

# 建築機能を考慮した地震リスク評価手法による BCPの復旧曲線の定量化に関する研究

A Study on Quantification of Recovery Curve in Business Continuity Plan by Seismic Risk Assessment Considering a Functional Stop of Building Equipments

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## 要 旨

東南海・南海地震や首都直下地震等が切迫する中、既存不適格建物の耐震化は不十分な状況である。中央官庁や企業では事業継続計画（BCP）の取組みが浸透し、その概念は理解されてきたものの、耐震化の費用対効果を定量的に明示する手法が確立していないため、ハード対策の立ち遅れが見られる。本論文は、建物機能を考慮した地震リスク評価手法によりBCPの復旧曲線の定量化を試み、東京のオフィスビルに適用して、耐震化の費用対効果の明示を検討したものである。

キーワード：BCP，地震リスク評価，復旧曲線，機能停止期間，機能維持率

## Summary

Although the occurrence of the next Tonankai-Nankai Earthquake, the North Tokyo Bay Earthquake, and so on is imminent, the seismic reinforcement of the existing disqualified buildings is insufficient. The concept of business continuity plan (BCP) has been understood by the government authorities and companies, but the method to quantitatively specify the cost effectiveness of the seismic reinforcement of structures has not been established, and the delay of hard measures is seen.

This paper shows the quantification of recovery curves of BCP by the seismic risk assessment technique considering a functional stop of building equipments and the cost effectiveness of seismic reinforcement of a building, by applying it to an office building in Tokyo as an example.

As results, the seismic reinforcement of a building has an effect to shorten the recovery time and to reduce the functional loss of the building, and the effectiveness in the reduction of the economic loss is shown. Also, as for the base isolation retrofit, the initial cost is large but the repair cost and indirect damage is the smallest. It is found that the case to which the damping system is added (damping factor of 20%) is most effective.

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