Generally repetitive construction project is a large scale project, such as the construction of highway, tunnel, pipeline, high-rise building, and housing project. The main benefits provided by the use of repetitive scheduling techniques have been documented in past studies in terms of the increase in crew productivity. By using such techniques, repeating activities can be performed continuously from one unit to the next without interruptions. However, the development of these techniques is quite limited, especially the ability to determine activities' floats, the numbers of working days each activity can delay without affecting the starting time of succeeding activities or project duration.

The objectives of this research are 1) to develop a method to determine total float and free float for repetitive activities with 3 technical relationships (FTS, STS, and FTF) and 2) to apply such method into the computer program called Kasetsart University Repetitive Construction Planning (KU RCP 2.0). The result shows that determining floats of repetitive activities must consider both relationships resulting from crew work schedule and technical relationships whereas determining floats for ordinary activities considers only the later relationships. Since repetitive activities are scheduled such that each work team can perform continuously without interruptions, free floats of most activities are zero, except those of the activities in the last round. A method of calculating total floats of repetitive activities is similar to that of ordinary activities only that the relationships resulting from crew work schedule must be taken into account when late start and late finish dates are determined. Given this concept, a float calculation module is then applied to the program KU RCP 2.0 into 2 parts: work scheduling and project updating. With this module, the program can calculate floats of both repetitive activities and non-repetitive activities for both repetitive scheduling method and early-start method. To increase flexibility, this computer program allows a program user to choose the project end date from either project finish date or contract end date.

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