Analysis of the impact of the COVID-19 Epidemic on the construction engineering EPC projects and claims

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Abstract: Project construction contract disputes caused by the COVID-19 Epidemic are currently a hot issue of concern to both contracting parties. Based on the conclusion confirmed by the Legal Work Committee of the National People's Congress that the inability to perform the contract due to the prevention and control of the COVID-19 Epidemic is force majeure, it analyzed and discussed the contractor's claimable and non-claimable construction period and expenses due to the COVID-19 Epidemic.

1. Introduction
In early 2020, the new crown epidemic appeared in Wuhan, Hubei Province, and it quickly spread to other provinces and cities. All parts of the country have successively initiated first-level emergency response to major public health emergencies, and a series of prevention and control measures have been adopted such as isolation, lockdown, traffic control, and prohibition of early resumption of work. Because construction projects in various regions for the prevention and control of the epidemic cannot start or resume work on time, the contractor cannot perform the obligations normally according to the contract and suffer losses as a result[1]. On February 10, the Legal Work Committee of the Standing Committee of the National People's Congress made it clear that failure to perform the contract due to the prevention and control of the COVID-19 Epidemic was force majeure. The contractor can file a claim on this basis[2]. This article combines the new crown epidemic situation to analyze and discuss the EPC project contractor's loss due to force majeure and the basis, content, method and precautions for possible engineering claims.

2. Summary of EPC Project Claims
The reduction of claims is considered to be one of the advantages of the EPC model[3]. The number of claims in the EPC project is also far less than that of the DBB project. In the DBB mode, the frequency of project changes and claims is relatively high. In the EPC mode, the parties to the contract agree on the final deliverables and price. The contract price and duration are usually not adjusted for work within the scope of the contract. The attribute of the contractor's single responsible subject also simplifies the contract interface with the owner, which reduces the factors that cause claims, and the frequency of claims is greatly reduced compared with the DBB model[4]. In addition, the focus of EPC project owners and the profit model of contractors have changed. Due to the reduction of coordination and management tasks, the owner has the energy to invest in the investment analysis of the entire project, while the general contractor pays more attention to improving project profits through reasonable design optimization and strengthening project management and control. The FIDIC "Conditions of Construction Contract" describes in detail the rights and responsibilities of the owner,
engineer, general contractor and other parties. The claim clauses that the contractor can quote are shown in Table 1.

Table 1 Claim clauses that the contractor can invoke under the FIDIC contract conditions

| Serial number | Article number | Terms | Adjustable matters |
|---------------|----------------|-------|-------------------|
| 1             | 5.2            | Vague contract description | Construction period adjustment + cost adjustment |
| 2             | 6.3-6.4        | Delayed release of construction drawings | Construction period adjustment + cost adjustment |
| 3             | 12.2           | Harsh natural conditions | Schedule adjustment |
| 4             | 17.1           | Set-up error caused by data gap | Cost adjustment + profit adjustment |
| 5             | 20.3           | Owner's risk and repair | Cost adjustment + profit adjustment |
| 6             | 36.5           | conduct experiment | Construction period adjustment + cost adjustment |
| 7             | 71             | Construction suspended midway | Construction period adjustment + cost adjustment |
| 8             | 42.2           | Request for repair | Cost adjustment + profit adjustment |
| 9             | 49.3           | Request to check for defects | Cost adjustment |
| 10            | 50.1           | project changes | Cost adjustment + profit adjustment |
| 11            | 51.1           | Change order payment | Cost adjustment + profit adjustment |
| 12            | 52.1-52.2      | The contract amount increased or decreased by more than 15% | Cost adjustment |
| 13            | 52.3           | Engineering damage caused by special risks | Cost adjustment + profit adjustment |
| 14            | 65.3           | Special risks cause other expenses | Cost adjustment |
| 15            | 65.5           | Terminate the contract | Cost adjustment + profit adjustment |
| 16            | 65.8           | Owner's default | Construction period adjustment + cost adjustment |
| 17            | 70.1           | Regulation changes | Cost adjustment |

In order to control the risks of construction projects within a certain range, EPC project owners usually adopt fixed prices and construction periods to improve the certainty of project investment, and assign most risks such as changes in geological conditions to the general contractor of the project. Therefore, the general contractor’s claim space is much smaller than in the DBB mode, and it is more difficult to file a claim\(^5\). At the same time, due to the resource advantages of design and construction, the general contractor often has a stronger voice than under the DBB model. In addition, the owner has less control of the specific project information, which increases the difficulty for the owner to deal with claims\(^6\). The following claim flow chart can clearly show the development process of claim work during the construction of the project, which is basically summarized into five steps: ① notice of intent to claim; ② claim report; ③ claim evidence; ④ audit of the claim document by the supervision engineer; ⑤ Owner review.
3. Prerequisites for claims against the new crown epidemic

First of all, we must make it clear that there are three main points to be noted in engineering claims: 1. It must be carried out within the prescribed time and the procedural requirements must be reviewed. Two: It can only be raised with justified reasons. Three: There must be effective evidence. These three main points are indispensable.

After having the three main points, we need to confirm the four prerequisites: 1. The attitude of engineering claims: goodwill, overall, timeliness, and authenticity. We should fully consider the loss of work stoppage, loss of construction period and other premises from the overall perspective, and comprehensively calculate the respective losses of both parties; based on cost control, mutual benefit and win-win perspective, we will give corresponding advice. 2. Propositions should be based on facts.
Based on this factual claim that the new crown epidemic is a force majeure event, we should further include the control measures and facts of governments at all levels across the country to constitute an objective factual basis for "insurmountable". 3. Phase and continuity. Delays in construction periods, direct losses, or increased costs during the epidemic caused by policies and epidemics are all force majeure; delays in efficiency reductions, direct losses, indirect losses, and increases in labor and material prices affected by the same reasons after resumption of work are all changes in circumstances caused by force majeure. 4. Game psychology. The contractor is more inclined to invoke force majeure events, the extension of the construction period caused by the change of circumstances, and the increase in costs caused by non-self reasons to claim compensation; the developer is more inclined to invoke the force majeure exemption clause in order to share or reduce losses.

4. Claims for construction period and expenses

4.1. Construction period claims

We can sum up a very simple principle of handling claims for construction period: postponement of construction period, rush to work and pay more. Due to the suspension of work caused by the new crown epidemic, construction efficiency reduction, delays in the arrival of key materials and equipment, you can apply for an extension of the construction period; for the same reason, requiring rushing to work will naturally also bear the increased costs. This involves a question that everyone is very concerned about: Delays and rushing to work. Given the economic trade-off between the two, is it worthwhile to pay more to rush to work? Many times, this situation is worthwhile.

We need to make it clear that whether we can rush to work in the event of a delay in the construction period depends on the developer. If the developer does not agree to bear the corresponding expenses for rushing to work, although the contractor can also rush to work, he may not get the corresponding expenses. However, this does not mean that the contractor should unconditionally agree to expedite work. The cost of expediting work is set aside. The first thing the contractor has to do is to obtain evidence of agreeing to increase money. Under the condition of project delay, if the project period is extended, the developer and the contractor shall bear the loss of the project period; the overall loss of the contractor is relatively small, but the loss of the developer has become extremely large due to the increase in capital cost and material risks. Even up to more than 20 times. Under such circumstances, the developer should actively cooperate with the contractor to resume work and production as soon as possible to reduce losses. Therefore, rushing to work, accepting cost claims with a positive attitude, and bearing the increased labor costs and related risks is the best choice for the contractor.

Here, we must first clarify the several situations of delays in the construction period: 1. The epidemic incident is suspended in accordance with the regulations. 2. The extension of the construction period caused by the reduction of man-machine efficiency. 3. The delayed entry of equipment and materials affects the construction of key lines and causes the extension of the construction period.

Secondly, the developer should quickly approve the rush to work, and the contractor should also calculate the cost of rushing to work separately:1. The construction efficiency reduction part should require rush work on the same day, and no processing period will be added; the developer should pay the construction efficiency reduction rush costs in time, here should be careful, here is the rush cost not the efficiency reduction fee, and the efficiency reduction does not necessarily give money. 2. When work stops and the construction period is lost, the contractor shall promptly formulate rush measures and send them to the subcontractor for confirmation, and the developer shall pay the relevant increase in time.

4.2 Cost claims

At present, there are mainly the following situations for cost claims:
4.2.1. Labor costs
Construction workers convened for the purpose of engineering will be put into production as a
production factor. Demobilized workers will have an adverse effect on the resumption of the project,
which in turn will extend the construction period and lead to increased losses.
① During the shutdown period due to policy factors, the wages of on-site protection personnel
should be measured according to the actual holiday.
② The personnel stranded or isolated during the shutdown period should be measured according to
the local minimum wage standard.
③ In the case that the contractor requests to work on the day of efficiency reduction after
resumption of work, the overtime wages stipulated in the labor law shall be increased according to the
amount of work.
④ In the event that the developer's delay causes idle personnel to return to work, the actual
measurement shall be taken, and the contractor may claim for the cost of idle personnel caused by the
developer.

4.2.2. Material (equipment) cost
Material (equipment) is the basic element of the project. After entering the construction site, the
ownership generally belongs to the contracting party; the contractor is only keeping it on his behalf or
not transferring it.
① If there is damage to the equipment and materials that have entered the site, the claim will not
be established.
② When the cost of materials (equipment) increases, it is generally adjusted in accordance with
the contract.
③ When increasing freight and contract change costs, they should be adjusted according to the
actual amount.

4.2.3. Construction machinery fee
Construction machinery will not be directly lost due to shut down, and the ownership of machinery
generally belongs to the contractor.
① Under normal circumstances, the epidemic will not cause mechanical damage, and even the
damage should be borne by the contractor.
② If the construction machinery is leased by the contractor and the rent loss is caused by price
factors, the contractor will generally be responsible for it, but at the same time, it can apply to the
lessor for rent reduction.
③ When the efficiency of construction machinery is reduced after the resumption of work, and it is
required to extend the working hours, the developer shall bear the corresponding expenses.
④ After the resumption order is issued, if the contractor is unable to resume work due to the cause
of the contractor, the contractor has the right to make another claim based on the idle equipment.

4.2.4. Cost of measures
The cost of protective measures involves safe and civilized construction and should be included in the
direct investment of the project, which should be borne by the contractor; technical measures are to
deal with force majeure events and are cost-related expenses to avoid expansion of losses and should
be borne by the contractor.

4.2.5. Management fees
The developer and the contractor should handle the management costs in a concerted manner and
share them reasonably; the calculation of management costs is relatively complicated, and the work
stoppage will lead to the extension of the construction period and the increase of management costs;
the rush to work will lead to the reduction of management costs, and everything should be based on
actual costs Calculate on the premise of increase.

① During the period of work stoppage, the salary of management personnel is generally borne by the developer.

② The contractor shall share the expenses related to the epidemic situation, but generally the contractor shall bear the expenses in addition to the management expenses of the epidemic situation that occurred due to work or on-site.

③ The overtime expenses of the management personnel, the editing and review of the measures plan and other cost expenses shall be taken as hidden expenses and shared by the developer.

5 . Conclusion
The COVID-19 Epidemic has not yet ended. The construction projects carried out in various places are in a completely different natural and social environment, and the contractual agreement and performance are also very different. Therefore, the author suggests that when the two parties to the project contract suffer related losses, they should properly resolve various disputes, put aside their differences and move towards unity, do their best to prevent and control the epidemic, ensure that the project is fully resumed, and minimize the loss of both parties to the contract. Efforts to heal the wounds of the epidemic and accelerate economic recovery and development.

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