it correctly.

  Get help formulating your explanation.

  Carefully bring it up with help from others in a non-threatening way. Never blame the client for not understanding

  Clients will always agree once the technology is understood.
Exception: Safety Issues

- Make sure it is really a safety issue and not merely a preference. Review with others.

Get help analyzing the issue. Never question the client’s motives. Make it a win-win discussion.

Meet with the client with others from your group present

Listen to the client’s reasons. He may have a different insight which is valid.

Only document the disagreement in an email, report, etc. after determining with help that there is an unbridgeable disagreement.

Stand by your decision and accept the consequences.

The manifold example.
4\textsuperscript{rd} Principle: A Professional Takes Responsibility for His Work

- Mistakes and Errors in Judgment Happen
  - Insufficient Data
  - Misleading or Incorrect Data
  - New Data / Revisions
  - Communications

Think about the potential effects of new information on the project as a whole

Correct errors as soon as practical

Verify that others realize the impact

Figure out how to avoid them in the future

Dehydrator slab example

If you do not know at the end of every job how you could have done it better you are not a “professional”.

WorleyParsons
5th Principle: You must act ethically towards others.

- Everyone deserves the same respect that we believe should be paid to us.
  - The right to be heard
  - The right to be treated with dignity
  - The right to earn a living
  - The right to be told what is happening

Do we really believe in this?
Examples of Unethical Behavior – Pecking Orders

- The “Global Pecking Order”
  - The Owner
  - Consultants
  - Vendors
  - Contractors
  - Grunts in the Field

- The “Corporate Pecking Order”
  - CEO
  - Vice President
  - Managers
  - Supervisor
  - Project Manager
  - Engineers
Examples of Unethical Behavior – Pecking Order

- The “Engineering Pecking Order”
  - Engineers
  - Designers
  - Procurement
  - Accounting
  - Secretaries
  - Other Support Staff
Examples of Unethical Behavior - Relationships

- Relationship Building is Good … But is it unethical to:
  - Bribe people to get work
  - Accept kickbacks to award work
  - Elaborately entertain clients

- Giving to Charity is Good … But is it unethical to:
  - Use purchasing power to force others to give
  - Use purchasing power to force others to sponsor costly social events
Examples of Unethical Behavior - Bidding

- There is nothing unethical about bidding
- But ... Preparing a bid costs money and resources
- It is unethical to:
  - Bid a job that you know may not be awarded
  - Bid someone you know you will not award the job
  - Withhold information bidders need to judge their chance of success – competition, evaluation criteria, etc.
  - Bid a job more than once without compensation
  - Take a value added idea from an unsuccessful bidder and give it to the successful bidder to implement without proper compensation
Examples of Unethical Behavior – Change Orders

- Complex engineered equipment, fabrication or construction will always have the need for a change order adjustment in price
- There is nothing unethical about protecting yourself from a vendor who is motivated to get the most out of change orders
- There is nothing unethical about protecting yourself from a client who is motivated to avoid paying for change orders
- It is unethical to:
  - Use future purchasing power to blackmail a vendor to avoid paying for extra work that was requested and performed
  - Hold a contractor to a legal requirement or a technicality when circumstances have clearly changed the intent
  - Demand something when you know your client is not able to realize it is not really a change in scope
What If I Act In An Unethical Manner?

- We all consider ourselves and our actions to be ethical
- But ... In the rush to do business, or because we don’t have all the facts, or because we are distracted we all act unethically from time to time
- We all have bosses or clients who require us to do things we think are unethical
- It is unethical to:
  - Refrain from explaining to someone that they are asking you to do something that may be construed as unethical
  - Refrain from apologizing
So What Is the Payout for You?

Job Satisfaction- Knowing you are making a difference.

Gaining Respect for Your Contribution- being given ever more interesting and challenging assignments.

Learning By Doing and Becoming a More Valuable Employee – Career advancement.

Better Relations with Co-Workers – A more enjoyable work environment.

Better Reputation In Industry as a Doer and Leader
What Are the Risks to You of Being Professional?

You have to think about what you are doing and how it fits into the project goals.

You have to force yourself to speak up and not accept authority’s answer as necessarily correct.

You have to educate yourself and ask questions so you can speak up.

You may be wrong and may have to admit it.

You have to constantly think about your behaviors and how they are perceived by all those around you.

You may have to be prepared to suffer short term negative consequences for the longer term principle.
So, Are You going to be a Professional or Just Another Engineer?

It is up to you.

There are many engineers who are not comfortable being a professional.

There are many engineers who don’t want to expend the effort to be a professional.

Only you know what you are capable of doing and what you wish to accomplish.