

Original Article



Contractual form of Design, Supply and Drilling 1 (EPD) and Its Comparison in Terms of Contractual and Technical Risks with Other Common Contracts in Drilling Exploratory Wells

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ABSTRACT

One of the most basic and often overlooked questions is about contract risk planning. If the scope, technical implications or requirements of a contract are not clear, everything will be opaque. This risk can be faced by buyer because it is paid for what is not due and for the seller, it may lead to payment or the buyer's claim for damages or termination of the contract. Contractual disputes arise when one or both parties feel that their rights have been violated. Managing expectations is essential and requires effective communication. For the seller, this includes understanding what the buyer or customer wants, guiding the buyer to what the seller can provide, and clarifying what can be done in the contract. Sometimes, it is to reassure the parties by each other of delivery restrictions and what is not available and whatever is within the scope of a contract or outside of it. Effective and transparent communication about the scope of work, technical specifications and requirements promotes the expectations of both parties and reduces the likelihood of failure of one party's activities that lead to frustration of the other party.

Introduction

Common contracts in the drilling industry The evolution of drilling contracts

As for old generation (standard contracts), in these contracts, risk and payment are considered, and these types of contracts are divided into three categories: a) Footage contracts; b) daywork contract; and c) Turnkey contract,

which is the same as drilling a well at a flat price.

As for new generation (Incentive Contracts, which are a combination or risk sharing), these contracts have the same structure but variable incentives for employers for contractors and are divided into two categories: a) Based on daily drilling contract; and b) based on the turnkey contract.

Description of the Duties of the Parties in the Deep Drilling Contract (Based on Death)

Obligations and Powers of the Employer

- 1- Freedom to drill a well with a contractor (determination of depth, size, straightness or deflection and walling plan);
- 2- The role of supervision and control of operations by the employer and not interference in executive affairs;
- 3- Responsibilities and damages resulting from personnel work are the responsibility of the contractor;
- 4- Provision of essential services for drilling operations (mud, chemicals and cementing);
- 5- Because the risk of this type of contract is more on the contractor, so it has more benefits for the employer.

Obligations and Powers of the Contractor

- 1- Performing executive operations;
- 2- Providing equipment, supplying fuel and water required for the drilling rig, providing the necessary drilling tools such as drilling drills, boreholes and stabilizers; and,
- 3- Allocation of skilled labor

Features and Payment Method in Footage Contracts

Disadvantages of the Contract

The contractor's motivation is the maximum possible speed for drilling without considering the quality of drilling wells and causing major damage to the reservoir, so drilling employers are less inclined to use this type of contract. It is used in drilling on land and in the upper parts of a reservoir or well with less depth and risk.

How to pay for drilling:

- 1- Payment to the contractor based on the approved rate for each meter of drilled well; and,
- 2- Calculating ancillary services (walling, tests, etc.) as additional services and dividing its cost by the total area of the well.

Description of the Duties of the Parties in the Daily Contract (Day-Work or Day-Rate)

Obligations and Powers of the Drilling Contractor

- 1- Providing drilling rig and related equipment, labor;
- 2- Selection of special drilling methods (drilling speed, raising and lowering drilling pipes and weight of drilling mud; and,
- 3- Merely taking certain risks.

Obligations and Powers of the Employer

- 1- Direct management and monitoring and control of operations;
- 2- Providing services with a fixed daily payment to the contractor.

Features and Payment Method in Daily Drilling Contract

How to pay for drilling:

- 1- Pay the drilling fee to the contractor for each working day;
- 2- Payment of a certain rate for 24-hour operations throughout the contract period, unlike other contracts;
- 3- Payment of the contract amount to the contractor until the end of the project period in case of any problems during the well drilling operation.

Usage

- 1- Mostly in offshore drilling operations and deep wells and areas with hazardous conditions;
- 2- Less attention and welcome due to the rising costs of oil companies.

Disadvantages of Daily Drilling Contract

- 1- Impossibility to increase the speed of drilling operations, increase and decrease related costs by the contractor with more investment in manpower, goods and equipment required;
- 2- Motivation of the contractor to extend the maximum drilling time; and,

3- Reducing the competition of contractors due to price stability and lump sum.

Description of the Duties of the Parties in the Turnkey Drilling Contract (EPD)

Obligations and Powers of the Contractor

1- Responsibility for guiding, supervising and controlling all conditions, equipment and factors required for drilling wells (equipment required for rigs, machines, drills, drilling rigs from geological tests and necessary research);

2- Bearing more important risks for more cost Obligations and powers of the employer Accept the least risk.

Features and Payment Method in Turnkey Drilling Contract (EPD)

The need for the contractor to pay attention to all drilling operations and not just the drilling rig How to pay the fees:

1- Failure to pay the contractor in case of problems during operation and failure to achieve the required depth;

2- More payment to the contractor due to the increased risk of the contractor; and,

3- Possibility of severe financial losses to the contractor contractors have traditionally been more inclined to use day-to-day contracts because of the lower risk of such contracts. But today, contractors are more interested in using payment contracts for a certain depth or key, and they find this type of contract more profitable despite their high and numerous risks.

The final depth and purpose are specified in the key contracts in hand, now if the operation in addition to the contract is requested by the employer and this operation is unsuccessful, the responsibility lies with the employer and the cost of the recovery period is paid to the contractor on a daily basis. For example, in a key contract, the drilling company (Par-Co.Inc.v.Franks Petroleum Inc.) had a final depth of 7900 feet, which after reaching this depth, the employer company decided to chart and core Continue drilling to a depth of 7916 feet.

While completing the well, the pipes got stuck and it took some time to release the pipes and return to the original state. Therefore, there was a dispute between the contractor and the employer that the contractor claimed that the money to be returned to the initial operation and complete the well should be paid on a daily basis, but the employer claimed that except for the cost of the well completion equipment with the employer; the other costs are borne by the contractor.

Eventually, the dispute in court resulted in a ruling in favor of the contractor in the drilling industry, and the employer was required to pay these costs to the contractor on a daily basis. In pure turn contracts, if a significant and economical amount of oil and gas is discovered, the contractor is obliged to complete the well to prepare the well for production and delivery to the contractor. In fact, in such contracts, the contractor in no way acquires or commercially produces the well. It does not guarantee under the contract and the mentioned well program and the desired goal are determined by the employer and the risk of not achieving commercial production is the responsibility of the employer.

The contractor's costs must be reimbursed to the contractor when the contractor's original obligation has been fulfilled to the fullest extent and the employer requests additional or additional operations. It is also worth noting that despite the fact that the final depth is specified by the employer, they are still able to stop the operation at any time. In contrast, drilling contractors in such contracts have more restrictions to stop drilling operations. In general, the contractor may stop the operation due to concerns about the employer's inability to pay on time, or in special cases due to problems beyond the contractor's control.

In addition to determining the final depth, the well diameter should be specified at the specified depth. The diameter of the well is a determining factor for estimating the drilling time for the desired phase and in the design of the well is an influential factor in the selection of drilling drills, wall and other equipment for

different phases and finally all these parameters affect the drilling costs.

In daily payment contracts, the contractor usually provides drilling pipes and related equipment, while the employer provides drilling rigs and wall pipes. In payment contracts, the drilling contractor provides drilling pipes and drills based on depth, while the employer provides wall pipes. In turnkey contracts, the drilling contractor provides drill pipes, drill bits and wall pipes. And these expensive are the main costs in drilling contracts which are very variable.

Incentive Contracts Incentive Contracts Based on Daily Drilling Contract

- 1- Providing incentives to the contractor to address the shortcomings of the daily drilling contract;
- 2- Contractor intervention agent and participation in risk, benefits and wages; and,
- 3- Concluding another contract in addition to the daily contract for combined or service drilling operations includes a penalty-reward goal (for drilling operations or service time, the penalty or reward is half the daily rate of the rig).

Turnkey Incentive Contracts (EPD)

- 1- Incentives for staff to motivate and guarantee the success of the project (applicable in areas with problems with drilling operations);
- 2- Flat price (Proposal of technical and financial plan for construction of a well by the contractor to the employer and taking responsibility for the execution of the drilling program by the contractor).

Obligations of the Parties to the Contract

Well location: Given that the employer probably has better access to topographic, geological and geophysical information, it is the best option in determining the location of the well, and on the other hand if the location of the well is specified in the tender documents, the contractor can accurately estimate the cost of

moving the rig. And another important point about determining the location of the well is that by determining the location of the well, it can be determined whether the well is gas or oil for the contractor.

Final well depth: The final depth of the well must be determined by the employer so that the contractor can provide the required rig or equipment, including drilling pipes because each rig can withstand a certain weight depending on the desired depth. This predicted depth should not be overestimated. Because if it is underestimated, the rig may not have the capacity to drill it and the risk will be included by the employer, and if it is overestimated, it will impose a higher cost or price on the employer than the actual price.

Forecast the Cost of Construction of Wells

Well location affects the cost of preparing the well site, and causes moving the rig to the desired location. The cost of well equipment includes rig rental, other equipment rental, transportation and rig monitoring costs consumer equipment such as wall, the cost of preparing the surface required for drilling operations, long time drilling operations including rig erection, survey, formation evaluation and well inspection, drilling and wall cementing considering unforeseen costs of drilling operations, forms of drilling cost calculation formula, which include not accurately predicting the actual drilling cost and not taking into account the risk factor. There is also the need to combine drilling costs with engineering estimates incredible unforeseen problems and costs, including pipe blockage, well diversion, mud contamination, mud wastage, and drilling rig rupture.

Time to Execute the Contract

The contract form must specify the start time of the contract. This date is very important for both the employer and the contractor. For the employer, as the contracted field may be leased and must be delivered on a scheduled date, and its extension depends on the timely fulfillment of the employer's obligation to the landlord. And it is important for the contractor in that, depending on the form of the contract, the

contractor can quickly benefit from the advantages of that contract and at the same time perform the contract closer to the promised time and enter another tender. The contract is valid for a reasonable period of time, and a certain period of time can be set for the completion of an operation, which must not exceed that specified time.

Permits Required for Drilling

The employer must obtain all the necessary permits for drilling and provide them to the contractor. In addition to drilling permits, there must be other special permits, including permits for the relocation of the rig and its transportation by public and state roads, or permits for use, transferring water from rivers or dig wells to supply the required water to the rig.

Access to Well Location

In general, the employer is responsible for obtaining all legal permits to access the well site. The employer must also provide access roads to the well site, fuel and energy requirements. The employer is also responsible for reimbursing the cost of land that is privately owned. In daily payment contracts, the cost of moving the rig is paid to the contractor by the employer in a fixed amount.

Modify and Change the Terms of the Contract During the Performance Period

In addition to determining the location of the well, the specifications of the well and the time for drilling that well must be mentioned in the contract. The parties sometimes modify the contract during its execution. If the initial or amended contract fails to determine the rights of the parties, the judiciary or arbitrators will determine the rights of compensation for them.

The final ruling is that the contractor is entitled to receive his rights under the contract because according to the agreement of the parties to terminate the contract, it can be concluded that the employer has agreed that the contractor has fulfilled his responsibility. Another example is the Thomas and Duffield Drilling Co. contract, in which it was agreed to

drill wells under the contract to the maximum depth or to a sufficient depth to test the formation. The well was drilled to a certain depth. At the recommendation of the employer's geologist, it was ordered to stop drilling to drive the wall and test the formation. After testing the formation, the parties realized that the formation under test was dry and therefore the employer refused to pay the contractor, citing that the well had not yet reached the desired depth for testing the formation. The parties' lawsuit was presented in court and finally decided. It was decided that due to the fact that the decision to drive the wall was made by the employer, the contract was changed and during the new contract, the contractor had fully performed his duty and was entitled to receive his expenses.

Description and Responsibility for Equipping Equipment and Tools

The contract must describe the type of rig and its energy source in detail. Many drilling contracts include the fine features of a drilling rig. Of course, the contractor must equip his rig and use experienced and trained personnel. Standard API1 forms include checklists that allow parties to determine which party will be responsible for equipping a specific instrument and which one will be responsible for payment. In addition, the specifications of the specifications of the walls, drilling fluid, core and test tools of the formation are mentioned in the mentioned standards. With the exception of diversion wells drilled with whip stock, other wells are drilled perpendicular to the horizontal. Because no well can be drilled vertically, the contractor is usually given a set interval for the well to be diverted that should not be exceeded.

To ensure the drilling of the well in the specified deviation range, the deviation measuring tool is usually drilled at different depths and the deviation of the well at that depth is determined. In depth-based payment contracts, the risk of verticality or deflection of the well is usually borne by the contractor, so the total cost is borne by him, but if a new survey is ordered by the employer, the cost will be borne by the employer.

In daily payment contracts, vertical costs and risk or well diversion are the responsibility of the employer. Standard Tender Forms (APIs) requires the contractor to agree to make the best effort from the start of drilling.

Drilling contracts usually include time-related materials. In unusual environments and places where the employer needs to complete the well in a timely manner and in the final depth contract according to this deadline, contractors should be more skeptical about signing such contracts.

Third Party Services

While the employer and contractor are key parties in a drilling contract, various third-party service companies are also required to drill and complete a well. For example, companies in the field of well preparation, well access road, water supply, refueling and repair, road maintenance, drills and wall pipes, mud materials and other required equipment can be mentioned. Also, the mapping and testing of the formation, plugging, well completion, deflection and horizontal drilling are carried out by third companies. These services are usually paid daily.

There are several things to note about the third party:

- 1- What services should a third party provide?
- 2- Who or which party chooses this third party?
- 3- Which party will be responsible for controlling the performance of the third party?
- 4- Which party is responsible for compensating or paying the third party?
- 5- Which party will be responsible for compensation for damage to third party equipment or damage to their personnel?
- 6- What insurance coverage will be provided for third party services and which party will be responsible for this insurance coverage?

The above questions will be answered over time. As mentioned earlier, under the API standard, the employer is responsible for

selecting, controlling and paying third parties to prepare the location of the well and the access road. He is also responsible for the drilling fluid formulation, depending on the type of contract for all drilling fluid related services, and at the same time the contractor is responsible for implementing this formulation efficiently.

The employer must also supervise the drilling fluid to control and monitor the fluid. At J.C. Trahan Drilling Contractor, for example, the pipes got stuck in the well, and the contractor sued the employer for damage to the drill pipes, claiming that the problem was due to incorrect drilling fluid formulation. Considering that the contractor is obliged to comment on the employer's formulation and review it if necessary, he was silent and did not comment on the incident, so he implicitly agreed with that formulation. This reason is not court-friendly and the vote is in favor. The employer was issued. A number of services such as installation of water and fuel lines, wall pipes, core pipes, purchase of drilling rigs, residue finding tools and material transfer will be released for negotiation between the parties. Standard API templates include a checklist where the parties individually design the responsibility for providing and paying for each of these third-party services.

Comparison of Design, Supply and Drilling Contracts with Other Common Contracts in the Drilling Industry

Considering contract type or format, there are fundamental differences between different contract forms in the type of payment and risk allocation. In the form of a contract, the contractor pays for the depth of the contract, except for special operations that lead to the payment contracts of the porter, from the level to the final depth, receives a certain amount specified in the contract for each foot. The risk allocation will be based on the payment per depth or daily payment, depending on the type of each specific operation.

These considerations are met when drilling is completed and completed in accordance with the terms of the contract. Death contracts also include ready-made conditions and

extinguishing materials. In these cases, the drilling operation will be stopped due to environmental and situational factors and payment will be made on a daily basis. The API has mentioned a few cases for these compensations, which will be paid on a daily basis in special cases.

We will mention them:

- 1- The depth of drilling or drilling of the well is lower than the depth agreed or mentioned in the contract.
- 2- Trying to save a well that is being lost due to the quality of the equipment or the well pipes of the employer or the cementing operation.
- 3- Operations and works that are fatal at the request of the employer and outside the scope of the contract.
- 4- Efforts to control waste, generally these hours should be in addition to the normal hours of waste control;
- 5- Work drilled to overcome unusual pressures or other problems; and,
- 6- Delay due to force majeure. Also, if we encounter a rock formation that makes drilling operations difficult or a waste of time.

In daily payment contracts, the contractor receives his fee or wages for 24 hours of operation, and in the case of risk allocation, the contractor bears only the risks specified in the contract and the risks that the contractor is responsible for by law. Daily pay may vary depending on different operations. For example, API templates have a variety of rates for moving the drilling rig, setting it up and lowering it, standby time, repairs or force majeure.

The daily rate may be reduced if the contractor does not provide all of the personnel listed in the contract. EPD contract forms are remuneration in accordance with the amount specified in the contract for the purpose specified in the contract. All risks except the limited risks in the contract are the responsibility of the contractor. If a significant amount of economically viable oil or gas is discovered, the well may be delivered to the

employer before completion, or may be completed and then delivered as appropriate.

However, if the well is completed and delivered by the contractor, the relevant costs must be borne by the contractor. Also, sometimes the contractor is paid daily for certain operations, such as those mentioned in the death contracts. In addition to compensation rates and wage calculation methods in a variety of contractual forms, employers must also be mindful of contract terms that may affect the total cost. For example, the contract should specify the parties responsible for supplying goods such as drilling rigs, well pipes, cement, drilling pipes and other tools for drilling operations. The party responsible for paying subcontractors should also be specified.

Finally, modern contracts must include cost adjustment conditions to increase or decrease costs when the materials used in drilling change. These cost adjustment conditions are not applicable in times of economic downturn in the oil and gas market as well as in the non-inflationary market. Therefore, they are often excluded from drilling contracts. However, the need to adjust costs in the oil and gas recession markets is less important, because contractors often tend to contract for a well.

However, from the point of view of drilling contractors, protection against rising commodity prices as well as changes in government policy and regulations is essential. In turnkey contracts, specifically referred to in the drilling industry as design, supply, and drilling (EPD) contracts, one of the biggest risks to consider when writing a contract is discussing the risk when this question arises: Which party is responsible for drilling problems?

This is because during drilling problems such as complete waste of the well, eruption of the well, clogging of the pipes, cutting of the pipes or damage to the equipment inside the well, it may take hours, days or even months for those problems and consequently cost a lot of money. It can be for the employer or the contractor.

The type of conditions for these problems are different depending on the type of well under the contract, whether the well is exploratory or production, and therefore the severity of these risks for the contractor or employer can be different.

An exploratory well is a well that is either not known and is called a wild cat well or little information is available about it. At the same time, a production well in a field contains a lot of information about drilling wells in that field.

Therefore, by choosing the EPD contract format, the risks of exploratory wells, since the design of that well is the responsibility of the contractor, the contractor can be exposed to a surprising risk. Because of the little information about this type of well, the risk in the design phase can lead to large costs for them.

Therefore, the contractor's representative, by including a condition in the contract, obliges the employer to exchange all the information about the drilled wells, or at least obliges them to obtain the necessary permits to access this information for the contractor. The contractor uses this information and necessary studies to design the well. In the case of feral cat wells for which drilling information is not available, EPD contracts carry far greater risks for the contractor and should include in the contract whether the initial information for the field should be provided by the employer and delivered to the contractor or by the contractor himself.

The allocation of the type of risk varies depending on which party prepares this preliminary information to determine the location of the well. If this preliminary information on geophysics, geology.

On the other hand, if the collection and preparation of this information is the responsibility of the drilling contractor, any problem arising from the discrepancy of this information with the actual data will be the responsibility of the contractor.

Therefore, when negotiating and signing a contract, great attention should be paid to this issue in order to avoid the risk of any disputes

and conflicts during the implementation of the contract.

Stop Work

Drilling contracts usually give the employer the right to order a stop or operation at any time. If the employer exercises this right, the right of compensation is realized for the contractor. The compensation rate depends on the time of the employer's order to stop the operation. If the employer terminates the contract before the contractor enters into operations, in many contracts the contractor receives a fixed amount, often known as the obligation.

The amount of the obligation is specified in the contract, because determining the actual damages or damages that will result from it will be hard and difficult, such as losing a job opportunity, so this amount is specified in the contract to protect the rights of the contractor.

When the employer terminates the contract after the contractor enters the drilling operation and before the actual rig spade, the contractor will be entitled to receive the actual costs incurred to hire personnel and supervisors in addition to the initial obligation.

In daily or future payment contracts, if the contract is terminated after the spade of the drilling rig, the contractor will be entitled to receive all costs incurred until the day of termination, and even in future contracts in addition to the costs incurred in terms of death drilled to date, he will also be paid additional costs that he is entitled to receive on a daily basis. In the mentioned contracts, in addition to the mentioned costs, the contractor receives all or part of the obligation. EPD contracts can carry different risks for the parties, depending on how the termination terms are included. If, at the employer's discretion, there is an interruption in the work, the conditions may be different.

For example, if this stop is due to the contractor's wrong design and the employer recognizes that this design can lead to serious damage to the well or personnel, the work must be stopped, and as for rig costs, if this initial design is approved by the employer and noticed

wrongly during the work, the costs of the rig will be borne by the employer until the problem is resolved, and on the other hand, if the risk of designing the exploration well is borne by the contractor, depending on the agreement, this cost can be shared or borne entirely by the contractor.

If the work stoppage is due to lack of equipment, the cost and time of which will be borne by the responsible party, considering that the equipment was contracted by the employer or the contractor. The drilling contractor has a limited right to terminate the contract before the well is completed in the EPD contracts, such as the employer's inability to pay the debt or non-payment of the debt on time, or drilling problems that were beyond the contract's control.

The contractor can terminate the contract legally, worthy and entitled to all compensatory rights similar to the case in which the employer terminated the contract. In these cases, the contractor may also be entitled to receive late payment or attorney's fees to receive the salary. If the contractor terminates the contract illegally, the employer will also have the right to breach it, and in many contracts, there is an obligation to pay the employer.

Contractor's Right of Pledge

In many U.S. states, when the employer is unable to pay the contractor who has performed all the duties assigned to him under the contract, the contractor has the right to seize the benefits, the property at the head of the contracted well, or both. The lien includes well equipment or any production from the well that benefits the owner.

This law is to protect a contractor who has provided drilling services and to protect its rights. This lien varies from state to state. However, this lien may be of little use to the contractor when the well is plugged in or abandoned. The best way to support the contractor is to work with a reputable employer. If the contractor is concerned about the employer's credibility, reason dictates that the terms of the compensation be provided in the amount pledged or guaranteed by a third

party. In addition to the main contractor, the subcontractors will also have the right to pledge the equipment and benefits used in the contracted well.

It should be noted, however, that this right of lien on the revenue of those wells, such as oil and gas, may or may not apply to the laws of the countries. As we know, considering that natural resources in Iranian law are other than Anfal and public property, so according to the choice of the law governing the contract, if it is Iranian law, contractors run the risk that they may not be able to pay their debts if the Iranian employer fails.

Consume your expenses from these sources. Therefore, in EPD contracts, this clause should be especially considered by the contractor. However, in exploratory wells, contractors should consider other resources to address this risk from the employer, given the risk of the well-being dry or not commercial.

Failure of Drilling Contractors

In general, if the drilling contractor fails to drill the contracted well according to the terms of the contract, the employer will have the right to breach the contract as a reciprocal action. In the general rules of contracts, the employer is entitled to any damages incurred as a result of breach of contract. How these damages are measured varies from state to state. One of the damages that can be paid to the employer is non-benefit.

These damages will be very severe in the absence of actual production, exploration wells, and if there is evidence that the contracted well is dry, the contractor will only be liable for nominal damages. Non-benefit is the measurement of the benefits that the employer could have received through the contractor if the well was drilled, and those benefits were lost if the well was not drilled. Courts are usually interested in measuring non-profit, but it is difficult for the employer to prove non-profit.

Due to the types of damages and methods of measuring damages and the contract, these damages are exposed to all kinds of risks, which in itself makes the writing of the contract of

finer conditions to predict these damages and therefore the methods of compensation to consider the original contracts included the terms of the obligation, which is a fixed amount that the parties agreed on.

The main objection to these terms of the obligation is that most courts are unable to enforce them when there is a reasonable relationship between the damages and those damages are not specified in the terms of the obligation. Although in modern contract models there is a greater tendency to enforce these terms, in conventional drilling contracts the employer restricts this obligation, and only when the contractor is unable to start and terminate the contract, this clause applies.

In situations other than the general situation in which the drilling contractor is unable to begin operations, accurate measurements for other damages that do not exist if the contractor fails. Damages are in any case limited by standard API forms, because in these forms the standard of the parties is responsible for specific, indirect and significant damages arising from this agreement or incurred in the contract, without any restrictions or even from loss of benefit, is against the other party.

In addition, standard API forms give the employer more choice and authority, so that if the drilling operation progresses slowly, negligence, carelessness and incompetence of the contractor to execute part of the contract, it is the employer who owns the well to be drilled, its equipment or will complete or abandon it at its discretion.

This is the case if the employer gives an initial warning and a reasonable opportunity to the contractor to compensate for his unpleasant performance. If there is a definite risk of a well erupting or other imminent hazards, the employer can take control of the well quickly and without prior notice. According to the API, the employer must pay a certain amount to the contractor for the use of the drilling rig and equipment at the time of mastering. The employer must employ its own personnel or third-party service companies.

As such a right to self-help is not provided as a separate condition in the contract, the employer has the right to invoke any compensation covered by the general rules of the contract, as a precautionary condition for the recovery of significant and specific damages. In interviews with employer representatives and contractors for EPD contracts, the author was unable to create such a self-help condition, as a prudent employer would refuse to perform such an exercise in order to master the well. Performing such an action, including recklessness, incompetence or slow progress in the operation, occurs in a part of the contract, and in the next stage, the employer gives an initial warning and a reasonable opportunity to the contractor, and finally after these steps, this may happen.

But another reason for the difficulty in enforcing this right may be the lack of trained and experienced personnel. And the last reason for not implementing it is that the employer, in case of mastering the well, must provide all the insurance coverage. And all the coverage must be provided by the employer and in his own name immediately.

Doing these covers is costly, time-consuming and sometimes impossible. Therefore, the type of supervision of the employer should be specified in the contract and in what cases this supervision can lead to the intervention and even taking over the work by the employer, should be determined. From now on, the risks of not having access to trained and skilled personnel, necessary and up-to-date equipment and wasting time will be borne by the employer.

Reason dictates that the employer's representatives be more careful in writing these terms in the contract. Finally, in cases where there is a definite risk of a well erupting or other hazards, the employer is cautious and reasonably reluctant to seize the well unless the contractor is clearly incompetent and incapable of responding rationally to the hazard. Note that such a situation may be similar to what happened to the employer in "catch 22".

The parties were harmed by ignoring the employer and refusing to exercise this right and

seizing the well just when he could have exercised this right. Therefore, this choice is potentially problematic in order to be a solution, especially when the contract is in-depth payment or EPD, because in this type of contract, the employer is less risky. It seems appropriate to use such a right of reservation in day-to-day contracts that the employer monitors directly and day-to-day.

Deceptive Texas Business Practices

Consumer Protection Act While a brief overview of fraudulent business practices is beyond the scope of this study. This law can be used by the employer who has been the victim of this misleading business practice. A drilling contractor claimed that the power swivel, which was a drilling rig, could drill a specific well, while the rig was normally suitable for repair wells.

The court found the contractor violating the law at trial. Because breaking the law can be very costly, major and minor drilling contractors must be very careful not to display their tools, equipment, and capabilities in any other way. If the parties violate the law, the other party is liable for any actual damages, costs and salaries of its lawyers.

Therefore, if the technical specifications of the equipment and tools are provided in another way by the contractor in a way that does not actually correspond to the specifications requested by the employer, the risk in EPD contracts will be borne by the contractor. Therefore, during the contracting, the contractor must have the necessary research and appropriate information for drilling the exploratory well subject to the contract, so that according to the employer's request, he can provide a rig in accordance with the technical specifications requested by the employer and also in accordance with the well specifications.

Description of Wall and Cement Pipes Program

Wall pipes, core pipes and cement-related services are usually provided by the employer in daily and in-depth contracts. Classic turnkey contracts are provided by the drilling contractor, but modern turnkey contracts

(EPDs) allow the parties to specify these responsibilities.

In addition to identifying the parties responsible for providing the wall pipes, core pipes and cement, a draft well drilling contract should also include the technical specifications of the wall pipes and the cementing plan.

These technical specifications include the outer diameter of each wall string, the minimum diameter of the well for walling, the specific depth for each wall, the amount of cement required, the hours required to seal the cement, the maximum outer diameter of the weight tubes, the maximum rpm top drive and Rotating table during drilling and other items.

A contract must also specify the type of cement and wall that will perform properly in daily contracts. The employer is allowed to change the technical specifications of the above equipment during the drilling operation according to the conditions.

However, if the change of materials and equipment by the employer imposes a heavy burden on the contractor, the employer must compensate us for the difference or if the wall is driven by a fatal contract, it turns into a daily contract. The design of the well, including the wall in the EPD contracts, can be the responsibility of the drilling contractor or the employer, depending on the type of agreement, and the design of the wall cement will be the same.

Therefore, this can be risky for both parties. Since the wrong design can lead to the loss of the well and lead to amazing costs, the parties, especially the contractor, are very careful when writing the contract and in its advanced and modern state, allocate risk so that they can achieve their goals, which, in this particular case, is exploratory well drilling, because, as we saw in the previous chapter, if either party improperly assumes that risk when allocating the risk, it automatically transfers that risk to the party or parties.

Since this risk and assigning it to the contractor may cause the well to be lost, reason dictates that this clause be included in such a way that the employer intervenes in critical

situations and prevents this catastrophe, given that usually in the employer companies, there are experts and experienced people in the field of drilling these wells, as well as cement and wall design. In sensitive cases and wild wells, it is recommended that the employer design this section either alone or with the participation of the contractor. At the same time, an agreed fee must be written for this period according to a specific process.

Drilling Methods and Procedures

Because drilling oil and gas wells is very expensive and risky, it requires sufficient experience and skills in this field. A drilling contract expects the standard performance of the contractor. For example, according to standard API forms, the contractor must have sufficient care and attention, as well as the skillful and skillful behavior of his staff in accordance with the best drilling practices. In addition, the drilling contractor entering into a drilling contract and completing the well must have sufficient tools to perform the work in accordance with the technical specifications specified in the contract and trained personnel with high capabilities to work with that equipment. Default and daily standard contracts do not include general performance standards, so the court enters as a reliable factor. At Drilling and Well Servicing Research, Inc., the contractor is committed to providing all the necessary care and professional conduct to control the well and prevent eruptions and fires using appropriate tools and adequate care.

During the drilling at a depth of 1068 feet, the well was completely wasted so that they lost the flow of mud, the digger had left his position to prepare the mud material and at this time the well erupted and caused a fire and finally the well was controlled by a simple ejector. At the time of payment, the court ruled that the drilling contractor had not skillfully conducted the operation. The contractor argued based on the contract, and the contractor was not obliged to equip the rig with blasting equipment.

The court ruled that the situation was indefensible because the description of the rig in the contract included all equipment and

devices, including blasting equipment. In general, oil and gas laws specify the equipment and procedures required for safety and prevention of eruptions, fires and pollution. Despite these provisions, it seems relatively easy to determine whether the contractor has made a reasonable and reasonable effort to provide and maintain the equipment for safety and prevent eruptions and fires.

However, determining whether the contractor has a timely and reasonable response to fire control or fluid entering the well when it erupts, is a difficult task. For example, when a contractor encounters unusual pressure during drilling, he or she is in a position to decide on a narrow line whether to immediately control the well or leave the well to save the life of the personnel. While in futures or daily contracts, the employer sets the drilling mud schedule, the contractor is required to execute the schedule exactly.

If the contractor encounters abnormal pressures during drilling, he must make a reasonable effort to overcome the problem without delay. The drilling contractor usually accepts the drilling of vertical wells unless the well is diverted, in which case all drilling will be with the contractor. In future contracts, the contractor bears the risk of greater deflection angle, while in day-to-day contracts this risk is borne by the employer because in such contracts the employer has more control over drilling the well.

One of the risks that the EPD contractor always faces, which is present in all stages including design, supply and drilling of wells, is to pay attention to the angle of deviation of the well and the equipment needed to measure it. Because in exploratory wells, in order to obtain the most information from the most layers or formations to be drilled, it must be drilled vertically or with the least angle of deviation from the vertical line.

Because the supervision and design of the equipment inside the well will be the responsibility of the contractor, the risk of any abnormal deviation that causes deviation from the intended exploration goals and can even cause the loss of the well, will be borne by the

contractor. Therefore, in compiling this clause, one should always be careful to achieve reasonable risk allocation in sensitive areas in order to reduce drilling and contractual risks in this way.

Accident Reporting

Due to the increase in quasi-criminal lawsuits and rising insurance rates, drilling accidents are a major concern for both the employer and the contractor. When an accident occurs that involves human injury or damage to equipment, the contractor is obliged to do so as soon as possible, inform the employer of the time by phone and then by an official letter.

These reports should include the nature of the accident, injury or damage to the equipment, and should generally include a copy of any report filled out by insurers, government officials or other groups. The language of this sample template is very broad and may arguably include reports for formal consultation and cooperation that the contractor is reluctant to share. As a result, some drilling contractors may negotiate further on specific clauses that only require certified copies of insurance or workers' compensation claims by the employer, as direct oversight of EPD contracts will be the responsibility of the contractor.

Therefore, any loss of life and property will be borne by the contractor. Of course, in the case of financial damage, if part of the equipment was provided by the employer or with his intervention, the damage will be borne by the employer and the time spent to repair the damage will be borne by him. Of course, this clause must also state that the report of this accident or accident must be reported to the employer within a specified and agreed period.

Drilling Reports

Most drilling contracts require the contractor to provide a summary of the condition of the wells and formations they have drilled. Telephone reports are often required when drilling to a specific depth or specific geological horizon. These reports are prepared by API-IADC and are available to the public.

This report is prepared by the digger and is sent to the employer on a daily basis. In addition, the contractor is generally responsible for delivering equipment and goods prepared by the employer or its vendors. The contractor must confirm the quantity, quality and condition of the equipment and goods he receives and submits it to the employer in the daily report. Many employer-centered contracts hold the contractor liable for damages resulting from the contractor's failure to accurately identify defects or defects in the employer's equipment.

In EPD contracts, the contractor may be required to report daily, weekly or monthly. This depends on the agreement of the parties during the contract negotiation. The liability and risk of the untrue report will be borne by the contractor and a penalty may be imposed. Since in this type of contract, the contractor is responsible for the supply of goods, so he takes the risk of any defect in the goods that may cause damage to the hole, unless this step is done with the intervention and advice of the employer, then the risk allocation will be different.

Due to the high cost of exploratory wells and the importance of information accuracy in them, these clauses should be considered carefully, so as to lead to all these risks being borne by one party resulting in the loss of the well and the target. If in this type of contracts, an agreement is reached in such a way that the supply and equipment of a part of the equipment is the responsibility of the employer, any defect in that equipment will be the responsibility of the employer, as well as any problem during drilling due to equipment defect or defect. It will be the responsibility of the employer.

Insurance Requirements

Due to the nature of oil and gas, jobs related to drilling oil and gas wells and drilling contractors alike are exposed to unexpected risks and numerous problems resulting from the testing of exploration formations in exploration areas. Drilling contracts include extensible clauses and conditions that cover

liability, indemnification and insurance to protect against staggering costs and potential losses that contractors may incur.

These terms seek to assign duties and responsibilities to accidents that cause financial loss, injury, or death. However, the main source of contractual legislation is disputes in which the party assuming responsibility for certain risks under the terms of the drilling contracts. Therefore, when allocating risks in a drilling contract, the parties should try to make it as clear as possible who exactly is responsible for what, thus avoiding the possibility of future legislation and minimizing insurance and legal costs. In fact, risk allocation is the most important issue in EPD drilling contract negotiations.

Types of Insurance

Although drilling contractors have insurance coverage for their operations, the bulk of the contracts require contractors to provide adequate insurance coverage for their operations during the term of the contract. The API standard for drilling contracts specifies the minimum insurance coverage for each type of insurance for the drilling contractor and also provides blank pages for additional intermittent and additional insurance coverage.

In addition, the parties must ensure that the minimum Insurance coverage obeys all federal and applicable laws and regulations. While insurance is generally included in the costs of drilling contractors, the cost of insurance coverage may be included in compensatory costs for the drilling well contractor. The drilling contract generally requires the drilling contractor to provide three or more categories of insurance coverage.

The first type of insurance for personnel and employees includes compensatory coverage for workers in accordance with all federal and applicable laws and regulations. In addition to workers' compensation insurance coverage, most drilling contracts, including standard drilling contractor API forms, require liability insurance coverage for employees injured or killed in a traumatic accident, which may even be outside the scope of the statute. Finally, it

obliges the contractor to provide compensatory insurance coverage for those who are not employed by the company if specified in the law.

The second category of car liability insurance is insurance coverage. This type of liability insurance covers any person, whether bodily injury or destruction of property results from equipment owned or leased by a contractor under contract. The third category is the insurance coverage required for a comprehensive liability insurance. This insurance coverage is the most important of them, because it covers the greatest potential for liability exposure.

This comprehensive liability insurance coverage protects the employer against the claims of the contractor's employees and the contractor against the claims of the employer's employees and both against the claims of the third-party employees. In addition, in exchange for life insurance coverage, property damage insurance coverage must also be provided.

Since the contractor is responsible for all three stages, i.e. design, supply and drilling, he is responsible for providing the necessary insurance coverage and the risk of not providing any insurance according to the standard or agreed in the contract is borne.

Conclusion

Design, supply and drilling contracts have recently been used in some development fields of the country, including South Pars Square. Because drilling of exploratory wells is very risky and costly, and these risks include the risk of designing wells in the drilling forecast program due to the unknown field, the risk of supplying goods and equipment required is high according to the design in due time and the risk of drilling wells.

The exploration goals should be achieved according to the forecast plan, so the attractiveness of this type of contracts from the employer's point of view, design risk transfer, supply of goods and drilling of wells is the responsibility of the contractor. Therefore, the study of drilling exploration wells in the form of this type of contract is very important for the

National Iranian Oil Company and the exploration management of that company, according to Article 44 of the Constitution and the outsourcing policy. In this project, we tried to examine the contractual and technical risks of exploration wells in the form of design, supply and drilling contracts, and conditions in design, supply and drilling contracts in order to optimize costs as well as achieve goals, including the desired exploration in exploration wells. At the same time, these conditions must be embedded with a modern approach to risk management and allocation in a way that is more attractive than conventional drilling contracts, such as daily or in-depth payments.

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