



U.S. Industry Perspective

EXPORT CONTROL AND NON-PROLIFERATION

MARGARET HARDING

MARGARET@4FACTORCONSULTING.COM

Disclaimer



Although my presence here is sponsored by the U.S. Department of Energy, I am here as a long time member of the U.S. Nuclear Industry.

My talk does not represent DOE or DOE's views.

Margaret Harding



- ✿ US Nuclear industry >33 years
- ✿ 27 years at GE (GE-Hitachi)
- ✿ GE supplies BWRs, fuel, services
 - ✿ Finland, Germany, India, Japan, Mexico, Spain, Sweden, Switzerland, Taiwan, US
 - ✿ Global Research in China, Germany, India, and US
- ✿ Mainly Fuel Engineering
- ✿ As an engineering manager – 14 different countries in my staff

Fuel Engineering Leader

4

- ★ Staff in U.S. and Japan
- ★ Cooperative agreements with ENUSA (Spain)
- ★ Software developers Mexico and India
- ★ Diversity of experience and perspective

Vice President of Engineering Quality



- INPO Assessment of GE-Hitachi
- Export Control and Global Regulatory Compliance
- NQA-1 Compliance for Engineering
- Qualified Lead auditor

U.S. Export Regulations

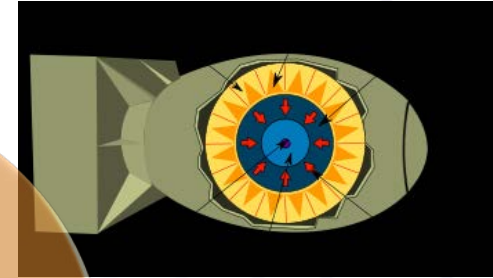
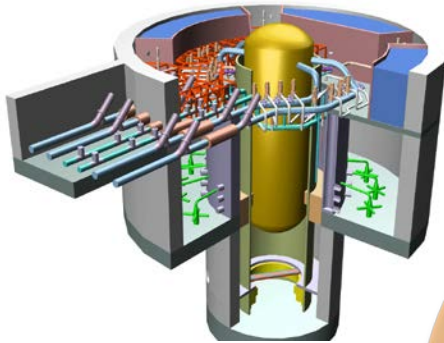
6

Standard Technical Specifications
General Electric Plants,
BWR/4

Specifications

Issued/Revised: March 2004
Date Published: Jan 2004

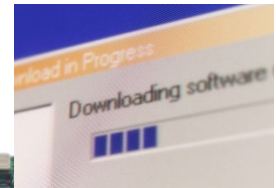
Division of Inspection Program Management
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001



Dep't of Energy

NRC

Dep't of Commerce



Nuclear Technology



- ✿ Specialized Facilities are required
 - ✦ Irradiation
 - ✦ Test Reactors (concept testing)
 - ✦ Hot cells – post irradiation examination
- ✿ Long Development cycles
 - ✦ Simple changes – 6-10 years
 - ✦ New NES – 12-20 years
 - ✦ Advanced NES – 15-30 years (Or more??)

Enormously expensive to develop

Different Ways to protect IP

8

✿ Patents

- ✿ Country (or region) dependent
- ✿ PUBLIC Information
- ✿ Time limited
- ✿ Has a cost

✿ Copyright

- ✿ Country (or region) dependent
- ✿ PUBLIC Information
- ✿ Time limited
- ✿ Low/No Cost

✿ Trade Secrets

- ✿ Company held
- ✿ PRIVATE Information
- ✿ Unlimited time
- ✿ Low/No Cost

When do we use Which?

9

✿ Patents

- ✿ High potential value
- ✿ Enforceable
- ✿ Time limited value

✿ Copyrights/Trademarks

- ✿ Written work has value
- ✿ Enforcable

✿ Trade Secret

- ✿ Difficult to enforce patent/copyright
- ✿ Public disclosure an issue
- ✿ Long term value

Three Parties for Collaboration

10

✿ Governments

- ✦ National prestige
- ✦ Security
- ✦ Welfare of Citizens

✿ Universities

- ✦ Income
- ✦ Student development
- ✦ University prestige

✿ Private Corporations

- ✦ Competitive advantage
- ✦ Return on Investment

Plus One...

✿ Sovereign Corporations

- ✦ Government owned (wholly or partially)
- ✦ Mixed goals

Constellation of Collaboration

