The Regulation of Change Orders in Jordanian Contract Law and Its Reform

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ABSTRACT

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| This study investigates the nature, origins, and legal framework of change orders (COs) in contract, besides a focus on Jordanian Law. Through adopting a diagnostic approach, the article estimates legal texts, relates regulatory frameworks, and recognizes gaps in the present current legislation. The obtained results reveal that Jordanian law deficiencies and specialized provisions governing COs lead to conflicts between common contract amendment rules and unique needs of construction-related COs. This article holds crucial significance for legal and scientific societies, as it seriously analyses COs and suggests reforms to safeguard the rights of contracting partners. This investigation highlights the requirement of adopting detailed, CO-specific FIDIC contracts. In addition, it proposes that contracting partners integrate FIDIC’s foundational terms to guarantee clarity and fairness in CO employment. Through addressing these legal and applied challenges, this study contributes to more competent contract management, lowered disputes, and improved legal certainty in the construction of the project.  |

*Keywords: Legal Regulation, Change Orders (COs), Contracting Contract]*

1. INTRODUCTION

There is an urgent need for COs at present due to the increasing complexity of construction projects because of the levels of new standards and the desire to add and modify projects. It is becoming increasingly difficult because of the complexity of building regulations and contract terms. However, due to the large number of COs recently in Jordan, especially in governmental tenders, the existence of a conflict in the standards resulted in hostile behavior between the parties, which will directly affect three basic criteria of the project, namely time, quality, and cost. These represent the success of the project, as the main goal of project management is to provide the necessary tools that enable the work team to manage their work accurately. Any imbalance leads to a negative impact on the progress of the project and reduces its ability to be completed on time within the project budget. This includes the employer submitting a request for a CO by amending the original contract, such as providing an area with a specific service that was not included in the contract in advance. As well as a change in quantities. Accordingly, the amendment is made to the original contract. The main reasons for the change of orders can be classified into reasons related to the owner and design, the contractor, or related to the contract and entail claims through which disputes arise. The COs aim to accelerate the completion of the project or reduce costs, but unlike what exists, where the COs are an integral part of the project by being an amendment to the original contract.

COs are organically linked to FIDIC contracts. Although they are relatively new, they have been approved by the International Federation of Consulting Engineers and are the most common to regulate construction contracts in all the countries of the world. It presents a contractual framework to overcome global and local construction problems and achieves the principle of self-sufficiency in construction contracts.

FIDIC contracts regulate the rights and obligations of their parties and the fair distribution of risks and COs for construction work because construction projects require an extended time for implementation, during which the circumstances surrounding the contract are reflected at the time of its conclusion. The conclusion may change concerning the circumstances that arise during its execution, which require the issuance of change-build orders. This occurs at the initiative of the engineer, at the request of the employer, or the proposal of the contractor - to adapt to changing circumstances and developments, especially since construction projects are very volatile and exposed to many risks such as force majeure and unforeseen financial difficulties. Construction work can only be carried out properly and satisfactorily regarding these orders because errors in design, the lack of experience of the employer, or the change in his financial requirements for the project or the arrangement of work can be avoided, which constitutes a positive flexibility for the implementation of the project.

Whilst the Jordans' contact law controls the change orders, it absences provisions of objectively scale project success. This crucial gap specified that approximately 50% of projects in developing countries fail to meet the contractual and management estimation.

The study's focus is on the nature of changing orders, their causes, and how to find solutions for them. This involves outlining the legal regulation of changing orders in the contract and its controls, as well as explaining the problems that arise from these changes, along with solutions based on the legal foundation of the COs specified in the contracting contract and its controls. An analytical approach is utilized to review the texts, clarify their content, and compare them to develop appropriate recommendations [1].

This article holds significant for scientific society as it addresses serious legal and economic challenges occurring from Cos in contracting. COs, which vary or structurally modify primary agreements, play a crucial role in justifying entrepreneurs’ openness to external specifications. However, significant regulation of Cos may lead to disputes, economic losses, and delays in time. Via inspecting the legal framework that governs COs, this investigation influences an apparent understanding of contractual fixability and risk allocation, suggesting valuable insight for legal practitioners, policymakers, and professionals.

1. LITERATURE REVIEW

**2.1 The concept of changing orders in contracts and their justifications:**

**2.1.1 The concept of changing order**

Before discussing the concept of COs, it is necessary to clarify the concept of the contract, which is the basis from which the COs emerge. Article 87 of the Jordanian Civil Code defines the contract as the link between the offer issued by one of the contracting parties to the acceptance of the other and their agreement in a way that proves its impact on the contract and entails the commitment of each of them to what he owed to the other [1, 2].

The contract is usually based on the approval of the will of two parties and the emergence of the legal effect, which is the obligation of the contracting parties, especially towards the other party, the contractor. The contract is an agreed act between them intended to achieve a purpose, which is to produce a specific legal effect, such as to create or modify an obligation, even though the contract exists for itself. The foundations and pillars of the civil contract lie in the need for the availability of an offer between the parties [3] to the contract in terms of subject satisfaction, which is an agreement between two wills in tender contracts, which is called administrative change so that this contract is valid.

It should be noted here that COs are directly related to FIDIC contracts in such a way that they are almost part of them, and so FIDIC contracts have defined COs as "any change in business that is instructed and approved as a change".

Article 1/1/6/9 of Chapter 1 of the General Conditions of FIDIC Contracts defines a CO as: "Any change in works that is instructed or approved as a change under the provisions of Chapter XIII."[4]

It is noted that this definition has been general and uncontrolled, as it did not specify what works may become the subject of the CO, nor did it specify the competent authority to issue it and refer to Chapter XIII on determining the controls governing it.

The CO is an authority exercised by the consulting engineer in the contract, whereby the contractor is ordered to make some modifications to the work subject to the contract, although such modifications are not included in the original contract between the contractor and the employer.

On the other hand, the jurists defined the change clause as "a legal act that modifies the subject matter of the contracted contract, per the terms of the contract that allows the amendment at the will of one of the parties in compliance."

 (Mahasneh, 2010) defined it as "an authority exercised by the engineer in the contract agreement, through which the contractor is requested through an addendum contract to make additions or changes to the work. These changes are not specified in the original contract, and it is a complementary agreement to the original agreement, and its purpose is to serve the interests of the work. [5, 6].

**2.1.2 Justifications for changing orders:**

Although the law allows COs, these COs are not random but have rules and justifications, the most important of which are:

**First:** a change in the plans, in particular a change that leads to an increase or decrease in the amount of work, the deletion of any work, the addition of new work, or a change in the level, layout, locations, or dimensions of any part of the work [7-9].

**Second:** Change in the conditions of specifications, in particular any change in the character, quality, or type of any work, whether in public works contracts for construction works, which includes all engineering and technical studies and designs, projects, and works related to the construction, restoration, demolition or renovation of buildings and installations, as well as ancillary services that accompany construction. Moreover, it includes soil tests, engineering and geological difficulties, surveys and aerial photography, and services provided based on a purchase contract. In addition, it includes installations and roads, bridges, tunnels, sidewalks, utilities, electricity, water and sewage stations and networks, water drains, airports, ports, corridors, water canals, construction, agricultural and cosmetic works, and all necessary devices, materials, supplies, and works, including laboratory and field examinations and other works, either in terms of specifications in purchase contracts, supplies, quality, quantity, specifications or sizes, including raw materials, medical and electrical products, medical devices, electrical and water equipment and other goods [10-12].

**Third:** The change in the terms of the contract of a financial nature, in particular a change in the technical requirements or maintenance and operation works and services, considering that administrative contracts are distinguished from civil contracts by a special nature entrusted to the needs of the public facility that the contract aims to manage and turn the public interest over the private interest of individuals. The administration has the authority to supervise and direct the implementation of the contract and has the right to change it and add new conditions, leaving it more consistent with the public interests, without the other party arguing with the rule that states: the contract is pacta sunt servanda. In this case, the other party may claim damages, and the rights and obligations of the contracting party with the administration are determined under the terms and conditions of the contract based on an agreement between the two wills [13, 14].

**Fourth:** Directing orders to the contractor (in the construction sector) to carry out any additional work it deems necessary to complete the contract in order to adopt price differences for works, materials, equipment, and services.

**Fifth:** The administrative decisions issued by the administrative authority must be that COs have all the necessary elements that make the decision a legitimate administrative decision, which the law empowers its issuance.

**Sixth:** It links to the work in place of the original contract and covers the cost and some of the required work to replace new items instead of canceled items, within the limits of the percentage allowed in the tender conditions.

**Seventh:** The existence of a defect in the required specifications, based on the requirements of the technical specifications or design issued in the Office of the Consultant for Design, which is tasked with estimating the coverage of costs for the works required for the project under implementation or during the implementation of the contract, whether adding or deleting works, before the end of the contract. However, in terms of the end of the contract and the receipt of the project, it is not permissible at all in this regard except when it is put forward by practice or requests for proposals or put up by tender.

**Eighth:** Request to issue a CO to reduce the amount due to the lack of need for one of the items of the practice schedule or tender within the limits of the percentage allowed in the tender conditions.

**Ninth:** The emergence of sudden unexpected works taken into account through the study of the project or there is an imbalance in the quantities in terms of the need for those quantities in terms of increasing the need for it to meet that need and to carry out any additional work that the employer considers necessary to complete the works to be implemented under the contract agreed upon by the parties.

**Tenth:** if the changes requested by the employer lead to an increase or decrease exceeding (25%) of any type of work mentioned in the price schedules and the priced quantities tables, the employer or contractor has the right to request from the other to amend the prices for the quantity that exceeded this percentage. Provided that this request is made in writing for one month from the date of the written order for the change and provided that it is clear in the opinion of the engineer that the prices in the contract have become unreasonable or unworkable as a result of this increase or decrease. Prices are to be adjusted based on an agreement between the employer and the contractor. In the event of a difference, the employer shall terminate and determine the amount of increase or decrease in the prices he deems appropriate, following the engineer's opinion [15-17 ].

**Eleventh:** Changes exceeding (15%) of the original contract value if, at the end of the works, it is found that the final result of all changes (except for changes resulting from changes in the value of materials, in labor wages or reserve amounts) has led to an increase or decrease exceeding (15%) of the original contract value, then the contract amount shall be adjusted by an amount agreed upon between the employer and the contractor. In case of disagreement, the employer shall determine the amount (in excess or decrease) that he deems reasonable following the engineer's opinion.

**2.2 Objectives and conditions of order change**

There are objectives for changing orders that make their formulation a positive element. To make COs a positive element, some conditions must be adhered to.

**2.2.1 Objectives of change orders:**

COs aim to avoid the need for a new contract, as well as to avoid canceling the original contract when any changes appear during its performance. Therefore, the agreements related to the contract allow the engineer or the employer to make changes to the construction-related work during the project.[[1]](#endnote-1) However, the problem arises at the time of determining who is responsible for bearing the time as well as the costs associated with the change. Hence, there is the possibility of exacerbating problems related to the timing and timetable of the change during the project implementation period, which can lead to serious consequences and serious financial consequences for the original contractor, and here comes the role of changing orders.

The COs also aim to modify the contractor's obligations in line with the emerging circumstances, reducing these obligations, and this requires that this be done[[2]](#endnote-2) through the contractor's approval before making a decision in general, which means the conclusion of an alternative employment contract or the renewal of the tender contract that does not involve the issuance of such COs and is not tainted by irregularities or breaches of the law unless the contract is extended when it is imminent or about to expire between the representative of the government entity that is the first party to the contract and the service provider [18].

**2.2.2 Conditions of change orders:**

When dealing with the conditions of COs, these conditions are divided into formal conditions and substantive conditions:

***2.2.2.1 Formal conditions for issuing change orders:***

**First: Issuing the change order in writing:**

FIDIC contracts require the engineer or his authorized assistant to issue change orders to the contractor in writing where possible. [19]This is the original procedure. The word "in writing" means handwriting, typewriter, printing press, or electronic printing to form a fixed and permanent record. It follows from this that FIDIC contracts correspond to the validity of traditional documents and electronic documents in terms of proof if the latter is characterized by durability.

A written CO does not need to be issued in a specific form, but it is sufficient, for example, for the engineer to sign a modified fee or minutes of a meeting or to reject the request for confirmation in writing to reject the transfer order recommended by the contractor. The CO may also be issued orally, after which the engineer confirms it in writing on a temporary payment certificate or pays the value of the changes to the contractor.

If the CO is oral, it will be treated as a written order in one case, namely, the contractor or his representative shall confirm in writing to the engineer regarding the CO given to him within two working days of the date of its issuance.Provided that the engineer does not object or give instructions thereon within two working days from the date of receipt of the oral order confirmation from the contractor [20]. This means that COs issued orally must be confirmed in writing.

It should be noted that if the CO is not in writing, it was issued orally by the engineer, and it is not confirmed by the contractor as mentioned above, then this order will not be considered, and the contractor will not be able to claim compensation for this additional work. [21] For example, if the contractor claims the walls of the building with a type of stone or marble whose cost exceeds the cost of the type agreed upon in the contract according to an oral order issued to him by the engineer, and it is not installed within the aforementioned period, the contractor is not entitled to claim such increase based on the terms of the FIDIC contract, as this order is not considered a CO as determined by these contracts, which require that the COs be issued in writing.

It should be noted that if the principle is the necessity of drafting written COs, some exceptional cases can be referred to by oral COs if the writing requirement is waived based on custom in the agreements and the mechanism of dealing between the engineer on the one hand and the contractor on the other, in addition to the conduct of the parties [22]; In this case, the contractor is entitled to compensation for this additional work, although there is no written requirement [23].

**Second: Notification to the contractor of change orders:**

The engineer must notify the contractor in the event of the issuance of the CO, otherwise, the contractor is not obliged to grant it and may keep it. FIDIC contracts require such notices to be in writing and delivered in person upon receipt or sent by post or by agreed electronic means in the contract documents[[3]](#endnote-3). The contractor's representative can be contacted by those who are authorized to receive notices and instructions [24].

Neither the Egyptian Civil Code nor the UAE Civil Transactions Law requires a particular form of notification, and it can be done in any way, either by the contractor at the outset or with the employer's consent to such notice. If the contract is arbitrary, the Egyptian Civil Code requires that the price be agreed in writing, which requires written notification. It is the contractor's responsibility to prove its notice in the event of a dispute between them, and the burden of proving the notification through FIDIC contracts falls on both the engineer and the employer.

Neither the Egyptian Civil Code nor the UAE Civil Transactions Law specifies a definite notice period. This period must, therefore, be reasonable, and its discretion should be left to the judge in charge of the case, as exigencies of each case independently.

***2.2.2.2 Objective conditions for issuing change orders for construction work***

The issuance of COs requires the issuance of a prior contractual agreement that they are necessary, including additional work, and are issued upon execution of the contract, as follows:

**First: The necessity of stating a clear condition within the contract through which the engineer is granted the authority to issue the** CO**:**

For an engineer to issue COs, a clause in the contract must give him the authority to issue them. FIDIC contracts govern the engineer's exercise of this authority as the original design of the building may not be identical to the purpose requested by the employer during the execution of the contract to the contractor's knowledge. COs may include requests for additions to the work, cancellation of one of its components, changes in the quality or quantity of building materials used, or changes in its "Schedule Delay" [25] for implementing construction works. Provided that the COs do not violate the terms of the contract.

The engineer shall exercise the ad hoc powers specified to him in the contract, or the powers contained therein, as the case may be, and obtain the prior approval of the employer when issuing the COs. He may agree to extend the period of execution, apply the provisions of compensation for delays, approve the contracting of subcontractors, or issue an order to cancel the CO [26].

**Second: Change orders should be necessary:**

There are specific conditions in FIDIC contracts that sometimes limit the authority granted to the engineer to issue the CO because they require that the CO be necessary to complete the project, and the general conditions of FIDIC contracts do not set these restrictions. It only stipulates that the engineer has the powers expressly or implicitly stipulated in the contract, and he must obtain approval from the employer at the time of exercising some of the powers stipulated in the specific conditions of the contract [27]. Hence, the original is to grant the authority of the engineer to issue amendment orders, but this authority may be restricted according to the special conditions that are complementary to the general conditions, taking into account what is stated in the special conditions, the addition, cancellation or amendment of the provisions of the general conditions are considered prevailing and taken into account to the extent that they interpret, add, cancel or amend these conditions.

Change requests must be within reasonable limits of size, value, and type, otherwise, they shall be considered changes of a material nature that would take them outside the scope of the contract [28]. The engineer is free to determine the importance and necessity of changing orders and their interest in the project and not for the employer. The engineer is not obliged to issue a CO to extend some major construction work or use non-standard materials at the request of the employer to reduce the construction costs of the project at the expense of interest. Because the engineer must resist the bad will of the employer that comes from his commitment to the vision [29].

**Third: It includes additional new work:**

Overtime means any modification or addition of a change that was not provided for in the initial contract and the circumstances of the project required its implementation. Increases in the actual quantities of work performed according to the designs are not considered overtime. Their execution does not require the issuance of COs, and FIDIC contracts determine a percentage of the amount or value of automatic changes [30] that can be executed without the need to file a CO, according to the plans and bills of quantities based on the price mentioned in the contract. The quantity corresponding to the price or unit measurement per contract is 10%. This ratio is aimed at evaluating the business in FIDIC contracts so that it is not necessary for these changes to be revalued and re-evaluated and to be valued at the price stated in the contract. A CO has a broader concept than overtime because any additional work can be subject to a CO, but not every CO is considered overtime. Because the latter requires increasing or adding work to what already exists, while it may include adding a building, canceling some of its stages, or demolishing parts of it.

Additional works included in the COs must be consistent with the nature of the subject matter of the contract and must be of the same type and type of original work so that the increase in the quantity or size of the contract is enforceable and financially liable to the original contractor in the same categories and prices for each type or type of work. “Appendices similar to the original works” [31]; If the engineer gives an order to carry out additional works outside this framework, they will not be subject to the contract and the contractor can therefore refuse to carry them out or perform them by amending the contract or contracting them with a new contract.

These rules come from the provisions of the Egyptian Civil Code and the UAE Civil Transactions Law, according to which the contract must be executed by its contents. Good faith is required. It also deals with what is part of its requirements that are compatible with law, custom, and the nature of the provision [32]. The performance of a contract necessarily requires the implementation of everything related to it and constitutes one of its implications and requirements, which may not be expressly stipulated in the contract but can be understood from custom circumstances and the nature of the transaction. Therefore, such work cannot be subject to modification orders because its performance is an integral part of the contract, and therefore, any work, content, or requirements of the contract cannot constitute additional work.

**Fourth: Issuance of change orders during the implementation of the works and not after their completion:**

For the contractor to exercise the right to issue amendment orders, it must not have definitively fulfilled its contractual obligations. In this case, it is not permissible to ask the employer to increase or decrease any of his obligations, and this is according to common sense, since the contract is concluded, and its effects are settled [33]. Therefore, no CO may be issued during the warranty period after the completion of the work, even if the engineer so does [34].This work will not fall within the scope of the contract, and therefore, the contractor may refuse to implement them or implement them by amending the contract or making a new contract.

1. Legal regulation of change orders:

COs cannot be done randomly without regulation, so the second has set controls for them:

**3.1 Legal regulation of the contractor's rights to the employer regarding changing orders:**

Thecontractor's rights in COs are summarized in the use of employer documents, making a profit, adjusting the agreed amounts based on the actual cost of changes, and extending the period required to implement the changes and stop working. The terms and conditions of the FIDIC contract require keeping the specifications and drawings with the employer so that the plans remain with the engineer. Unless the contract states otherwise, the contractor will receive two copies of the documents and plans, which will be issued later free of charge, and the costs of their issuance, if any, will be borne by the contractor [35, 36].

The contractor may, at his own expense, use, reproduce, or distribute the employer's documents for contract execution and tasks, but he may not allow others to use them without the engineer's consent unless the contract is a necessity. He undertakes to preserve the intellectual property rights of the engineer and the employer [37]**.** The contractor may claim compensation from the employer for damage suffered after its redevelopment or rescheduling of its work while waiting for the delivery of the new project or technical drawings of the construction work [38].

The contractor shall maintain on-site a complete copy of the plans both received and prepared by the contractor, and such plans shall be prepared at all times in a manner reasonable for the engineer's view or use by the engineer or any other authorized person. By the engineer to display or use [39].

Upon completion of the work and issuance of the maintenance certificate, the contractor shall return to the engineer all plans, specifications [40], and all other documents received under the contract and provide the employer with any additional copies thereof, if requested by the engineer, to be paid by the employer.

The set of contract documents is interpreted as having priority among the documents in the following sequence: contract agreement 41], acceptance letter[[4]](#endnote-4), tender offer letter [41], special conditions, general conditions, specifications, schematics, schedules, and any other document forming part of the contract. If ambiguity or discrepancy is found in the documents, the engineer shall issue the necessary instructions and clarification of such ambiguity or discrepancy.

According to FIDIC contracts, an engineer has the discretion to submit one document over another when the priority of the change lies in the lower document. Ambiguity in the documents must also be interpreted against the issuing party, and if there are two reasonable interpretations, the contractor's interpretation prevails over that of the engineer who drafted the design by the principle of interpretation of the document against its originator [42].

The general rules of the Egyptian Civil Code and the UAE Civil Transactions Law regarding the interpretation of the contract require that the engineer abide by the previous arrangement to remove any conflict or ambiguity and may not submit a lower document over a higher document.

There are two different ways to evaluate changes in construction work:

1. **Traditional method of evaluating changes:**

FIDIC contracts have organized the estimation of the cost of COs traditionally based on the prices contained in the bills of quantities included by the contractor at the time of submitting the bid or concluding the contract [43].

The contractor has the right to personally ascertain the accuracy and adequacy of the acceptable contract price and to base its offers on the necessary information, data, descriptions, and tests. The contract price must cover all the contractor's obligations required by the contract, as well as all that is necessary for the performance of the contract [42].

This method often leads to a dispute between the parties over the employer's desire to strictly comply with rates that reflect the true cost incurred or likely to be incurred by the contractor in executing the COs. This dispute is one of the most common disputes over the construction sector in the United Kingdom [44].

This method has evolved in recent years with the inclusion in some FIDIC contracts of a clause that allows the contractor to predetermine a certain amount of the value of such changes, including delays and disruption costs, before commencing work. This method gives the employer an advantage by determining the final obligation it has in respect of these changes and transferring the majority of the risks to the contractor [45]; However, it requires from the contractor the necessary experience and ability to predict the materials needed to work, determine the actual time for them, the necessary construction equipment, and the actual cost of materials so that he can make a profit.

The disadvantage of this method is that it easily leads to the breakdown of the contractual relationship between the parties, due to the contractor's disproportionate appreciation of the materials required to make the changes, and its demand for additional payments as a result of delay and disruption, while the employer remains committed to the agreed predetermined amount[[5]](#endnote-5). Subsequent negotiation of COs may be required to determine the final costs and prolong the time allowed to carry out the work.

It is noted that changing orders may result in a reduction in the value of the consideration due to the performance of the contract, requiring agreement on how to regulate the order. However, FIDIC contracts failed to regulate this situation, which necessitates the need to amend the FIDIC contract provisions to regulate this situation.

1. **Evaluation of changes by the risk management team:**

Risk management is an important topic for FIDIC contract parties because potential risks in construction projects are many and varied [46], and are marred by uncertainty of their potential adverse effects, whether for the employer who is exposed to delays in the completion of the project or the cost exceeds the specified budget, or for the contractor who may incur many losses that are not compensated [47].

This method is based on an informed practice approach, with a project team consisting of the best risk management specialists, including estimating the value of COs for construction work, which is based on a prorated cost payment philosophy. Under this method, risks can be better managed at all stages of the project, using a register of joint risks of the employer and contractor.

This method focuses on the management of the main resources of the common problem, the development of an appropriate solution, planning, and monitoring in order to achieve certainty of the outcome [48] and is one of the most powerful indicators of the results of successful construction projects.

1. The contractor's right to make a profit: It is noted that profit is the incentive for the contractor, and no one can expect the contractor to implement the project or COs at cost, because the contractor is a good businessman, who knows the costs and art of work and the appropriate profit margin that he aims to achieve, and what he must do, and depends on his previous experience and acquired skills. It also recognizes the need to strike the right balance between profit and risk inherent in certain projects [49] and that it should maintain its reputation and performance at work.

The contractor may offer a certain fee for executing COs, less than other contractors. But in general, at the end of the execution, it makes a reasonable profit less than the profits targeted by other competing contractors, and this is the motivation that creates some kind of competition.

If more than one job is offered to the contractor, he must be skilled enough to determine which work gives him a reasonable opportunity to make a profit. He cannot randomly identify them, or he will suffer huge losses, and of course, he prefers to choose work that reduces the risk of excess cost and ensures profit.

1. The contractor's right to amend the agreed amounts based on the actual expenses of the changes: If the COs are issued – during the execution of the work or after the equipment has been equipped – and would increase the contractor's burden, he shall have the right to demand an amendment of the material consideration agreed upon in the contract, "in a manner that preserves the financial balance of the contract" [50].

Making a realistic assessment of COs is often a difficult and complex task, raising many problems between the employer and the contractor, and the parties to the contract need considerable experience to properly assess these changes and resolve this problem[[6]](#endnote-6). Construction software that relies on simulations or skilled negotiators can be used to settle, and compromises are usually required in order to reach an appropriate solution that satisfies the parties.

**3.2 Legal regulation of the employer’s powers against the contractor in the change order:**

FIDIC contracts grant employer powers against the contractor in the CO, so this requirement was allocated to clarify these powers for both the original contractor and the subcontractor.

* The employer may file a liability lawsuit against the original contractor for breaching the implementation of the COs as agreed, and then it is in the interest of the original contractor to include the subcontractor in the lawsuit, as the original contractor, in this case, combines two qualities: his capacity as a defendant in the employer's lawsuit, and his capacity as a plaintiff against the subcontractor, which saves the original contractor from filing a new lawsuit, and makes the judgment issued in the lawsuit filed by the employer an argument against the subcontractor [51].
* The original contractor must obtain prior approval from the engineer and the employer regarding the subcontractors he wishes to use, and who are not specified in the contract, and the employer may authorize the original contractor the right to use subcontractors without referring to him.
* The subcontractor is usually obliged to comply with all the obligations undertaken by the original contractor in the contract it entered into with the employer. In such cases, the subcontractor needs to request and study a copy of the original contractor's contract with the landlord carefully to avoid erroneous performance of the terms contained in the original contract and not receiving his dues [52].
* The contractor can submit a proposal to the engineer on his own to issue the necessary orders for construction work, and the engineer himself can ask the contractor for a proposal before issuing COs. The procedures differ in each case, as follows:

**3.2.1 Procedures for the contractor to propose change orders on his initiative:**

The contractor may, at any time, during the execution of the contracting work, submit a written proposal to the engineer in which he presents his opinion to propose COs for the construction works he is implementing, which, if approved, would: contribute to speeding up the completion of the work, reducing its value, improving its efficiency, or obtaining any other benefit for the employer [53].

It is noted that the contractor's proposal is not binding on the engineer because the latter is dominant in this regard. He may approve, amend, or reject this proposal, and if the proposal for change is rejected and the contractor continues to implement the rejected proposal, the engineer is responsible for any damage that these changes may cause, and the contractor is responsible for them.

Based on the Egyptian Civil Code and the UAE Civil Transactions Law, the contractor may propose an amendment to the contract value [54] and submit it to the employer, and he shall clarify whether the increase in its value in such a proposal is significant in cost. The employer is the one who decides to continue or terminate the contract, and if the implementation continues, these procedures must be necessary and appropriate for the implementation of the contract. The employer may not change the employment contract except by agreement with the contractor. If there is no agreement on unnecessary changes, the contractor has the right to refuse to make any change in the application of the principle of the wage code.

If a contract for a total wage contract is concluded based on a design agreed upon with the employer concerned [55], the latter may send COs to the contractor, whether a change of design or an addition of work to the contract, provided that they are accepted by the contractor. Without an agreement, the contractor is not obliged to implement it, which may lead the employer to the coercion and economic influence used by the contractor if requested by the owner. Work on making certain changes without prior agreement on the contract, due to the contractor's knowledge of secret work and the employer's unwillingness to disrupt his plan to find a new contractor.

The increase in spending on modifications may be significant but not very significant. In this case, the contractor must inform the owner of the amount of the prescribed increase in expenses, and he will not be able to do so until after approval; otherwise, this shall be considered a donation from him. It is clear from the above that these general rules do not keep pace with developments in the field of construction and building, and do not adapt to the changes facing the implementation of the project, although the changes are necessities of construction projects, which require the need to regulate them under special texts, consistent with FIDIC contracts.

**3.2.2 Employer's authority to issue change orders:**

Thelegal regulation has defined COs as a legal means that allows the employer to modify the construction work, during the execution of the work, according to the evolution of his financial capacity or needs [56], by deleting or adding works without any opposition from the contractor, provided that the purpose of the deletion is not to entrust another contractor to carry them out. The value of the amendments must be estimated based on the prices applied in the contract and are considered as if they were originally fixed in the contract, provided that they are presented to the competent engineer, which means that the employer cannot issue the change directly requests for the contractor except through the engineer. The engineer may be required to refer to him and obtain his approval in advance when issuing a specific CO or in any type of CO.

It is the responsibility of the engineer to ensure that the employer approves the COs, and the contractor must ensure that the employer approves these changes before implementing them [57]. Otherwise, he is responsible, and he must ensure that this request is in writing and prepare an estimate of the value of the possible modifications, specifying the time and cost needed, as well as the reason for the change, and transfer this virtual reality to the employer. He must obtain approval within a certain period, and then the employer verifies that this is virtual reality because the COs issued by the employer may be treated as a new project that must go through the planning stages again [58].

**3.2.3 Legal regulation of the employer's rights regarding change orders based on FIDIC contracts:**

FIDIC contracts regulate the rights attached to the employer regarding changing orders, as they are summarized in the right of the employer to obtain accurate information from the contractor and his right to use the contractor's documents, repair defects, and replace the engineer, as follows:

1. **The employer's right to obtain accurate information from the contractor:**

The contractor must give the employer accurate information about the costs of the changes, as this would affect the employer's approval of the COs before starting to implement them, and so that he can prepare the necessary funding for their implementation if approved.

The date of the possible completion of the execution of COs must also be determined so that the employer can be allowed to adapt to the new date and to examine the impact of such a delay on expenses and the rest of the project phases [59]. The contractor must provide a structured schedule of changes combined with an analysis of alternatives facing the project, cost estimates for each overlap or delay, and documents indicating the impact on project timelines, the sequence of events and alternatives in the future, and their impact on the work of other contracting parties. All the proposed amendments to the project timeline are detailed, clear, and distinct.

It may be agreed that if the contractor does not submit the project schedules' projected needs or their revisions on time, the employer shall have the right to withhold payment until the contractor provides the requested information. It may also be agreed that the contractor should coordinate the work with all other contracting parties working on the same project, that such coordination should continue throughout work time, identify concurrent activities that affect the work and the contractor during its implementation, and make every effort to coordinate the activities to reduce interference and delays.

1. **The employer's right to use the contractor's documents:**

Once the contractor signs the FIDIC contract, the employer has the right to reproduce, use, and circulate the contractor's documents [60], including amendments thereto, and this right shall remain valid during the period of completion of the works. Any person to whom ownership of the building or part thereof develops may reproduce, use, and circulate such documents to carry out the works, [61] operation, maintenance, modification, repair, and demolition. There is no objection to the use of the Contractor's computer-based documentation and software by any computer on site or any other locations specified in the contract, including the replacement of any computer hardware supplied by the Contractor.

Concerning the employer, the contractor retains the copyright and intellectual property rights in respect of its documents and designs prepared by or for the contractor, as neither the employer nor its representative may permit a third party to use, reproduce, or circulate the contractor's documents and other design documents for purposes not permitted without the consent of the contractor [62].

1. **The employer's right to correct defects in the execution of change orders:**

If defects appear in the execution of COs or any part thereof, the employer may notify the contractor of such defects and require him to repair them during the period of notification of the repair of defects, which means the reasonable period determined by the engineer'[[7]](#endnote-7)s instructions. This period may be granted if the works or any part thereof, or any major item of the machinery equipment, after its receipt, cannot be used for their intended purposes due to a defect or damage. However, that period may not be extended for more than two years calculated from the date of completion of the work or any part thereof [63].

**4. The employer's right to replace the engineer:**

The general terms of FIDIC contracts gave the employers the right to replace the engineer appointed by him but required him to notify the contractor forty-two days before the date of replacement with the name, address, and details of the replacement engineer [64].

**3.3 Employers’ Obligations Regarding Change Orders in FIDIC Contracts:**

FIDIC contracts regulate the employer's obligations, the most important of which is the employer's obligation to obtain the necessary approval for the CO and allow the contractor to enter the site, as follows [65]:

1. The employer's obligation to obtain the necessary approval for the CO**:** The employer shall obtain permits for planning or regulatory instructions or licenses related to work subject to amendment orders, as well as any other license specified in the specifications, or take the necessary measures to obtain them. In this regard, the employer must protect the contractor from any damage resulting from the employer's failure to fulfill his obligations. If the employer delays obtaining the necessary permits to start and complete the work, it shall be considered a breach of a contractual obligation, which is considered a fault that entails its responsibility and can only be avoided by proving the existence of the contractual obligation. An external case in which he has no role.
2. The employer's obligation to enable the contractor to enter the site: The site is the place or land specified in the contract, which the employer allocates - without hindrance - to carry out the works covered by the contract and includes all the spaces necessary for the place of administration and the various buildings of the contractor, stores, supplies, and equipment.The employer must facilitate the contractor's access to the site and allow him to own it on the dates and by the conditions specified in the specifications and the offer annex. However, the entrance fee cannot be limited to the entrepreneur alone. If the date of delivery of the site is not specified in the annex to the tender offer, the employer should grant the contractor the right to enter and own the site at times that allow the contractor to commence implementation and continue work by the work program.

If the contractor incurs expenses due to the delay or refusal of the employer to allow him to enter or acquire the site within the specified time; the contractor shall send notice to the engineer to assess his rights towards him and decide on the prolongation of the completion period resulting from such delay, and any reasonable costs and profits added to the value of the contract. Upon receipt of this information, the engineer must prepare the resulting estimates[[8]](#endnote-8), whether by approving it or giving its estimates thereon. However, if the employer's delay is due to an error or delay by the contractor, including any error or delay in the submission of the contractor's documents, in which case the contractor shall not be entitled to any extension or compensation for costs or profits.

1. Results and Discussion
2. **The key results of the Legal Status of Change Orders in Jordan**

The considerations reveal that Jordanian Law lacks specialized legislation governing COs in construction contracts. While Article 249 – 256 of the Jordanian Civil Code offered general provisions on contract amendments, they neglect to address the unique complications of COs, such as:

* Validity conditions unclear: No clear need for written documentation or mutual agreement.
* Pricing debate: Lack of standardization mechanisms for cost changes
* The extensions of the time: Absence of legal guidelines of schedule changes due to the COs.

The gap in the regulatory drives partners to rely on judicial interpretation of common contract principles, leading to unreliable rulings and delayed disputes.

1. **Compression with International Standards**

In contrast with frameworks as FIDIC’s Red Book (13), the Jordanian legal system appears to have critical shortcomings:

* FIDIC’s structure CO process needs:
1. How to write variation orders.
2. Contract agreements
3. Definition of the claim of timelines.
* Jordan’s law treats COs as unofficial amendments, producing uncertainty in enforcement.

This required for modernization of the Jordanian legal approach to align with the global standard.

1. **Practical Challenges legalizations**

The investigation recognizes three initial challenges stemming from the present system:

* Risk-taking: Contractor carries unbalanced responsibility for CO-related delays in time/cost.
* Economic effect: Uncontrolled COs raise project costs by about 20%.
1. **Recommended Legal Reforms**

To adopt these gaps, the suggested reforms are:

1. **Reform legislation**
* **Enact a Law for CO for the Jordanian Civil Code to:**
* Realize COs as legally separate from the amendments of the contract.
* Delegation documentary and common approval.
* Fix the pricing amendment formulation.
1. **Institutional Gauge**
* **Establishment of an Authority for Building Contracts:**
* To standardize COs for the public projects sector.
* Supply adjudication duties for disagreements.
1. **Adoption of superior International Practices**
* **Combine FIDIC’s CO techniques into Jordanian contracts, especially:**
* Procedures of variation orders (13.1)
* Time-expansion demands (8.4).
1. **Judiciary Training**
* **Train assessors on CO-fixed jurisprudence regular judgments.**
1. **Evidence Supported.**

The case study of the Fast-Bus Project in Amman/Jordan shows how unregulated COs caused:

* **Cost overruns**: 100% due to unapproved verbal COs.
* **Delays**: 3-year.
1. Conclusion

Once debating the details of the COs evaluating the applicable academic basis, this research decides that the CO represents a structural modification or adjustment to the initial agreement or its application. This may be adding new items, excluding existing ones, or adjusting the essential method or implementation of different legitimate objectives. These modifications reduce the employers' vulnerability to external conditions.

COs are a predictable part of construction contracts and other analogous agreements. Conversely, in these circumstances, they present essential legal and economic challenges if not correctly regulated. Hence, it is critical to classify the conception and scope of COs and accept an organized legal framework that controls the issue and implementation of these COs in an approach that ensures the rights of all participants involved.

One of the significant suggestions of this research is the demand to incorporate well-drafted sections for change orders in agreements. These sections restart the balance of agreements between the participants to avoid disagreements by describing the authority to initiate and accept changes and the financial and legal confines within which such orders may be executed.

It is also essential to adjust orders to avoid any abuse of power by either party, principally in cases where the employer attempts to separately impose changes or when the contractor requests unjustified compensation. Therefore, the power and responsibilities of engineers and supervising consultants must be correctly determined, as they play a crucial role in accepting changes and ensuring the fairness of the process.

In conclusion, changing orders is a highly important concern in practice, especially in long-term or large-scale projects. Neglecting their regulations could lead to disagreements that extend beyond the bounds of contractual obligations and ultimately end up in costly legal battles.

**COMPETING INTERESTS:**

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

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1.

2.

3.

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