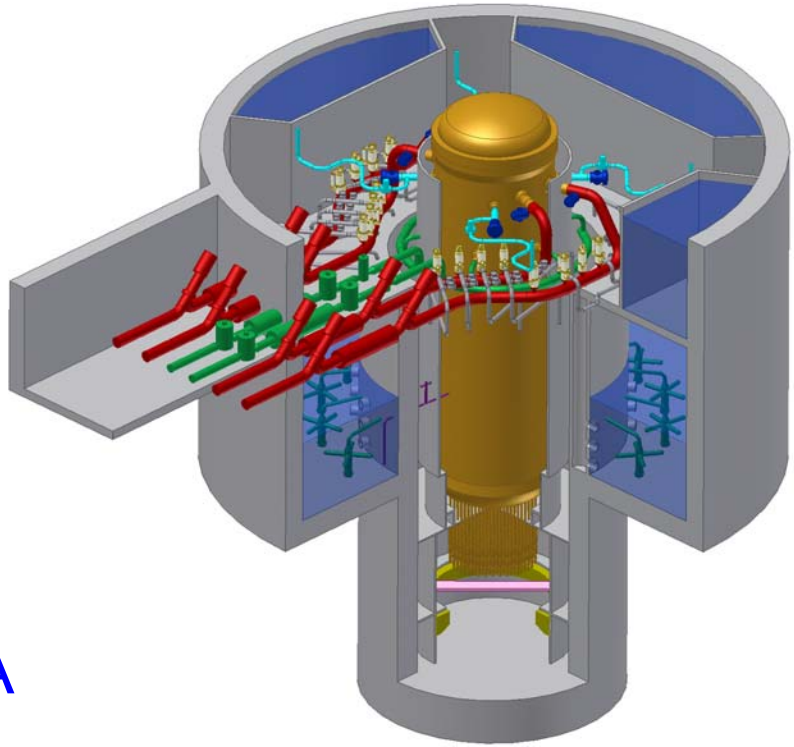
ESWR Probabilistic Risk Assessment



Richard Wachowiak
GE-Hitachi Nuclear Energy
Technical Lead for ESBWR PRA

Presented to USNRC July 18, 2007

Purpose of Design PRA

CDF goal

LRF goal

Lower than existing plants

Dose at site boundary

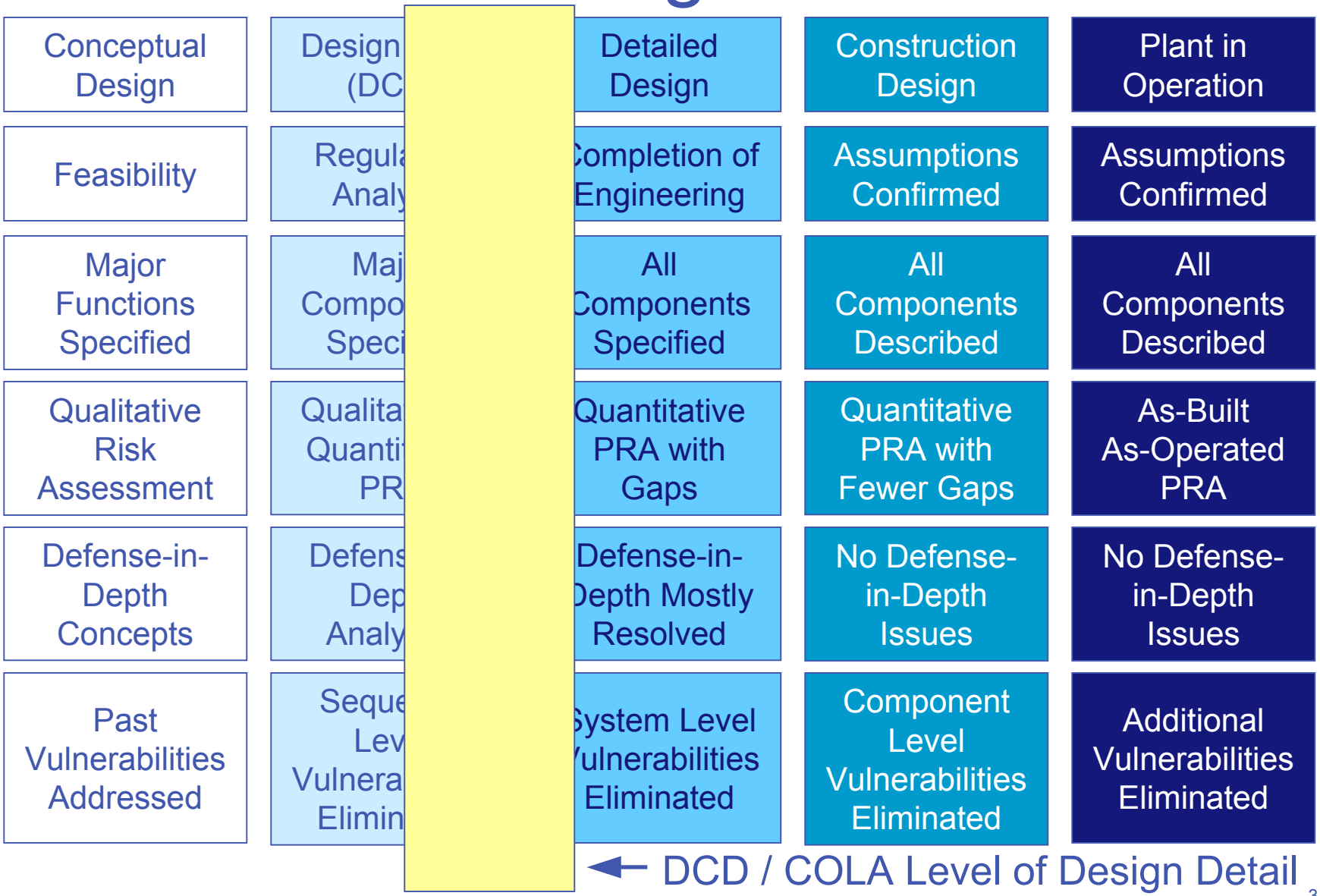
DRAP

ITAAC

RTNSS

Copyright © 2007 by GEH Energy / Nuclear

Evolution of a Design and PRA

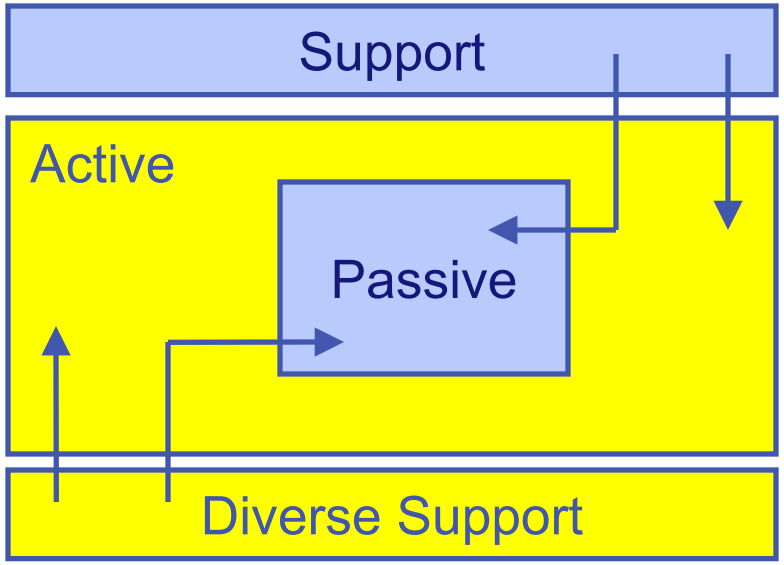


Copyright © 2007 by GEH Energy / Nuclear

Example: Key Features of ESBWR Design Risk Management

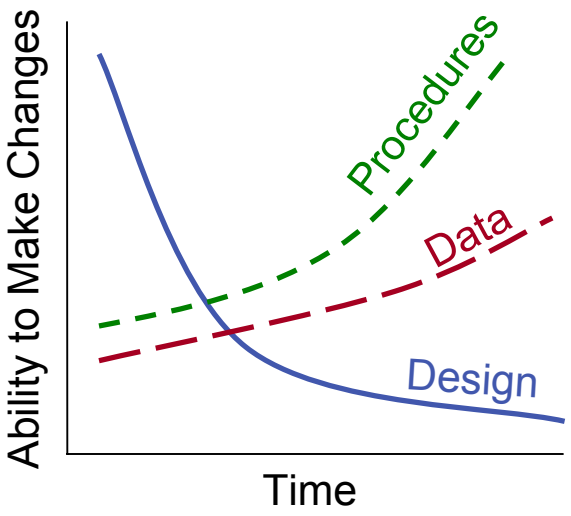
Passive safety systems
Active asset protection systems
Support system diversity
Minimize reliance on human actions
Use historical data

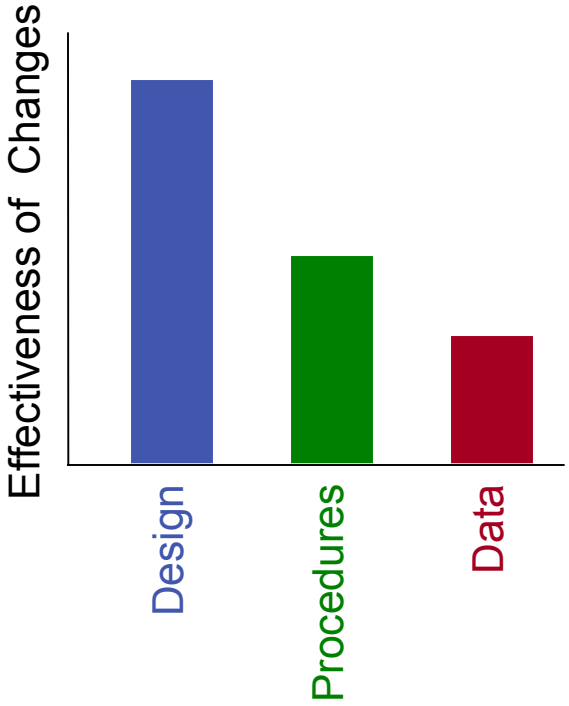
Target configuration for core damage prevention functions



Copyright © 2007 by GEH Energy / Nuclear

Three Chief Methods to Affect Risk

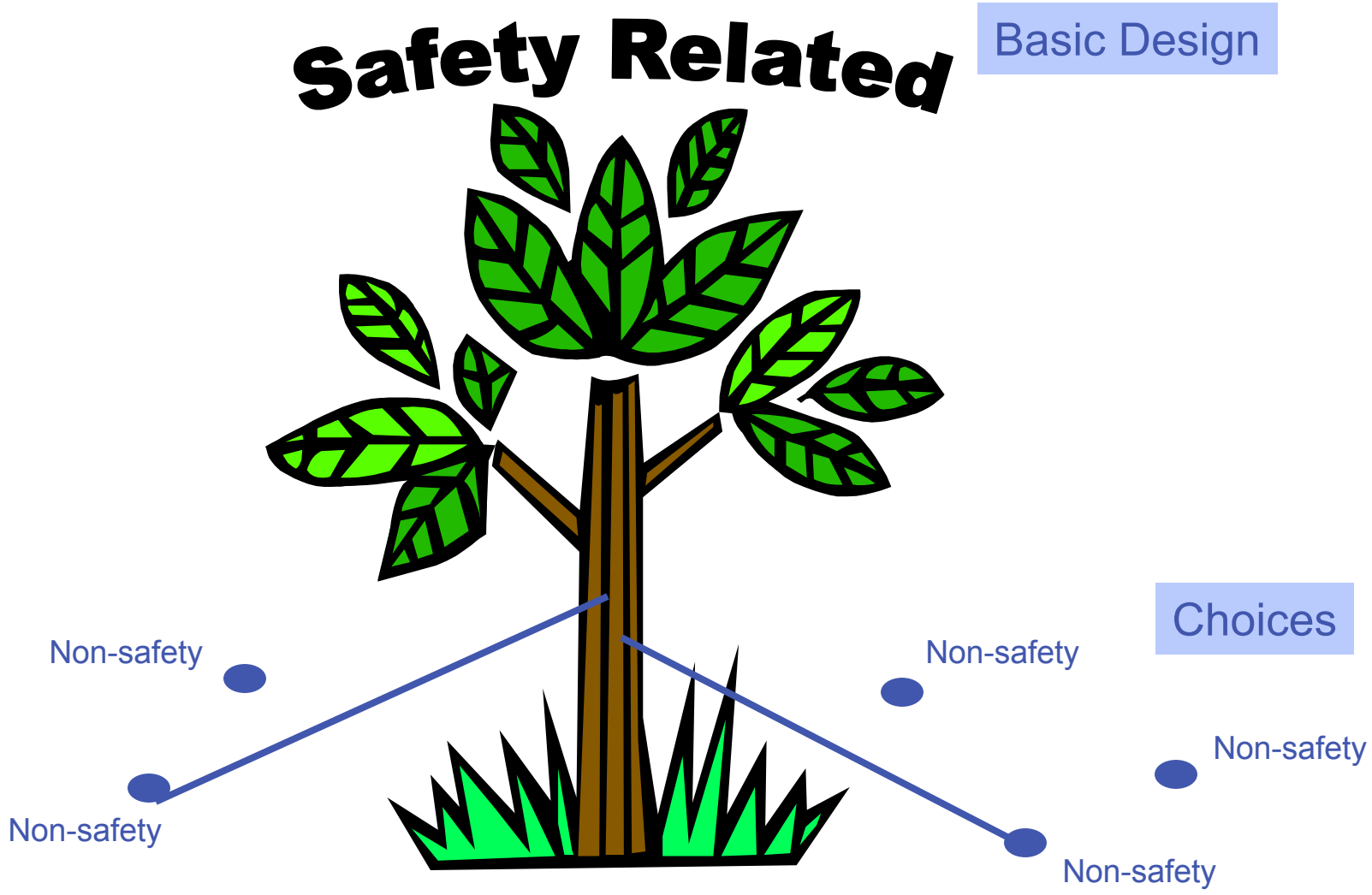




Using a PRA early provides maximum benefit

Copyright © 2007 by GEH Energy / Nuclear

New Plant PRA



Copyright © 2007 by GEH Energy / Nuclear

Goal

Design PRA needs to show “a way” to meet all goals

DRAP, RTNSS, ITAAC support this

It is not the only way

- Tier 1 should not lock in options

Copyright © 2007 by GEH Energy / Nuclear