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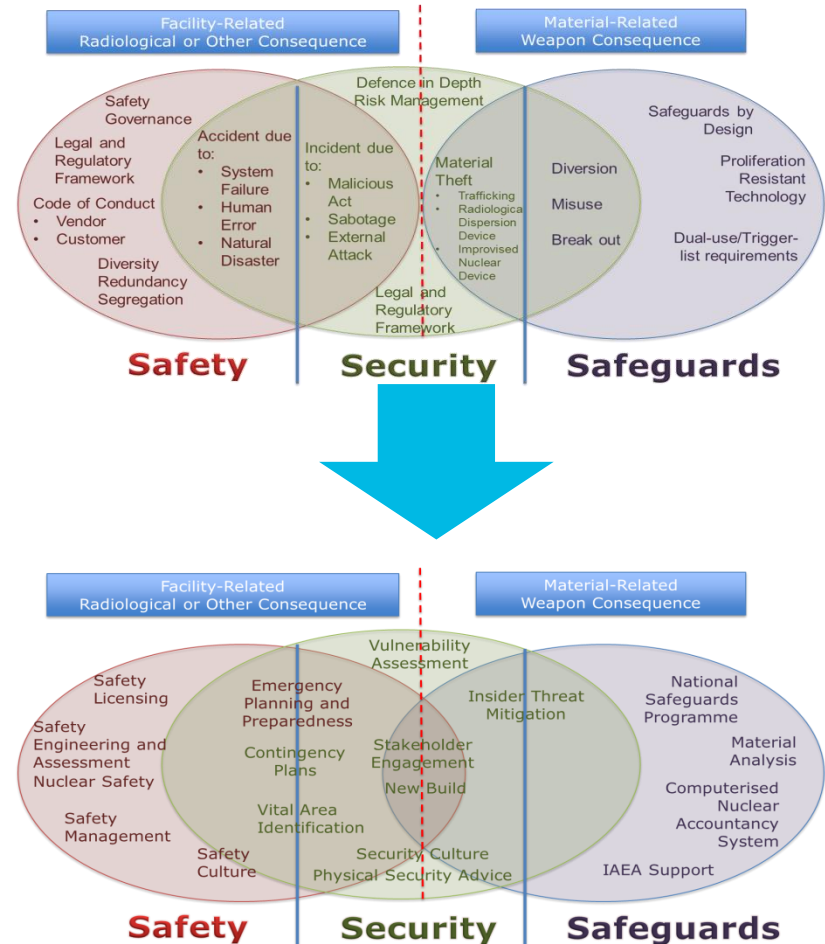
# Nuclear Safety, Security and Safeguards: an Application of an Integrated Approach

# Concept of Safety, Security and Safeguards integration

- Triple S or SSS is a great concept that offers a lot of benefits
- We're still developing our approach
- This presentation is about;
  - Our progress to date;
  - The benefits we've seen; and,
  - How we might take it forward.

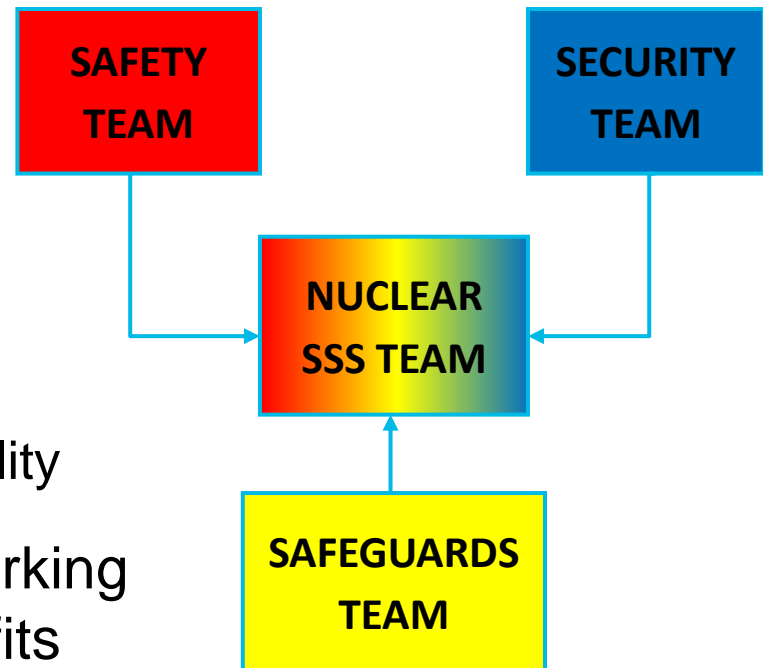
# Safety, Security and Safeguards integration – why?

- Similarities in methods and goals between the disciplines
- All approaches to ‘risk management’
- Concerned with protecting people and/or property
- Disciplines can learn from one another



## Formation of the Nuclear SSS team

- Steer to form a SSS team within NNL
- Based more on the expected benefits and ‘good on paper’ thinking
- Brought together;
  - Safety
  - Security
  - Safeguards (limited)
  - Safety Engineering and Criticality
- Effort to establish practical working arrangements to deliver benefits



## In the background; a change in regulations

- Recent change of security regulation by the Office for Nuclear Regulation (ONR)

NORMS  SyAPs

- The dutyholder has more freedom to design and operate based on evidence and their own approach to managing risks
- This means more space for SSS interaction
- Safety & Security main focus at present, and ONR has developed a SINS team (Security Informed Nuclear Safety, or Safety Informed Nuclear Security)

# What has it meant so far?

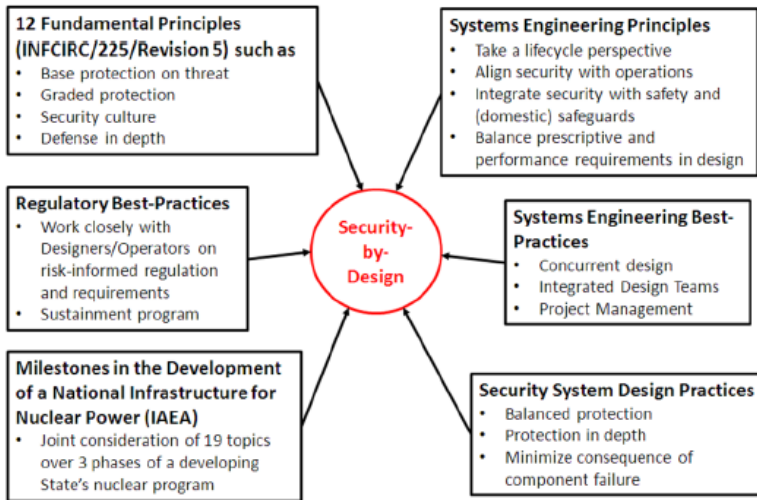


Figure 2. Contributing Factors to SeBD

## ● Scenario Development

From the Security by Design Handbook, Sandia National Labs & Japan Atomic Energy Agency

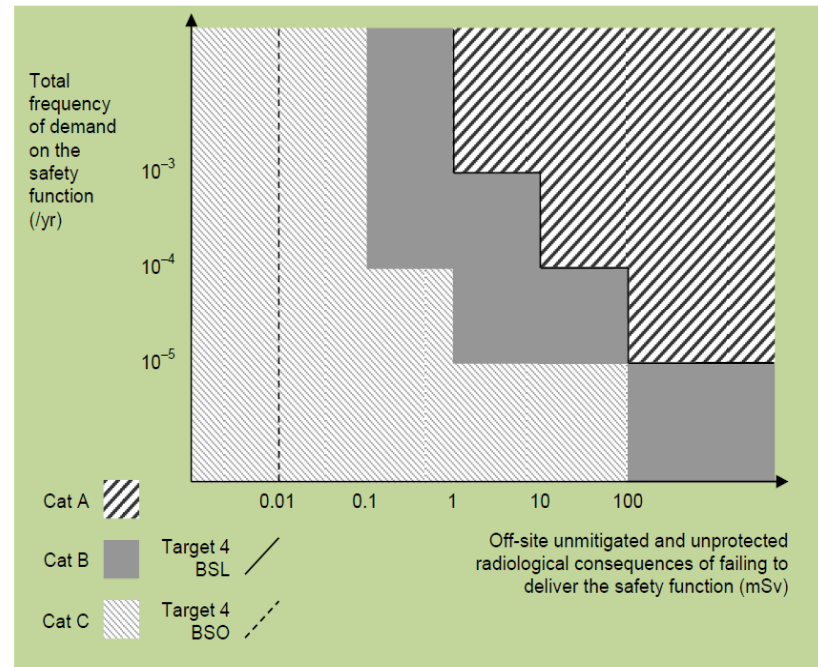
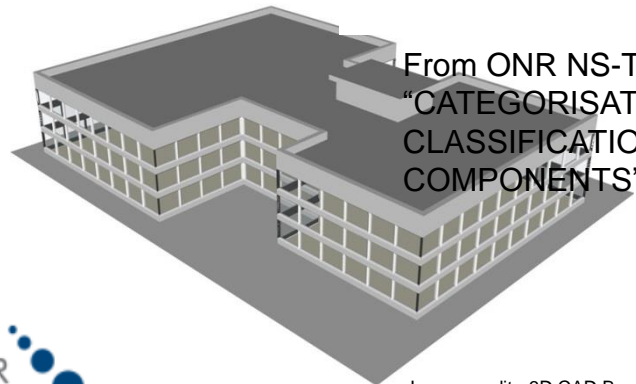


Figure 3a – Off-site frequency/consequence regions for initial safety function categorisation (see Section 5.5.2)



From ONR NS-TAST-GD-094;  
 “CATEGORISATION OF SAFETY FUNCTIONS AND CLASSIFICATION OF STRUCTURES, SYSTEMS AND COMPONENTS”

## What has it meant so far? (2)

- When choosing location of an area (concept design);
- Trivial example;
  - Imagine a glovebox laboratory

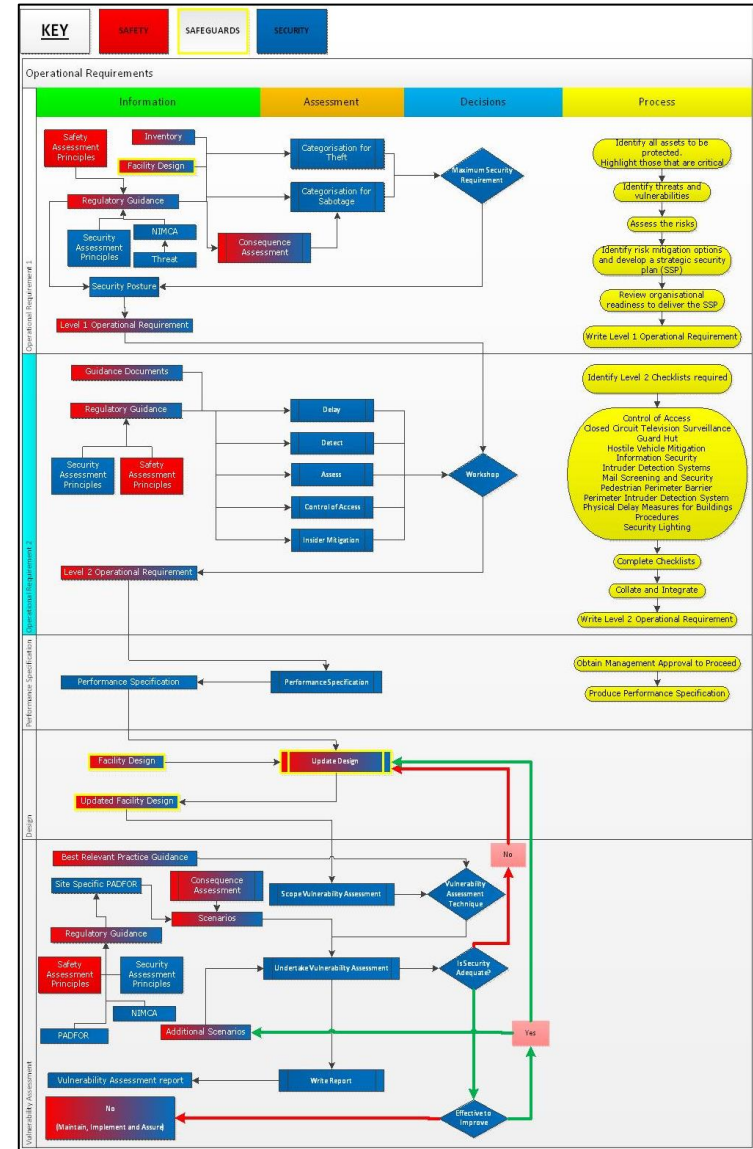


Image; NNL



# What has it meant so far? (3)

- Diagram shows traditionally 'security only' process
- Safety and Safeguards input now sought at various points
- (detail available in paper)





## Conclusions

- Our progress thus far reflects “Safety and Safeguards Informed Security” (SSIS) rather than true “SSS”
- The integration of SSS is an approach or mind-set centred around sharing thinking and understanding; it is not yet a specified process
- Specialists in Triple S disciplines need to become more aware of the priorities, approaches, methods and drivers of other specialists delivering their respective objectives
- SSS integration offers an opportunity to better understand our risks ‘holistically’, and therefore manage them commensurately

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Thank you  
Any questions?