

# SELF TRUST, A MAJOR CHALLENGE FOR NUCLEAR REGULATORS

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# BACKGROUND

- Nuclear is the safest among the energy industry
- Public perception is the main challenge facing the nuclear industry
- The quest for nuclear safety & security has been the basic concern of the nuclear community
- There is no 100% safe
- The playing field is not level

# EXPERIENCE

- Three Mile Island, and Fukushima, and to a certain extent, even Chernobyl, demonstrated the performance of safety measures
- Accidents in energy facilities can be extremely costly
- Except in the case of nuclear, the regulatory response is mature.
- Experience gained during accident analyses is the basis for safety improvement

# ENVIRONMENTAL EFFECTS

- The long term impacts of releases from energy facilities are not assessed impartially
- Radiation is a natural phenomenon. Radiation levels vary widely, depending on altitude, ground characteristics, etc. and limits are established to assure that these levels are maintained within the ranges of natural radiation
- Emissions from the combustion of fossil fuels are damaging to health, but taken for granted

# CLIMATE CHANGE

- The atmosphere maintains the livable conditions in the earth, its 50 km compared with more than 13 000 km of the earth's diameter explain its fragility, its absorption and digestion capabilities are finite. If we keep pouring greenhouse gases we will accomplish its inability to control the livability conditions. The notion that climate change is gradual has very little substance, more likely it is a catastrophic phenomenon

# REGULATORY RESPONSE

- The reasons that explain the public fear of nuclear, i.e. the bomb and the impossibility for humans to sense radiation, may explain also the over-reaction to nuclear accidents
- The role of safety regulators is to prevent accidents and to make sure that remedial action plans are in place to prevent damages
- The operator is responsible for safety, the regulator sets the regulations and enforces them

# PECULARITIES OF NUCLEAR REGULATION

- A nuclear accident anywhere is an accident everywhere
- Nuclear energy can be deviated from peaceful to malevolous applications
- It is the responsibility of the nuclear industry to ensure that radioactive residues will not be mishandled by future generations
- Inherently safe reactors

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# PECULARITIES OF THE NUCLEAR COMUNITY'S REACTION

- Absence of self-confidence
- Immature reaction to accidents
- Mistrust of radiation limits and measurements
- Political intervention in accident management
- Overreaction from media
- Advantage taken by antinuclear groups
- Enhancement of public opposition



# EXAMPLES OF SAFETY VS REGULATION

- High velocity air conditioning in NPPs
- “Man made” radioactive residues must be stored regardless of their radio toxicity
- Regulatory limits to radiation exposure, and radioactive content in food or general materials, lowered after every accident, regardless of the values relative to natural radiation

# BEYOND DESIGN BASIS ACCIDENT

- The world wide reaction to Fukushima should not increase the bureaucratic regulatory burden.
- Challenging DBA means substituting statistics with engineering and scientific analyses

# RECOMMENDATIONS

- Nuclear safety must continue to improve, do it rationally, don't panic
- Mature (grow up-become adult)
- Science and scientific method must not be overridden by politics in regulatory decisions
- Promote a levelized playing field in energy decision making, or else . . . . .