

UFSAR and 50.59 process

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Outline

- Background
 - Hierarchy of Documents
 - License Application
 - FSAR and Updated FSAR
 - Evolution of 10 CFR 50.59
- 10 CFR 50.59 Process
- 10 CFR 50.59 Structure
 - Applicability
 - Screening
 - Evaluation
 - Document & Reporting
- Summary

Hierarchy of Documents



Obligations

Law
Operating License
Orders

Regulations
Tech Specs



Mandated Licensing Documents

UFSAR
Tech Specs Bases
Security Plan
ODCM
PTLR

QAPD
TRM
E-Plan
Fire Protection
COLR

Regulatory
Commitments



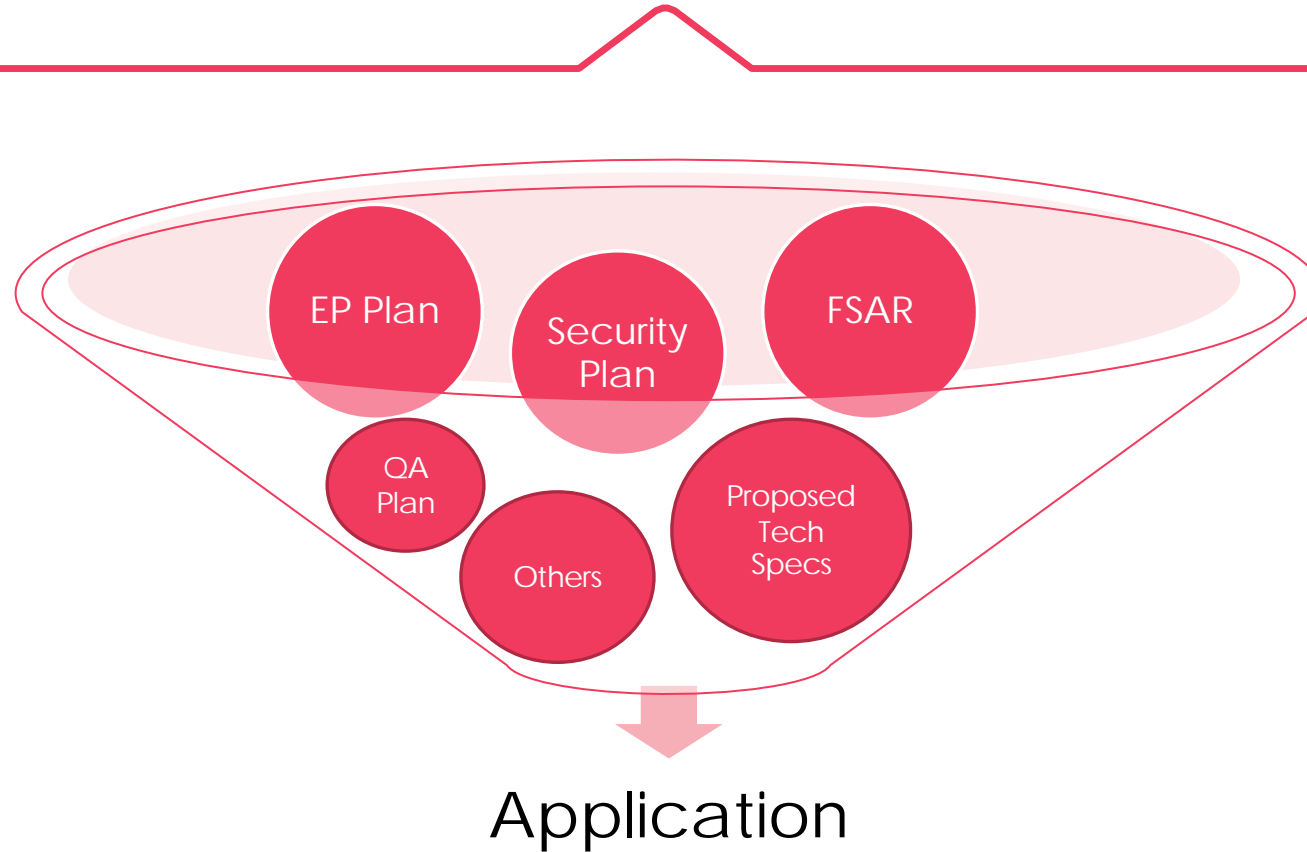
Other Regulatory Processes & Tools

Regulatory Guides
Generic Letters
Topical Reports

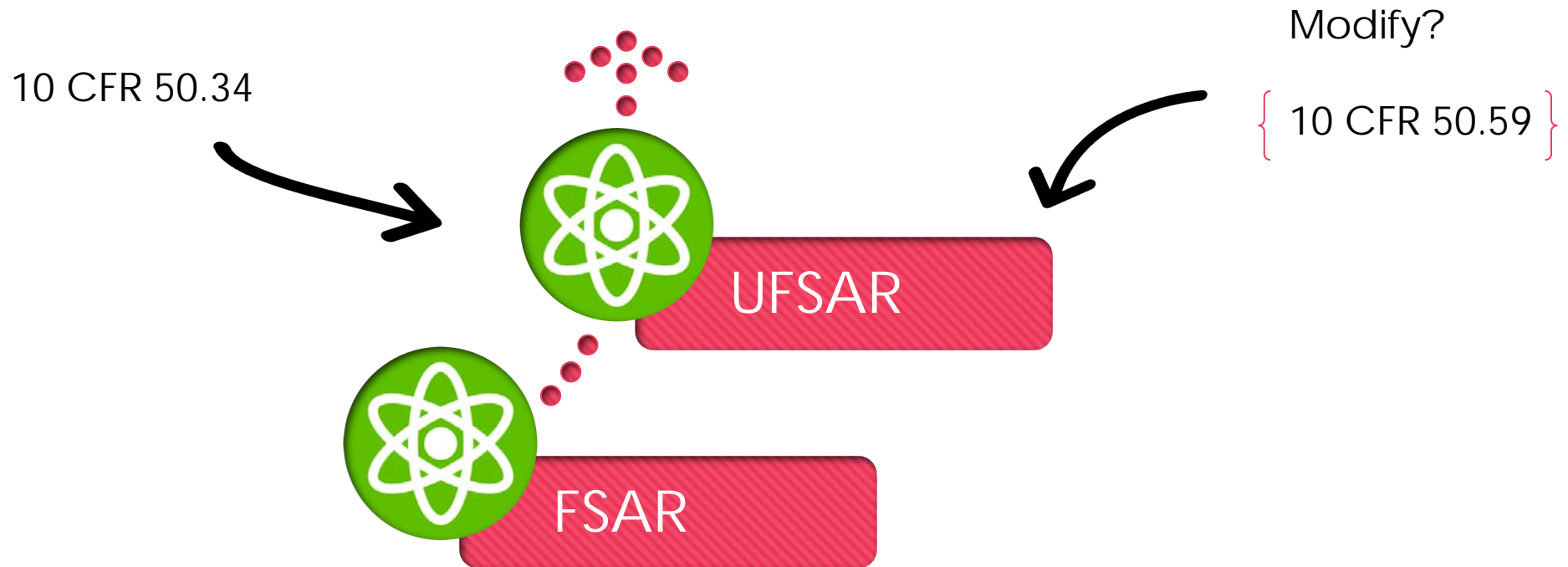
Industry Codes & Standards
Safety Evaluation Reports (SERs)
Standard Preview Plan

Procedures,
Calculations &
Drawings

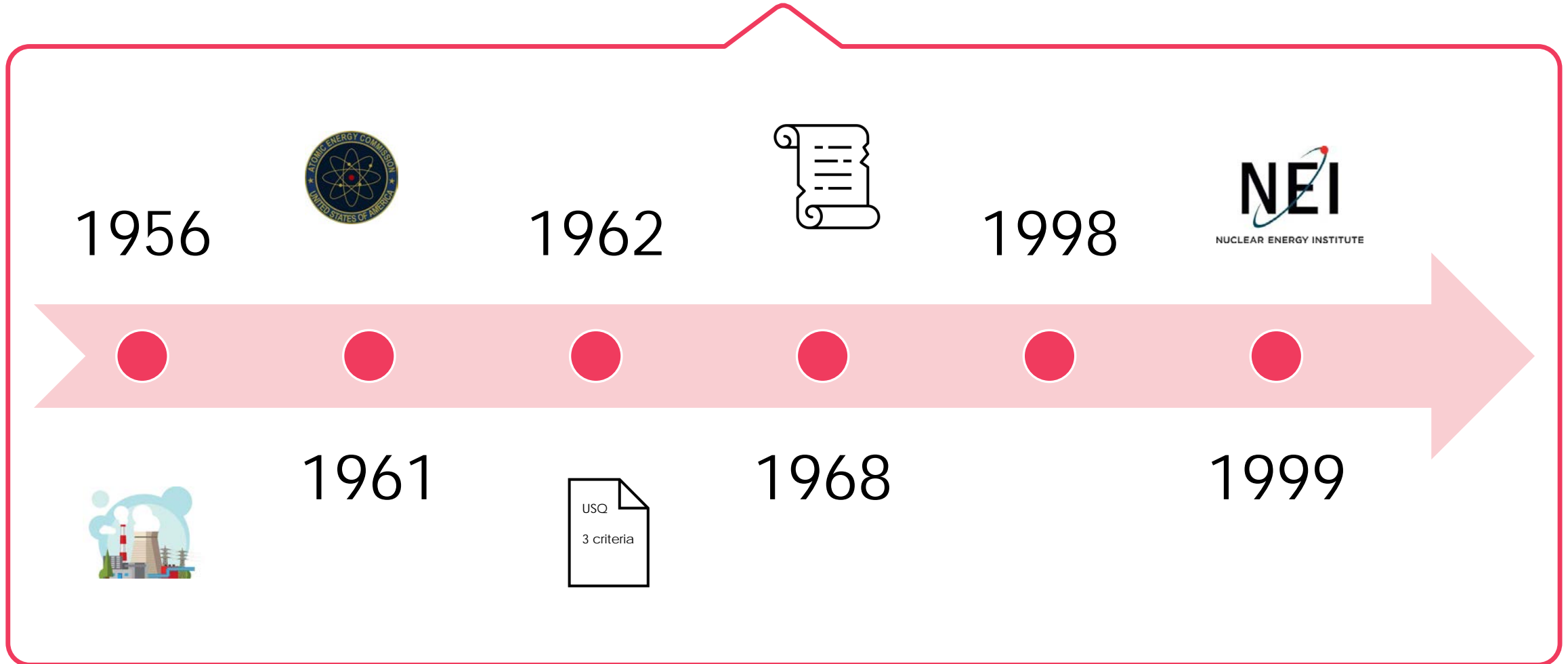
License Application



FSAR and Updated FSAR



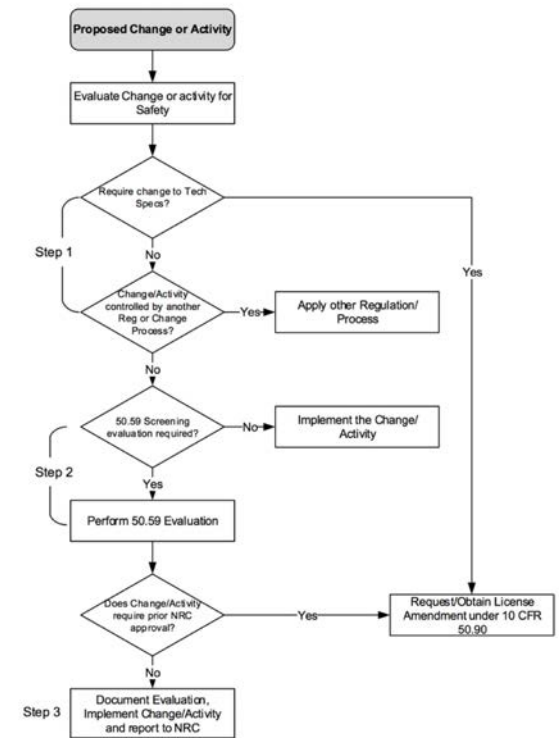
Evolution of 10 CFR 50.59



10 CFR 50.59 Process

(c)(1) A licensee may make changes in the facility as described in the final safety analysis report (as updated), make changes in the procedures as described in the final safety analysis report (as updated), and conduct tests or experiments not described in the final safety analysis report (as updated) without obtaining a license amendment pursuant to §50.90 only if:

- (i) A change to the technical specifications incorporated in the license is not required, and
- (ii) The change, test, or experiment does not meet any of the criteria in paragraph (c)(2) of this section.



10 CFR 50.59 Structure



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graph LR; A[Applicability] --> B[Screening]; B --> C[Evaluation]; C --> D[Documentation and Reporting];
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Applicability

Screening

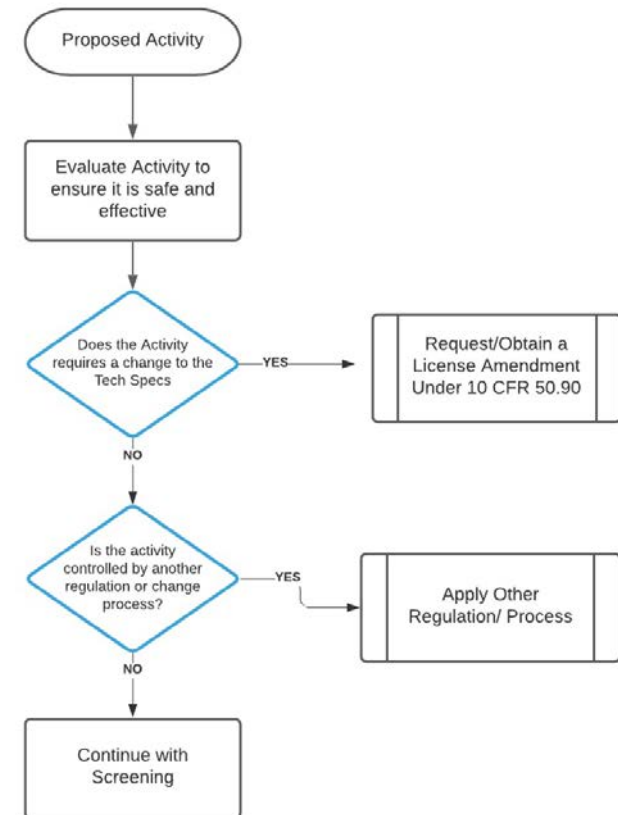
Evaluation

Documentation
and Reporting

Applicability

- ✓ Test and Experiments
- ✓ Changes to Facilities

- ✗ Maintenance Activities
- ✗ Editorial Changes to the UFSAR
- ✗ Fire Protection



Screening

1

- Is it a change to the facility as described in the final safety analysis report?

2

- Is it a change to the procedures as described in the final safety analysis report?

3

- Is it the conduct of tests or experiments not described in the final safety analysis report?



LOCA Calculations

Original: Power Level 105%
Proposed: Power Level 100%

Change in the input parameter

Fuel Management Changes

Core Physics Parameters change for a particular Reload Cycle.

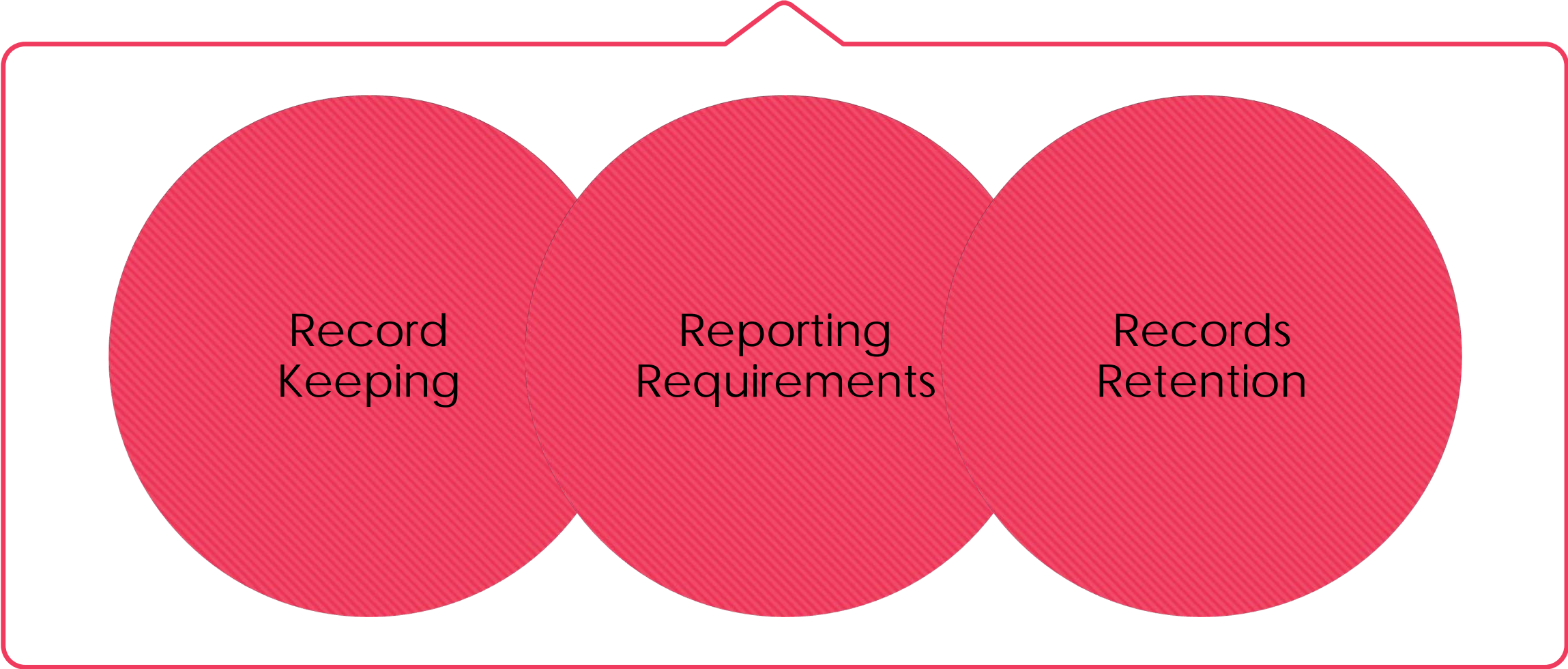
Change within terms & conditions.

Evaluation

- i. Accident frequency
- ii. Malfunction likelihood
- iii. Accident consequences (dose)
- iv. Malfunction consequences (dose)
- v. Accidents of a different type
- vi. Malfunctions with a different result
- vii. Fission product barriers
- viii. Departure from a method of evaluation



Documentation & Reporting



Record
Keeping

Reporting
Requirements

Records
Retention

Summary

- The purpose of today's presentation was to introduce the 50.59 process and give its background information
- We review this background information to understand the purpose of recent revisions:
 - Provide greater flexibility to licensees, primarily by allowing changes that have minimal safety impact to be made without prior NRC approval
 - Clarify the threshold for "screening out" changes that do not require full evaluation under 10 CFR 50.59, primarily by adoption of key definitions.

Questions?

Thanks



References

- NEI 96-07
- www.nrc.com
- www.nuclearelectricalengineer.com
- PVGS Legacy Class (Plant Rotation and Design Rotation)
- INL "Regulatory Aspects of the Human Factor Engineering Process in Control Room Modernization" Jacques, J.J., June 2017