



NEXT

ACU Science and Engineering Research Center Design & Planned Construction

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UNIVERSITY

NRC Project Number 99902088 supporting pre-application licensing activities

Meeting Focus



Gain an understanding of the regulatory intent of 10 CFR 50.10(a)(2)(x) and how it relates to ACU's Science and Engineering Research Center (SERC) being planned as a potential housing for our Molten Salt Research Reactor (MSRR).

- Discuss how 10 CFR 50.10(a)(2)(x) relates to SERC construction activities
- Describe Science and Engineering Center (SERC)
- Determine steps forward



10 CFR 50.10 License required; limited work authorization.



- (a) Definitions. As used in this section, construction means the activities in paragraph (a)(1) of this section, and does not mean the activities in paragraph (a)(2) of this section.
 - (2) Construction does not include:
 - (x) With respect to production or utilization facilities, other than testing facilities and nuclear power plants, required to be licensed under Section 104.a or Section 104.c of the Act, the erection of buildings which will be used for activities other than operation of a facility and which may also be used to house a facility (e.g., the construction of a college laboratory building with space for installation of a training reactor).

ACU believes constructing the SERC with a room for the MSRR meets 10CFR50.10(a)(2)(x):

1. The MSRR will be a utilization facility.
2. The MSRR will NOT be a testing facility or nuclear power plant, but a research reactor.
3. The MSRR will be licensed under Section 104.c of the Act.
4. The SERC will be used for activities other than operation of a MSRR facility but may be used to house the MSRR.

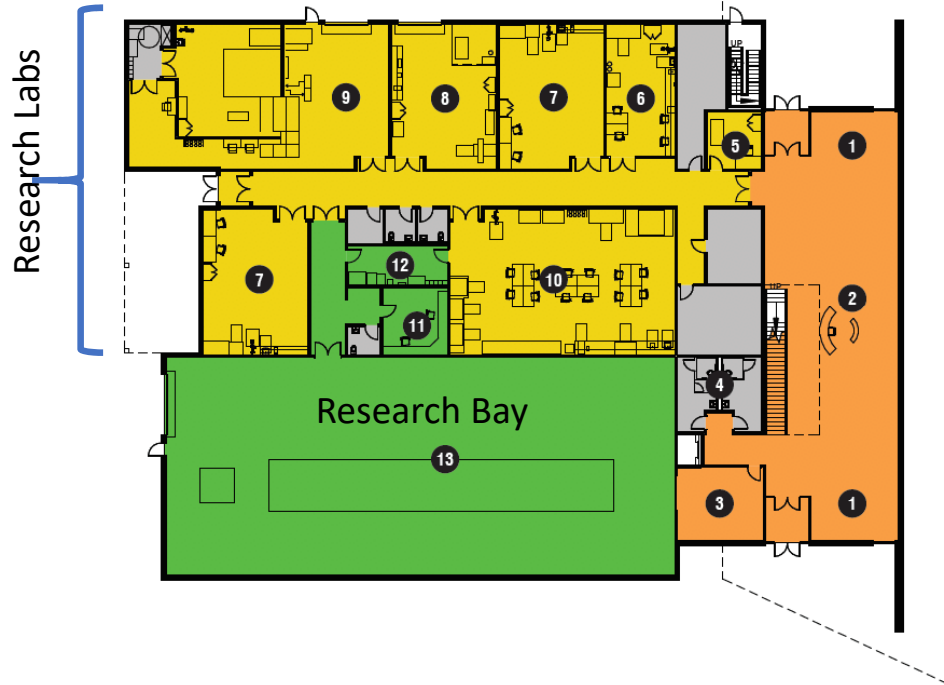




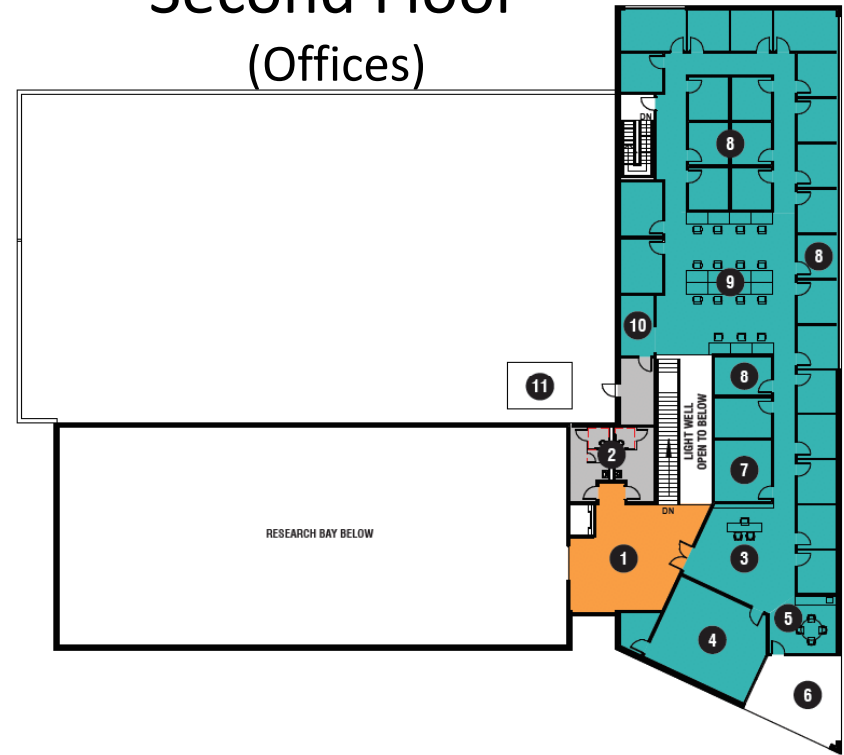
Science and Engineering Research Center

- 30,000 ft² facility
 - 6,000 ft² Research Bay
 - Specialty Research Labs
 - Offices
- Conceptual Design completed by Parkhill
- Linbeck construction company hired.
- Design Completed: Jan 2021
- Begin Construction: Early 2021
- Completed: Spring 2022

First Floor



Second Floor (Offices)



Science and Engineering
Research Center





Science and Engineering Research Center



- The SERC is being designed to be a university laboratory building with space used for broad research and education activities and is a potential candidate to house a future research reactor.
- ACU believes that the erection of the SERC with potential space for the research reactor is an activity that is not construction requiring the issuance of a CP because of the unique language in **10 CFR 50.10(a)(2)(x)** that includes allowance for “*a college laboratory building with space for installation of a training reactor,*” and that the use of the SERC is intended for activities other than reactor operation such as teaching and other research activities.



Discussion Topics

- Is there anything in the SERC scope that might be considered construction under 10 CFR 50.10(a)(1)?
- Specific SERC features:
 - HVAC?
 - Cable and Conduit /security ?
 - Concrete and Floor Loading analysis for use of an existing facility?
 - Fire Protection?

Review Process for an Existing Building



- How and when would the NRC determine if SERC construction meets the definition of 10 CFR 50.10 (a)(2)(x)?
- What can ACU submit or ask to assist with the determination of the question?
- How would the NRC document their decision?

