



# **Rulemaking: Alternative Physical Security Requirements for Advanced Reactors**

## **Public Meeting/Workshop**

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October 19, 2021



# Agenda

<b><i>Time</i></b>	<b><i>Topic</i></b>	<b><i>Speaker</i></b>
12:30 PM - 12:45 PM	Meeting Logistics and Opening Remarks	NRC
12:45 PM - 2:00 PM	Discussion on Latest Preliminary Proposed Rule Language (NRC to kick-off discussions)	NRC, NEI, Public
2:00 PM – 2:15 PM	<i>BREAK</i>	<i>ALL</i>
2:15 PM – 3:45 PM	Discussion on Possible Changes to Eligibility Criteria	NRC, NEI, Public
3:45 PM – 4:00 PM	Final Questions & Answers and Closing Remarks	NRC, NEI, Public

# Background



## Rulemaking

- NRC is currently developing *Alternative Physical Security Requirements for Advanced Reactors* – proposed rule
- More information about this rulemaking and its supporting guidance can be found:
  - [www.regulations.gov](http://www.regulations.gov) under docket ID: NRC-2017-0227

## Supporting Guidance

- Implementation guidance for this proposed rulemaking will consist of DG-5071, DG-1365, and may endorse NEI 20-05.
- The NRC staff is developing DG-1365 which focuses on the physical security alternatives and will serve as the vehicle for endorsing any external implementing guidance for this rulemaking.
- The NRC staff is developing DG-5071 (a revision to RG 5.81) which focuses on target sets.
- NEI is developing NEI 20-05 which focuses on the eligibility criteria contained in the proposed rulemaking.

# Schedule Extension



Commission has approved a 9-month extension

- New **Proposed Rule** Dates:  
To the Commission: **06/28/2022**
- New **Final Rule** Dates:  
To the Commission: **10/19/2023**



# DISCUSSIONS



# Preliminary Proposed Rule Language



10 CFR 73.55(b)(3)

Potential conforming change to:

- give advanced reactors an alternative
- house the offsite reference dose values



# Preliminary Proposed Rule Language



- Proposed Eligibility Criteria have been condensed into a single applicability statement

*(s) Alternative physical security requirements.*

*(1) General requirements.*

*(i) Applicability.* A licensee of a small modular reactor, as defined in § 171.5, or non-light water reactor that is licensed under the provisions of part 50 of this chapter or a holder of a combined license for a small modular reactor or non-light water reactor under the provisions of part 52 of this chapter, may elect to meet one or more of the alternatives to certain security requirements as specified in § 73.55(s)(2), if doing so meets the performance objectives under § 73.55(b)(3).

# Preliminary Proposed Rule Language



- Proposed Eligibility Criteria have been condensed into a single applicability statement

*(s) Alternative physical security requirements.*

*(1) General requirements.*

*(ii) Identification.* The licensee must identify the specific alternative physical security requirement(s) it intends to implement as part of its physical protection program.





# Preliminary Proposed Rule Language



- Proposed Eligibility Criteria have been condensed into a single applicability statement

*(s) Alternative physical security requirements.*

*(1) General requirements.*

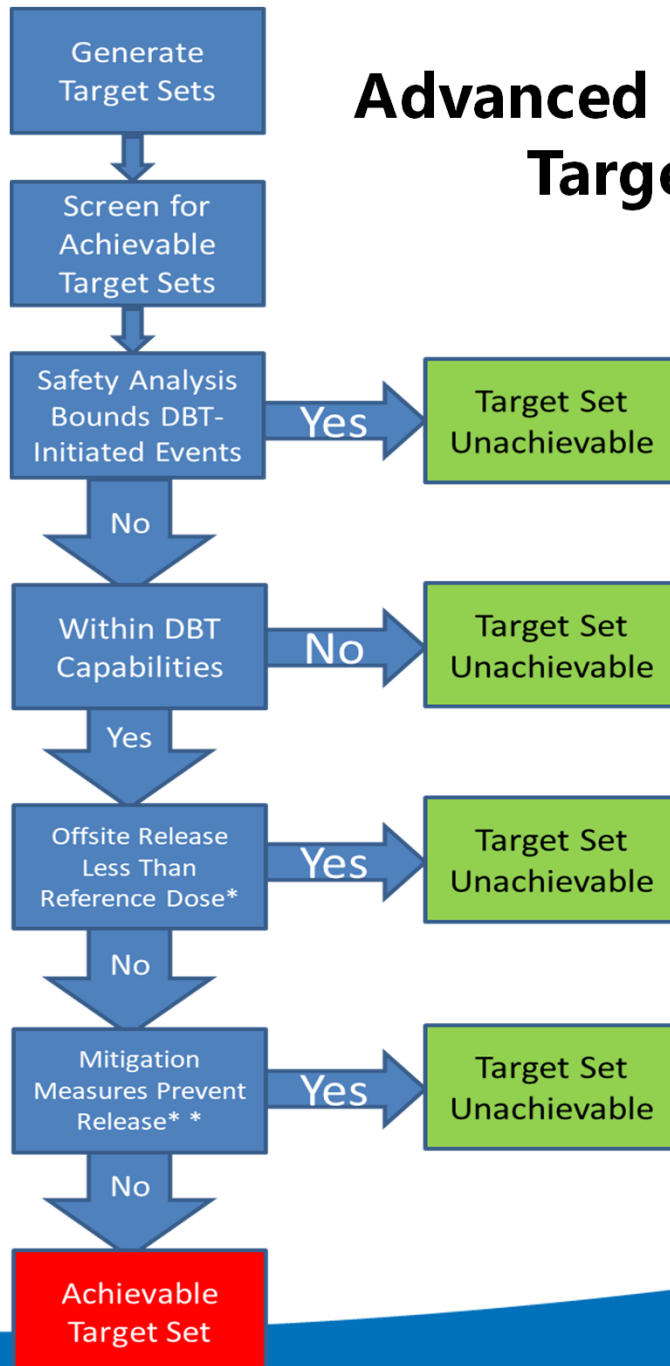
*(iii) Analysis.* A site-specific analysis must be performed to evaluate the potential offsite radiological consequences and demonstrate how the licensee meets the requirements set forth in § 73.55(b). Each licensee must maintain the analysis required by paragraph (s)(1) of this section until the permanent cessation of operations under § 50.82 or § 52.110(a) of this chapter.



# Revised Process Flowchart



# Advanced Reactors: Proposed Target Set Process



## NOTES

- APSR = Alternative Physical Security Requirements
- Consequence analysis determines the time offsite release greater than reference values occurs, assuming target set is lost at  $t=0$ .

## LEGEND

GREEN Boxes → APSR can be implemented

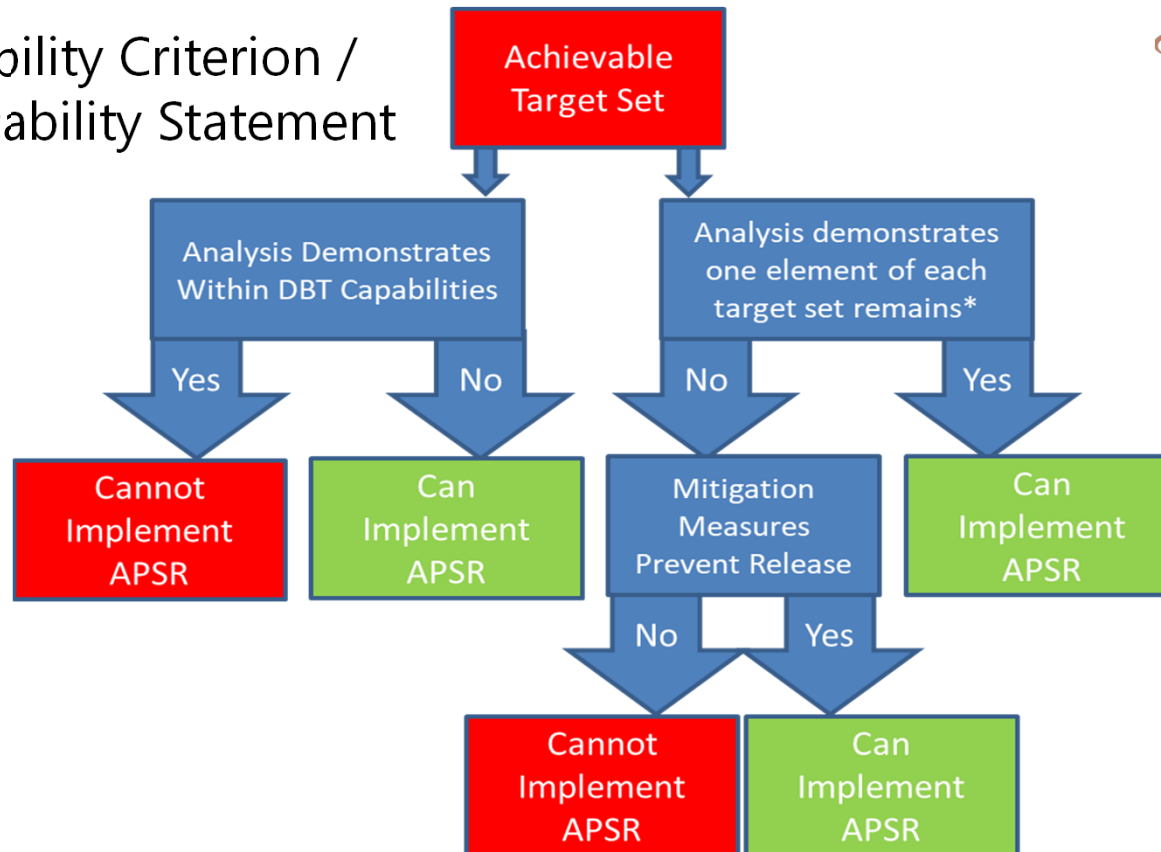
BLUE Boxes → Process and/or analysis

RED Boxes → Cannot implement APSR

\* At a bounding time

\*\* After a bounding time and before offsite release greater than reference values occurs.

## Eligibility Criterion / Applicability Statement



### **LEGEND**

GREEN Boxes → APSR can be implemented  
BLUE Boxes → Process and/or analysis  
RED Boxes → Cannot implement APSR

\* At a bounding time  
\*\* After a bounding time and before offsite release greater than reference values occurs.

### **NOTES**

- APSR = Alternative Physical Security Requirements
- Analysis is specific to the ability of the credited features of a facility design to: (1) prevent the DBT from compromising a full target set within a bounding time or, (2) identify a time to compromise full target set.
- Mitigative measures occur after a bounding time and before an offsite release greater than reference values occurs.
- Time when an offsite release occurs for mitigation measures = time identified in target set for offsite release + time identified to compromise the full target set.

# Focus Areas



- Finalize proposed rule language
- Complete Draft Guidance
  - DG-5071
  - DG-1365 & NEI 20-05
    - Path forward to refine eligibility criteria guidance and establish guidance to assess design basis threat impact on potential release (i.e., determine release fraction)



# Thank You!



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Regulations.gov docket ID: [NRC-2017-0227](#)

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