

SPEE Ethics Seminar

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Characteristics of a profession?

- Specialized training
- Supply objective counsel and service
- Direct and definite compensation
- Compensation is not a function of other business gain
- Often regulated by the state.
- Potential for “monopoly” privileges
- Specialized codes of ethics
- Professional societies
- Autonomous behavior
- Social status
- Relatively high compensation

Professions

- Medicine, Divinity and Law
- Architecture
- Nursing
- Teaching
- Engineering
- Optometry, Pharmacy

What is “ethics”?

- The branch of philosophy concerned with evaluating human action. The study of right and wrong in conduct.
- A system or code of morals of a particular religion, group, or members of a profession.

What can ethics instruction accomplish?

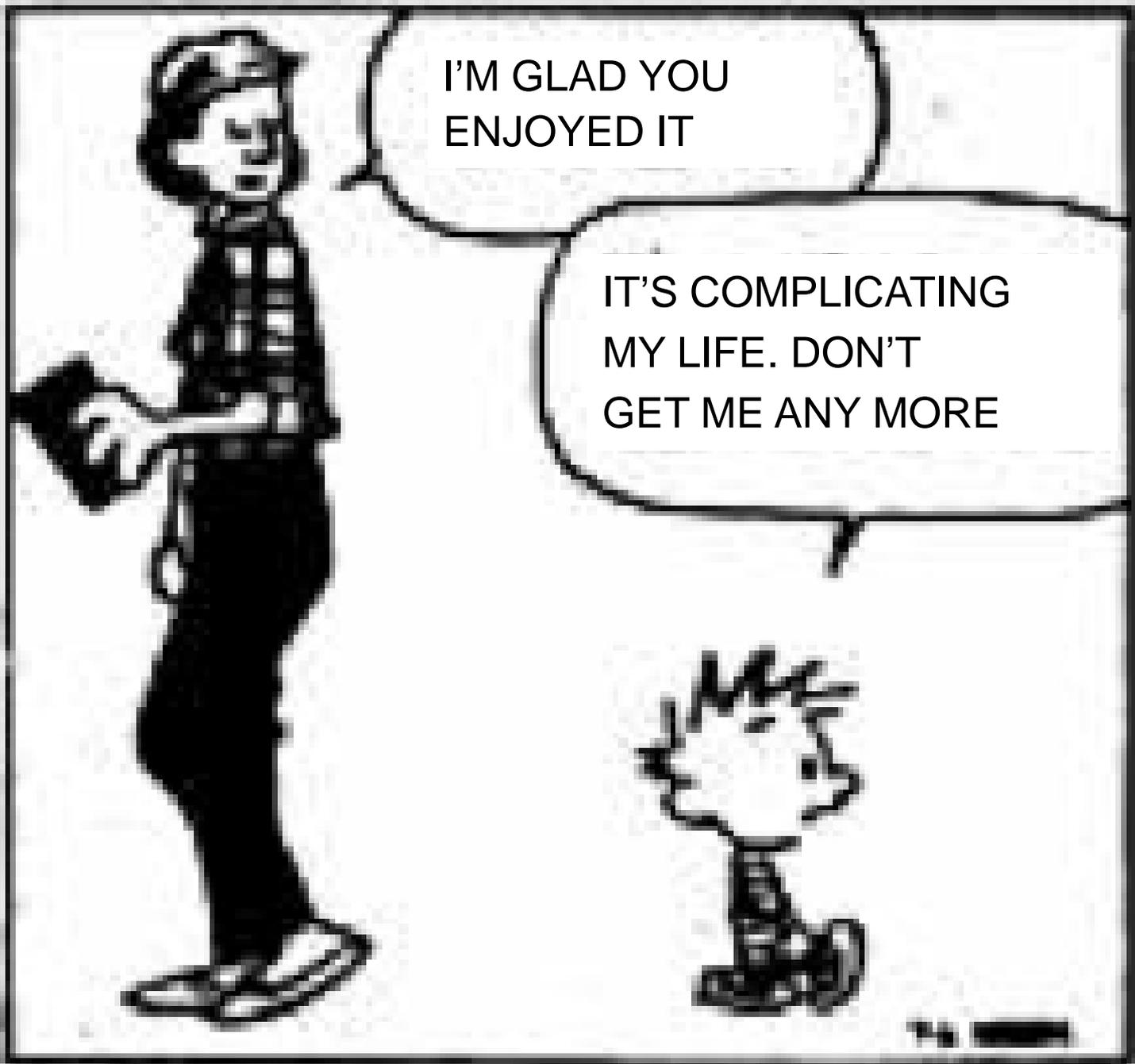
- *increased ethical sensitivity;*
- *increased knowledge of relevant standards of conduct;*
- *improved ethical judgment;*
- *improved ethical will-power (that is, a greater ability to act ethically when one wants to); and*
- *passing off a renewal requirement.*

Calvin and Hobbes



IT REALLY MADE ME SEE THINGS
DIFFERENTLY. ITS GIVEN ME
A LOT OF THINGS TO THINK ABOUT





Moral Problems vs Dilemmas

- A dilemma is a situation in which a few restricted choices are available...usually each choice is unfavorable
 - Do I acknowledge errors in our PUD bookings this year or do I wait another year at which time most of them will (may) materialize?
 - Should a man steal medicine he cannot afford for his sick wife

Morals and Ethics

- We are talking about right and wrong behavior
- Ethics are simply moral principles
- Engineering ethics deal with what is right and wrong behavior for those in our profession.

Applications to SPEE members

- This course is easy to teach to civil engineers
- The last time I did this here we had some fun with it
- There are three cases. I have given slightly DIFFERENT information to the people on both sides of these cases.
- We'll need your help in the “How far can we go and remain ethical?” exercise.
- Suspend for now the question about the question.

How important are ethics in today's society?



What ultimately determines the moral value of a person's action?

- The *intent* of the person, independent on the outcome.
- The *outcome* of the action, independent on the intent.

Intent vs outcome

- Bob's employer has a policy of not providing references for former employees. They will only indicate the dates of employment.
- Jim worked with Bob and was a great employee who Bob hated to see leave for a startup that is being bought out. Jim wants to "take the package" because he didn't want to move and is looking.
- Bob is called by the headhunter looking for a reference.
 - "Party line" → Jim worked here for six years from...
 - "Indirect" → Indicate that he would *definitely be* eligible for rehire (or similar)
 - "Help Jim" → Just go ahead and extol his virtues

Intent vs Outcome

- Larry also worked for Bob
- Larry was a mediocre performer. His work often needed corrections. Larry had poor attention to detail. Most annoyingly, Larry didn't "fit" the culture by putting in the long hours when the big project was due.
- Larry got laid off at the first downturn but still managed to be at the firm almost the same length of time as Jim.
- Larry also got a job with the startup and is talking to the same headhunter.
- Party Line, Indirect or "Sink him"?

Don't believe
everything you
think....



It is the mark of an educated mind to be able to entertain a thought without accepting it.

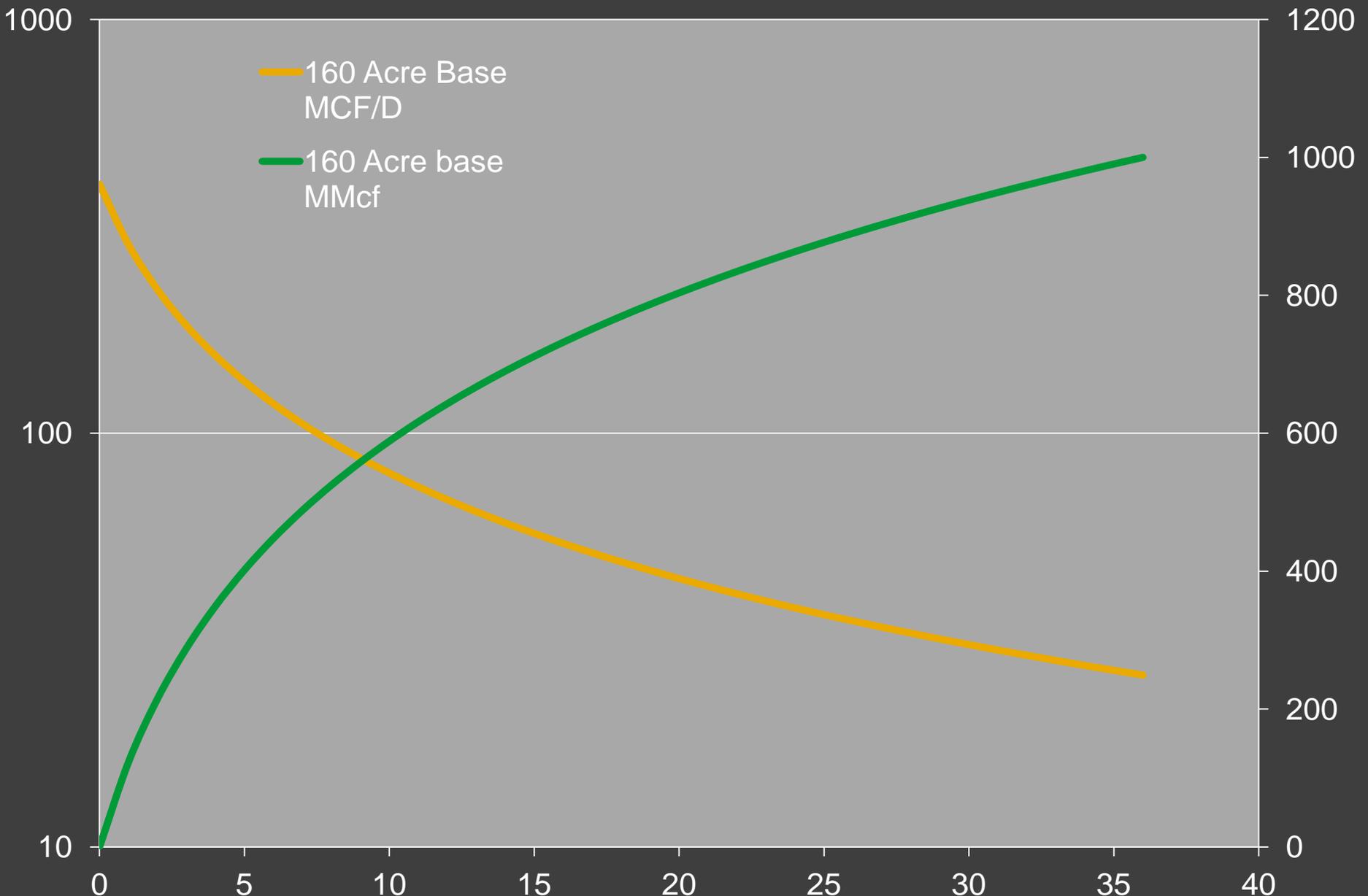
Aristotle

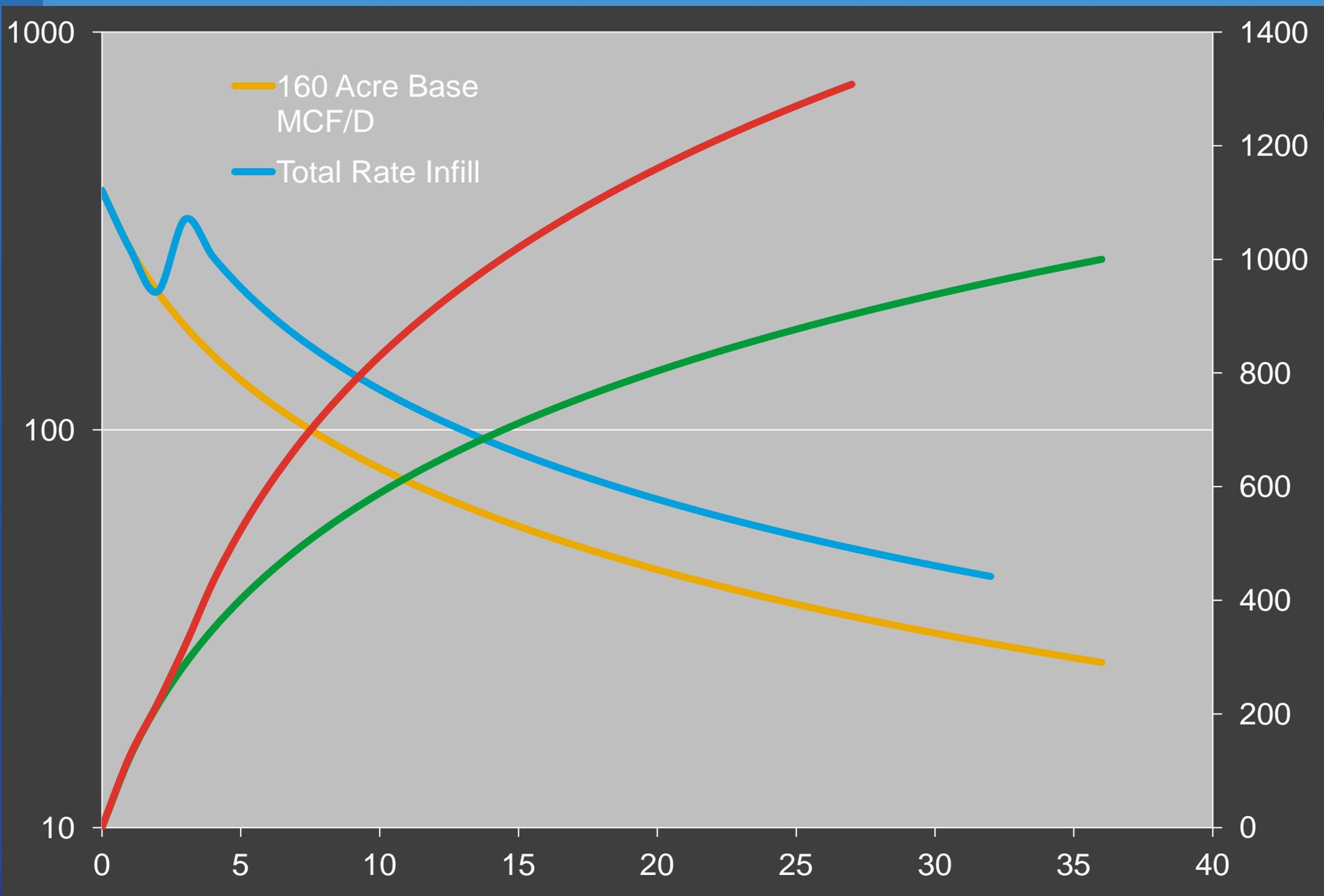
You can't be serious!

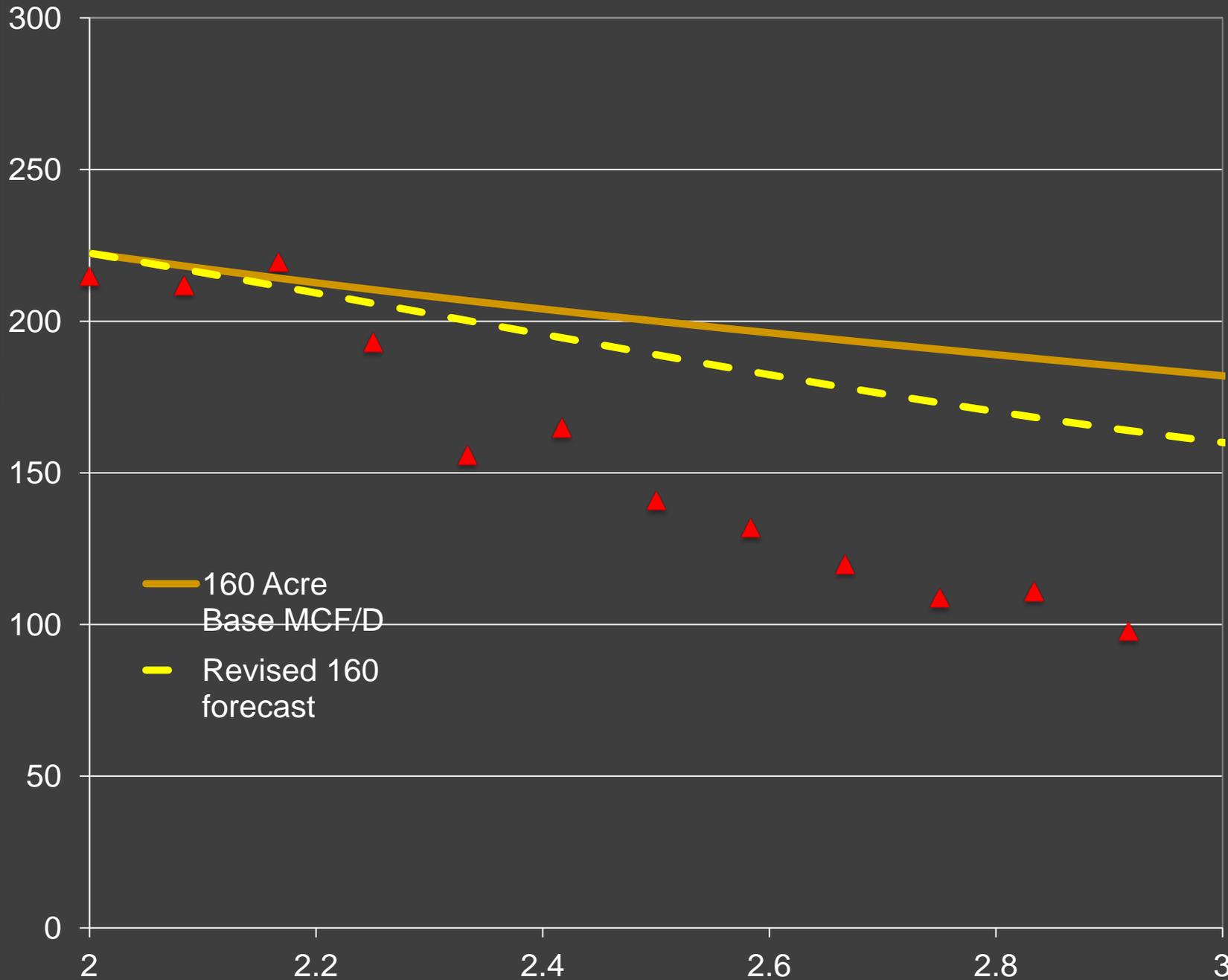
- Eight Tigers Exploration (ETX) owns a large shallow gas field that has been developed on 160 acre spacing. Existing wells average 225 Mcf/D into a low pressure gas gathering system. Initial rates were about 400 Mcf/D. Gas wells each average 0.2 Bcf production from their estimated 1.0 Bcf EUR.
- A detailed reservoir simulation study suggests incremental gas recoveries of 0.5 Bcf but that the infill wells will recover 0.6 Bcf each (with the 0.1 being accelerated and lowering the remaining recovery for 160s).
- Following a detailed reservoir simulation study, ETX receives approval to go to 80 acre spacing and proceeds to completely redevelop the field. PUDs booked after one experimental well proves successful.

You can't be serious!

- The IPs and first few months performance of the infill wells almost exactly matches simulation predictions. Wow.
- The simulation study suggests that the impact of acceleration on the 160-acre wells will be gradual and not noticed for a few years.
- The reserve team (at headquarters, using a well known consulting firm) has nearly a year of performance to review and is troubled by the early impact of “interference”
- Turns out the simulation results for the infill wells is already booked as PUDs. *A great deal* of desire to convert these to PDP.







— 160 Acre
Base MCF/D

- - - Revised 160
forecast

So....what to do, what to do

- The basic arguments:
 - Performance is less than the reservoir models so we will stick some decline curves through the data and book our (lower) extrapolations. Move lower amounts of PUD to PDP and write down the rest.
 - Are you kidding me? The real problem is that the new, higher pressure wells have backed off some of the older wells because of temporarily limited surface gas gathering capacity. We've seen this before elsewhere. Just move the existing PUD to PDP and review in a year.

YOU ARE THE BOSS

- This is material to your business unit but won't move the needle company wide.
- Your bosses already expect the full addition based on having heard (from you) that the infill wells are doing "100% of expected."
- The reserve team (which you used to manage) is unlikely to fall on their swords over this one but you did train them to push for their positions.

Major corporate ethical issues

- FCPA
- Safety
- Environment
- Reserve reporting
- Financial irregularities

Example environmental and safety

- Biggest oil spills (Macondo, Ixtoc, others)
- Biggest loss of life
- Household names
 - Torrey Canyon, Amoco Cadiz, Exxon Valdez
 - Piper Alpha
 - Bhopal
 - Phillips 1989, BP Texas City
 - Ocean Ranger
- Hydraulic fracturing

A Corporate Ethical Disaster...

(sources: compiled from shell.com, greenpeace.org, wikipedia.org and others)

The **Brent Spar** was an oil storage and tanker loading buoy in the Brent oilfield, operated by Shell UK. With the completion of a pipeline connection to the oil terminal at Sullom Voe in Shetland, the storage facility was considered to be of no further value (1991).



Shell decided (and received UK government clearance) to dispose of the Brent Spar in deep Atlantic waters at North Fenni Ridge (approximately 250 km from the west coast of Scotland), at a depth of around 2.5 km.



Greenpeace organised a worldwide, high-profile media campaign against this plan. Although Greenpeace never called for a boycott of Shell service stations thousands of people stopped buying their gasoline at Shell.



The (Major) Options: I

(sources: ~~compiled from shell.com, greenpeace.org, wikipedia.org and others~~)

Deep sea disposal

- pull platform into deep water in the North Atlantic
- position explosives around the waterline and detonate to breach the hull and sink the platform.
- facility falls to the seabed and release its remaining contents over a restricted area.
- Problem: uncertainty associated with detonating explosives

Possible scenarios:

- structure falls to the seabed in one piece, releasing its contaminants slowly; affected area: seabed for ~ 500m down-current
- structure disintegrates as it falls through the water column, releasing contaminants in a single burst; affected area: ~1000 m down-current of final resting place (although over a shorter time than above).
- structure fails catastrophically upon explosives detonation, releasing its contaminants into the surface waters; effect: significant impact on sea birds and fishing industry in the area.
- Cost: ~ £17M - £20M.

The (Major) Options: II

(sources: [compiled from shell.com](#), [greenpeace.org](#), [wikipedia.org](#) and others)

On-shore dismantling

- tow the Brent Spar into a deep-water harbor
- decontaminate
- reuse construction materials
- dispose unusable waste on land
- *Disadvantages:*
 - more complex
 - greater hazard to the workforce
 - More costly (~£41M).
 - concern about disintegration in shallow coastal water, resulting in much more economically and environmentally significant impact.

Greenpeace's Involvement



(sources: compiled from shell.com, greenpeace.org, wikipedia.org and others)

- Greenpeace campaigned against ocean dumping in the North Sea since the early 1980s, including physically hindering the dumping of (radioactive) waste, and lobbying for a comprehensive ban on ocean dumping.
- Greenpeace objected to disposing of the Brent Spar at sea on a number of issues:
 - *lack of understanding* of the environment, and effects on the ecosystem.
 - Documents supporting Shell's licence application were "*highly conjectural* in nature", containing unsubstantiated assumptions, minimal data and extrapolations from studies.
 - Dumping the Brent Spar at sea would create a *precedent for dumping other contaminated structures* in the sea and would undermine current international agreements. The environmental effects of further dumping would be cumulative.
 - *Dismantling of the Brent Spar was technically feasible* and offshore engineering firms believed they could do it safely and effectively. The necessary facilities were in use and decommissioning of other oil installations had been carried out elsewhere in the world.
 - The *principle of minimizing the generation of wastes* should be upheld and harmful materials always recycled, treated or contained in order to protect the environment.
- Greenpeace alleged that Shell just wanted to do it cheap

“The Battle of the Brent Spar”

(sources: ~~compiled from shell.com, greenpeace.org, wikipedia.org and others~~)

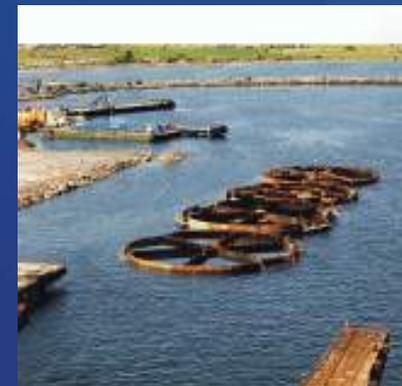
- Greenpeace activists occupied the Brent Spar (collecting a sample of the contents of the Brent Spar to determine the nature of the pollutants in the platform. Based on this, *Greenpeace claimed there were more than 5,500 tonnes of oil on the Spar - far more than Shell's estimate of 50 tonnes.*
(For comparison: Exxon Valdez oil spill: ~42,000 tonnes.)
- *Greenpeace mounted an energetic media campaign* that influenced public opinion against Shell's preferred option, disputing Shell's estimates of the contaminants on the Brent Spar.
- On May 9, the German government issued a formal objection to the British government.
- On May 23, after several attempts, Shell obtained legal permission to evict the Greenpeace protesters from the Brent Spar. Towing of the platform to its final position began on July 11.
- By this time a call to *boycott Shell products* was being heeded across much of continental northern Europe, damaging Shell's profitability as well as brand image.
- Support from within the oil industry was not unanimous. Although oil production companies supported Shell's position, influential companies in the offshore construction sector stood to make money from onshore dismantling if a precedent could be set, and consequently supported the Greenpeace point of view.

The “Solution”...

(sources: ~~compiled from shell.com, greenpeace.org, wikipedia.org and others~~)

On June 20, Shell had decided that *due to falling sales and a drop in share price*, their position was no longer tenable, and withdrew their plan to sink the Brent Spar.

"Shell's position as a major European enterprise has become untenable. The Spar had gained a symbolic significance out of all proportion to its environmental impact. In consequence, Shell companies were faced with increasingly intense public criticism, mostly in Continental northern Europe. Many politicians and ministers were openly hostile and several called for consumer boycotts. There was violence against Shell service stations, accompanied by threats to Shell staff." (Shell Press Release)



The Aftermath: Shell

(sources: ~~compiled from shell.com, greenpeace.org, wikipedia.org and others~~)

- Although Shell had carried out an environmental impact assessment *in full accordance with existing legislation*, and insisted that they acted in the best interests of the environment, they had *severely underestimated the power of public opinion*.
- Shell were particularly criticized for having thought of this as a "Scottish", or "UK" problem, and *neglecting to think of the impact which it would have on their image in the wider world*.
- The final cost of the Brent Spar operation to Shell was between £60M and £100M, when loss of sales were considered.
- Shell claimed that spending such an amount to protect a small area of remote, low resource value, deep sea was pointless and this money could be much more constructively spent.
- Although Shell and the offshore industry claim that Brent Spar did not set a precedent for disposal of facilities in the future, signatory nations of the OSPAR conventions have since agreed that oil facilities should be disposed of onshore...

(The 1992 OSPAR Convention is the current instrument guiding international cooperation on the protection of the marine environment of the North-East Atlantic.)

The Aftermath: Greenpeace

(sources: ~~compiled from shell.com, greenpeace.org, wikipedia.org and others~~)

- After pulling the BS to shore, Shell commissioned an independent Norwegian consultancy to conduct an audit of Spar's contents. **The report found Shell's initial estimate to be highly accurate.**
- Greenpeace admitted that its claims that the Spar contained 5500 tonnes of oil were inaccurate and apologized to Shell. However, Greenpeace noted that its position had never been solely based on the presence or absence of oil, but that opposition to the disposal plan was part of a larger campaign opposing the dumping of all waste into the North Sea.
- The overestimation of the contents of the Brent Spar **damaged the credibility of Greenpeace** in their wider campaigns. They were also criticized in an editorial column in the scientific journal Nature for their lack of interest in facts.
- **The decision by the UK government to grant a licence for the "at-sea" disposal of the Brent Spar, and its support for Shell and their policy, is often regarded as a contributing factor to the growing unpopularity of the British Conservative Party which lead to the landslide victory of New Labour in the 1997 general election.**

Contaminant	Shell Co est. (kg)	DNV audit est. (kg)
PCBs	trace	6.5 - 8.0
Hydrocarbons	50,700	75,000 - 100,000
Aluminium	28,677	24,000 - 40,000
Arsenic	0.3	0.0
Bismuth	29.0	0.0
Cadmium	16.4	1.0-3.8
Copper	13,542.9	7,500 - 13,200
Indium	10.2	5.0 - 21.0
Lead	9.5	0.11
Mercury	0.3	0.4
Nickel	7.4	0.9 - 1.5
Silicon	48.0	0.0
Titanium	8.8	0.0
Zinc	13,811.4	5,200 - 8,300
Scale	30,000	7800 - 9400