DR08: Cumulative Impact Claims

When changes in a project become numerous and act concurrently, it creates a compounding effect in the life cycle of the project, and to this date there is no definitive standard to calculate such loss of productivity claims. Cumulative impact claims are becoming more prevalent on projects which have multiple changes over the course of the project.

Almost every change to a construction project has some effect on the project's cost and time. There are generally two categories of this effect:

- The direct cost and time of performing the change, and
- The impact the change may have on other unchanged or contractual work because of delay, disruption, change of sequence, lack of resources, etc.

Contractors generally do not have much difficulty estimating the direct costs or time required to perform a single change, but it is very difficult to accurately asses the impact of that change on the unchanged or contractual part of the work. To execute a change it may have been necessary to delay or disrupt the unchanged work, or perform it in a manner or sequence different to that originally planned, all of which may lead to a loss of productivity and increased costs.

Difficulty in assessing the impacts, coupled with the resistance on the part of the contract administrator to recognize such impacts, often leads to a decision to leave such impacts out of the individual changes. Neglecting such impacts may not be a big problem if the number and value of the changes on a project are minimal, but the situation becomes more complex in the case of an extensive number of changes on medium-sized and large projects.

This compounding and negative effect often goes unnoticed until it is too late. It generally becomes apparent only in the latter stages of a project when work cannot be completed on time and when labour productivity does not measure up to the anticipated levels.

What is a Cumulative Impact Claim?

Two things are certain about almost any construction project: (1) there will be changes made during the course of construction, and (2) the employer and the contractor will seldom agree on the total effect of those changes on the time impact and cost of the project. Changes to the work can and should be addressed on a case by case basis, but when the project is overwhelmed with changes a certain phenomenon is often experienced. This phenomenon is referred to by industry experts as cumulative impact. This is the result of multiple changes to a project that when taken individually may not have significant impact to the project. Many times, contractors, employers and their representatives do not recognize this impact until it has already occurred.

An analogy to describe a 'cumulative impact claim'.

Compare the notion of cumulative impact to a still pond of water which represents a smoothly running construction project. When one change is introduced to a project, it is similar to throwing a rock into the water and watching the ripples that emanate. Those ripples are the effect that one change has on the project. When multiple changes occur, at different times, multiple rocks of varying sizes are thrown into the pond at various locations. Each rock that is thrown into the pond has its own impact in the form of the ripple pattern it creates. Eventually, if enough rocks are thrown into the pond at different times, there is no simple ripple pattern. Instead, turbulence is created with each stone's ripple

patterns impacting the others. Soon, there is no pattern and turbulence becomes the order of the day. Such is the effect on a construction project when multiple impacts are experienced over a period of time. While each change or impact, on its own, may be manageable, when they are introduced together over a relatively short period of time, an impact to the overall progress of the project can be felt.

DR08: Cumulative Impact Claims.(Cont'd)

Demonstrating Cause and Effect.

Construction contracts do not typically include adequate language to enable fair and equitable compensation for the unforeseen impact of cumulative changes. Furthermore, cumulative impact claims are one of the most difficult forms of claim to present and prove. It is generally agreed that the theory of cumulative impact is reasonable, and that multiple changes and other types of delays and disruption can negatively impact the performance of the changed work such that a contractor expends additional time, man-hours and costs, in completing its original scope of work.

When a project is impacted with a large amount of changes, the site supervisors spend their time coordinating the changed work and finding the most productive work for their crews in an attempt to be on budget and on programme. They have less time to document the impacts to their work and fill out the daily timesheet of their resource allocation. Without these records, the contractor will find it difficult to recover his additional costs.

It is recommended that the contractor should track the changes, individually or in like groups, in separate cost accounts kept apart from the cost accounts for the original scope of work. In essence, the use of effective cost-accounting methods and the maintenance of appropriate cost records can minimize many of the proof problems inherently associated with construction claims.

Furthermore, when a contractor becomes aware that a multitude of changes are impacting its productivity it is essential that the contractor notify the contract administrator of this and reserves its rights to claim.

Future articles on 'Cumulative Impact Claims' will present and discuss methods of evaluating these types of claims, such as 'modified total cost', 'measured mile', and recognised industry studies.

Finally, cumulative impact claims are not just a theoretical concept but a real occurrence on construction projects suffering numerous changes.