Kyoto University Seismic Retrofitting Promotion Policy

Historical Buildings / Wooden Buildings / Research Reactor Facilities

March 2007

Kyoto University

Historical Buildings

Policy

Kyoto University is committed to protecting its assets (important cultural properties, national treasures, etc.) while fulfilling its education and research functions.

Current Situation

There are two types of historical buildings: registered tangible cultural properties and historical buildings specified by the university.
There are about 19,000 m^2 of historical buildings, of which around 14,000 m^2 are in need of seismic reinforcement.

Historical Buildings

Registered Tangible Cultural Properties

- University Conference Room (Sonjo-do)
- Faculty of Letters Exhibition Hall
- Main Gate Station (Faculty of Integrated Human Studies Main Gate Station)
- Rakuyu Kaikan
- Faculty of Agriculture Main Gate Guard Station
- Former Head Office of Forest Research Station
- Documentation and Information Center for Chinese Studies
- Main Building (Institute for Geothermal Sciences, Faculty of Science)
- Seifuso Villa

- Former Main Building of the Petrochemistry Course
- Faculty of Engineering Department of Civil Engineering Historic Building
- Faculty of Engineering Department of Architecture Historic Building
- The Faculty of Medicine's dissection lecture room
- Tissue Laboratory, Department of Anatomy
- Faculty of Medicine Bldg. I
- Former Kyoto Textile Main Building
- Medical Library Stacks
- Wood-based Material Laboratory (RISH)
- Biomass Material Laboratory (RISH)
- Laboratory of Ceramic Chemistry (ICR)
- Laboratory of Ceramic Chemistry (ICR)
- Faculty of Engineering Warehouse

Key
- Buildings that meet seismic performance requirements and do not require retrofitting
- : Buildings that require seismic reinforcement
- : Infrequently used facilities (Garages, warehouses, etc.)

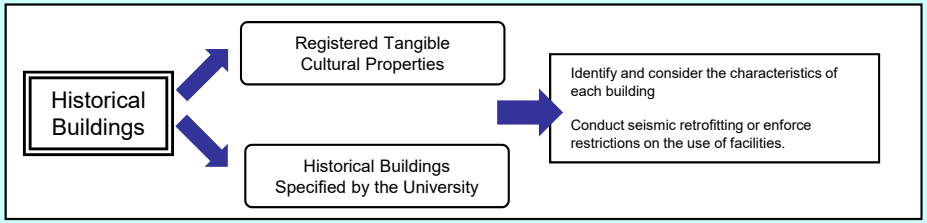
Measures

- It is necessary to distinguish between registered tangible cultural properties and historical buildings specified by the university.

- The evaluation of historical buildings does not depend solely on seismic performance but must also take into account the characteristics of each building.

- We will continue to fulfill our education and research functions while promoting earthquake-resistant construction when necessary to protect university assets.

- Important cultural properties that do not have educational or research functions should be preserved by either making them earthquake-resistant, restricting usage, or changing their purpose of use.



Objectives

To review the potential uses of historical buildings in ways that maintain their educational and research functions in order to protect the university's assets and promote improved seismic performance by formulating a preservation and utilization plan that includes maintenance and management.

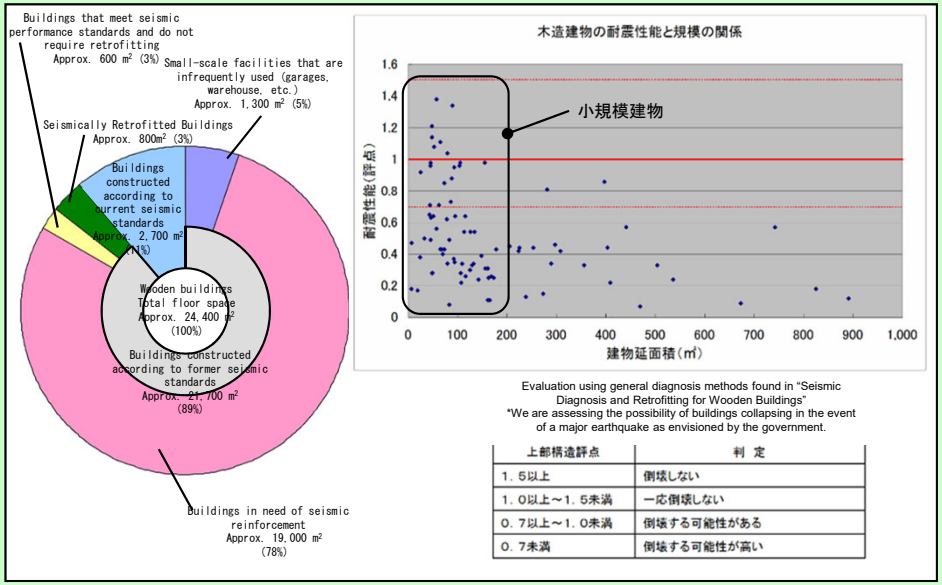
Wooden Buildings

Policy

Upon reviewing the use and functions of wooden buildings, we will demolish, rebuild, or seismically reinforce them from the perspective of comprehensive disaster prevention that considers aging facilities and fire resistance.

Current Situation

- There are about 24,000 m^2 of wooden buildings (about 2% of all Kyoto University facilities), of which more than 80% need seismic reinforcement.
- Most small-scale buildings have been closed and are considerably dilapidated.
- Some large wooden buildings still remain.



Evaluation using general diagnosis methods found in "Seismic Diagnosis and Retrofitting for Wooden Buildings"
*We are assessing the possibility of buildings collapsing in the event of a major earthquake as envisioned by the government.

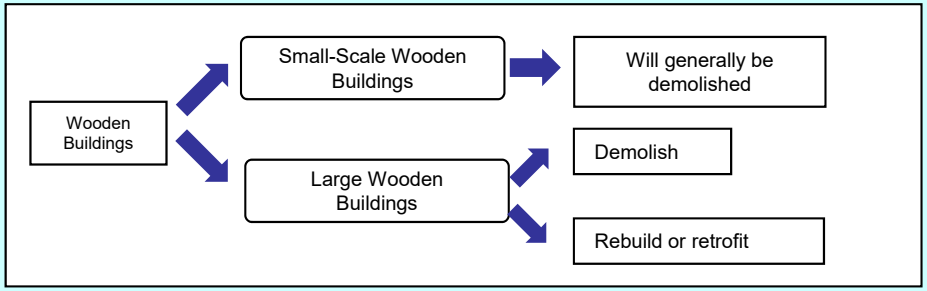
上部構造評点	判 定
1.5以上	倒壊しない
1.0以上～1.5未満	一応倒壊しない
0.7以上～1.0未満	倒壊する可能性がある
0.7未満	倒壊する可能性が高い

Measures

- Small-scale and large wooden buildings will be considered separately.

- Small-scale wooden buildings with poor seismic capacity and significant deterioration located across university campuses will generally be demolished after reviewing their uses and consolidating building functions.

- Large wooden buildings should be demolished, rebuilt, or reinforced to improve seismic performance, taking into consideration intended use and cost-effectiveness.



Objectives

To not only seismically retrofit wooden buildings but also systematically promote environmental improvements, with an emphasis on disaster prevention measures and the consolidation of building functions, with the aim of fireproofing facilities.

Research Reactor Facilities

Policy

In order to ensure a safe and secure environment and maintain functions necessary for business continuity, the New Regulatory Guide for Reviewing Seismic Design of Nuclear Power Reactor Facilities, which were revised in September 2006, will be applied *mutatis mutandis*, and we will continually improve the seismic performance of facilities.

Current Situation

- Facilities whose seismic performance is determined based on their functional importance

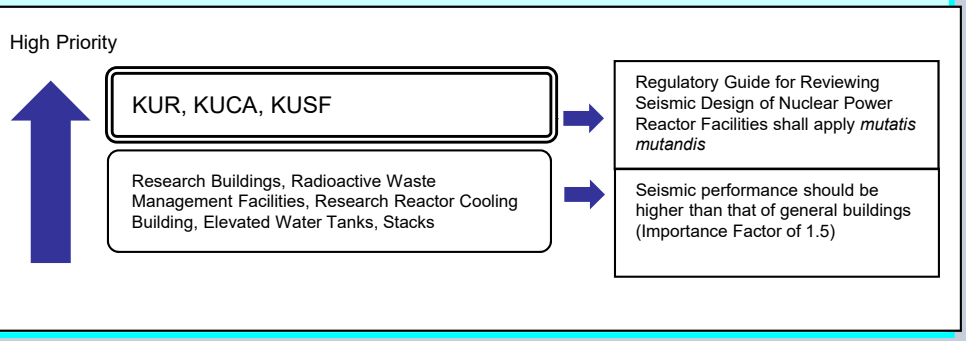
Facilities of particular importance that must comply with new guidelines

- Kyoto University Research Reactor (KUR)
- Kyoto University Critical Assembly (KUCA)
- Kyoto University Spent Fuel Room (KUSF)

- Central Control Room (Research Building)
- Waste Management Facility (Radioactive Waste Management Facility)
- Research Reactor Cooling Building
- Elevated Water Tanks
- Stacks

Measures

- For important research reactor facilities (KUR, KUCA, and KUSF), seismic diagnoses will be conducted according to new regulatory guidelines, and if necessary, plans for retrofitting will be developed to improve seismic performance.
- Other facilities will each be reviewed for seismic performance (an importance factor of 1.5) according to their respective functions, and if necessary, plans for retrofitting will be developed to improve seismic performance.



Objectives

To improve the seismic performance of nuclear reactor facilities to ensure a safe and secure environment for educational, research, and medical activities.