

Development of Delay Responsibility Determination Model based on the Probabilistic Risk Analysis

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Abstract: This research attempts to resolve the construction delay issues of indirect delays by developing the "Delay Responsibility Determination Model" (DRM) based on probabilistic risk analysis. DRM is envisioned to provide a way of quantitatively analyzing impacts of delayed activities while considering both direct and indirect influences. With the successful development of DRM, it would be possible to present relative probabilistic measures to all the related stakeholders in terms of their contributions to schedule delays. Upon the development completion of DRM, "Korean Construction Delay Claim/Dispute Resolution Protocols" will also be prepared to facilitate the effective use of DRM.

Keywords: Indirect Impacted Delay, Determination Model of Responsible Delay, Probability Risk Analysis

I. INTRODUCTION

1) A construction project is prone to schedule delays since it has often to deal with a high level of uncertainties involving various stakeholders. The schedule delays can cause serious damages to the construction project such as escalating the project cost and imposing liquidated damages to the responsible party.

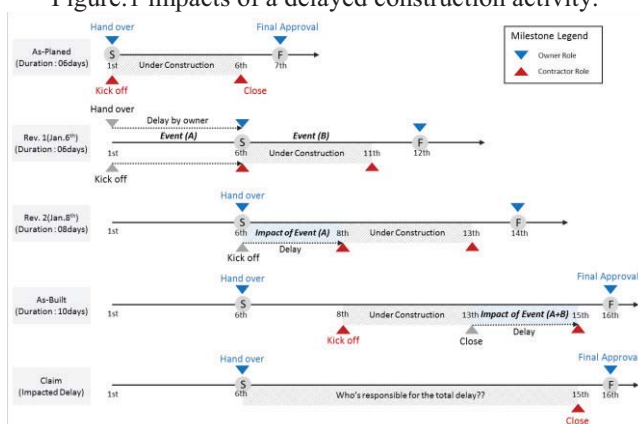
2) However, it is very difficult to clarify the delay impacts of a construction activity due to the complex indirect influences of the already delayed activity to following activities.

3) According to the Korean Commercial Arbitration Board (KCAB) report, the number of construction claims and disputes have dramatically been increased for the last few years, and the schedule delay is believed to be one of the main reasons of these increased disputes in the construction industry. Hence, it is required to enhance the abilities of interpreting various construction delays by considering indirect impacts of a delayed construction activity.

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Figure.1 impacts of a delayed construction activity.



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