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# **7. Coming Out of COVID-19 Lock Down in the Construction Industry**

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# 1.1 INTRODUCTION



- **This presentation looks at the process of unlocking the COVID-19 lock down in the construction industry in Nigeria**
- **We will start by summarizing the events of the last three months and the actions taken by governments.**
  - **The first case of COVID-19 in Nigeria was on the 27 of February. The airports were closed to international flights on the 23rd of March.**
  - **The lock down announcement was made by the President on Sunday 29th March and work had to stop on all sites at midnight on Monday 30th March for at least two weeks.**
  - **This was hardly enough time for contractors to properly shut down functioning sites and put them in safe conditions to resume work two weeks later at the earliest.**

## 1.2 INTRODUCTION



- It was also hardly enough time for consultants to give the right directives and approvals and to contractually document the unfolding events.
- Technically, this was a suspension of work due to force majeure.
- Things did not improve in two weeks, and an extension of two weeks to end on 28 April was announced by the President.
- Although the situation with respect to the pandemic did not improve by the 28th of April, the restiveness of the populace had reached a point that a relaxation of the lock down from Monday 4th of May was announced.
- From the 4th of May, companies were allowed to resume work, albeit with significantly reduced capacity and a curfew from 8pm to 6am. By this time, the sites had been closed for five weeks.

## 1.3 INTRODUCTION



- **The Lagos State Governor, the state with over 40% of all cases in Nigeria, announced that companies were to work at 60% staff capacity and no gathering of more than 20 persons was still allowed. He maintained that physical distancing, face masks and frequent hand washing were still mandatory.**
- **The resumption of work on Monday 4th of May was rather chaotic with significant non-compliance with social distancing, particularly at the bus stops and markets.**
- **We are now over three months into the pandemic, and there is still no clarity as events are still unfolding. The struggle to balance the choice between lives and livelihoods is still ongoing.**
- **Government is now about to fully lift the lock down, but with the constraints of the protocols to be observed.**

## 2.1 IMPACT OF THE LOCK DOWN



- **The implementation of the lock down directive was immediate but had significant consequences in the construction industry, among which are:**
  - **Hurried Closure of construction sites perhaps without being able to adequately protect the works and materials on site, and abrupt disruption of work in progress; This may lead to a significant amount of rework.**
  - **Incurring of unbudgeted expenses for demobilization including laying off of casual workers and payment of salaries of permanent workers when no work was being done;**
  - **Loss of momentum in the work being done, and the consequential impact on morale, project quality, duration and cost;**
  - **Disruption in the materials supply chain;**
  - **Loss of revenue to the company, loss of employment to casual workers and loss of income to the value supply chain in the industry.**

## 2.2 PARTIAL RELAXATION CHALLENGES



- **The partial lock down relaxation commenced on Monday 4th of May.**
- **While the partial relaxation brought succor to hundreds of thousands in the informal sector of the economy and significantly relieved the restiveness in the populace, its impact on the construction industry has been less positive.**
- **The limited working hours implied by the curfew, the requirement to work at 60% of staff capacity in offices, and the need to keep gatherings to less than twenty persons in one place provided challenges to construction sites.**
- **Construction sites usually have tens, if not hundreds of workers on the site at a time, who share the same work space, dine in the same place and often travel together.**
- **The partial lock down was therefore very difficult for the industry.**

## 2.3 FURTHER RELAXATION CHALLENGES



- **Further relaxation guidelines were released on Tuesday 2<sup>nd</sup> of June which relaxed the curfew time to 4 am to 10 pm and 75% staff capacity utilisation.**
- **While this improves the working hours available for construction works, the other constraints of social distancing, use of face masks, regular hand washing and limitations to gathering of people in one location still persist.**
- **The response to this further relaxation will depend on the caliber of contractors and the structure of the construction industry.**
- **Large to very large contractors have the management capabilities to design responsive solutions to these challenges. Similarly, structured industries such as large oil and gas companies have the capabilities to design appropriate protocols for compliance.**



## 2.4 FURTHER RELAXATION CHALLENGES



- **For the small to medium size contractors without the required human resources capacity, the consultants would be required to give assistance and guidelines in designing responses to these new protocols.**
- **Some of the working habits of these small to medium size contractors that will be constrained include:**
  - **Workers sleeping on site**
  - **Workers working overnight**
  - **Working longer than eight hours a day**
  - **Mass concreting methodology**
- **A guide is provided in the following slides to address some of these issues.**

## 3.1 DETERMINE WORKING HOURS



- **The first step in re-scheduling the works to comply with the new protocols is to determine the effective working hours:**
  - **As the curfew is from 4 am to 10 pm, and approximately 3 hours travel time must be allowed for staff at both ends, then opening hours can only be from 8 am to 6 pm; Allowing for daily start-ups, winding down and lunch breaks, another two hours could be used up, giving eight hours of effective work per day.**
  - **Thus, a normal day's work is feasible. What is constrained is in terms of working hours is the ability to work longer hours, sleep on site, work overnight.**

## 3.2 IDENTIFY WORK THAT CAN BE DONE



- **The next step is to determine which works lend themselves to this relatively working hours.**
  - **Much of construction works can be done in the eight daily working hours available. Works such as formwork construction, reinforcement installations, block laying, excavation and shoring, first and second fix electrical and plumbing works, etc. can be done. They will only take more days.**
  - **Works that require more than eight hours of continuous activities must either be deferred until full relaxation, or redesigned to be executable in eight-hour batches.**
  - **Such works may include concreting of large volumes, plastering of large areas of walls such as elevations, or excavations where dewatering is required, electrical testing, etc.**
  - **This might lead to longer durations and higher costs.**

## 3.3 SCHEDULE WORK & PERSONNEL



- **The third step is to schedule the work that can be done in the daily hours available while complying with the protocols of limiting the total number of staff on site and observing physical distancing.**
  - **We have to keep a limited number of workers on site and at the same time maintain social distancing. The total manhour that can be utilized per day is therefore going to be significantly limited.**
  - **The implication is that work will be slower and duration longer.**
  - **The output of this exercise is a work program that shows the work deliverable over time, and a staff schedule that shows the personnel required in compliance with the protocols.**

## 4.1 EVALUATE THE PLAN



- **The fourth step is to evaluate this plan for effectiveness, efficiency and profitability.**
  - Working with reduced number of staff only on selected work items means that the billable amount for each day will be significantly reduced compared with normal.
  - Meanwhile, the overhead to keep the site functioning such as management and supervisory staff, security and generators might not reduce proportionately.
  - Thus, there might be significantly reduced profit or, indeed, losses.
  - The impact of the work to be achieved in the period compared with the overall work program also needs to be assessed.
  - There will not be much value in going to great pains to work if the impact on the overall work program is not significant.

## 4.2 CONDITIONS OF CONTRACT



- **Having done the cost–benefit analysis of re-opening the site from the contractor’s perspective, other considerations, including the client’s and consultants’ preferences and the Conditions of Contract must be considered.**
  - **The Conditions of Contract might allow that work be carried out under special conditions and paid for by the project accordingly. If such provisions exist, the necessary request must be made and approval got.**
  - **The consultants must review and approve the new work methodology and program and such approval must be obtained.**
  - **The client might have preferences as to how urgent or not urgent the project is and might support a resume or wait option.**
  - **Whatever the decision, it is important to be contractually compliant.**

## 5.1 PREPARE FOR SITE OPENING



- **With the decision is to re-open the site under the new protocol, preparation for site opening is critical.**
  - **Remember that the new work environment will be significantly different from ‘before COVID’ situation, which is what people are used to. It is therefore not business as usual.**
  - **The new environment must be planned and designed for compliance with protocols and efficient work execution.**
  - **Staff must be specifically trained and re-oriented as to how to work in this new environment.**
  - **Giving that no one has experience with the new system, continuous learning and responding to issues arising will be critical.**
  - **A learning period with management staff present should therefore be considered in the overall plan.**

## 5.2 SITE LAYOUT DESIGN



- **Layout design for the site must consider the following:**
  - **Design of the dining and changing areas for the workers to comply with physical distancing;**
  - **Design of project meeting rooms for presentations and discussions; this might require projection of drawings as against the normal approach of converging on paper drawings.**
  - **Design of work processes to minimize physical contact.**
  - **Provision of water and soap and/or sanitizers points for hand washing for all workers and administrative staffs.**
  - **Where wages are made in cash, design of the payment processes for physical distancing.**



## 5.3 MANAGEMENT OF FACE MASKS



- **The use of PPE is a standard requirement of the construction industry as safety has always been a major consideration. COVID-19 – related PPE now have to be added considerations.**
  - **The use of face masks when carrying out laborious tasks must be carefully considered and expert advice sought so as not to endanger the lives of the work from shortage of air in the lungs;**
  - **The choice of face masks should also be carefully considered with expert advice to ensure their suitability to sweat and construction dirt.**
  - **The comfort and convenience of the workers to be able to carry out their tasks must also be considered.**
  - **In view of the nature of site works, it might be necessary to change face masks regularly, and workers must be advised accordingly.**
  - **Adequate number of safety officers may have to be assigned to ensure compliance.**

## 5.4 ADOPTION OF TECHNOLOGY



- Experience to date has shown the advantage of modern technology in communication, particularly the use of on-line meetings, photographs and video recordings. The industry can take advantage of these to reduce physical contact as much as possible. Such Possibilities include
  - The use of cameras and CCTV for remote inspection of on-going works by both the contractor and the consultants;
  - Reducing the number of on-site meetings and augmenting them with video conferencing;
  - Greater use of on-line platforms for sharing drawings, logging and resolving complaints.

## **6 CONCLUSION**



- **This presentation has looked at some of the challenges of resuming work on construction sites with the requirements of complying with the COVID-19 protocols of physical distancing, regular hand washing and wearing of face masks.**
- **This needs to be evaluated carefully to ensure that the resulting work methodology is effective, efficient and profitable.**
- **Proper planning and design of the sites for compliance is necessary and must be properly carried out.**
- **Training and orientation of the workers is critical. It will take them time to adjust.**
- **The health and safety hazards of wearing of face masks while doing laborious work, and the type of face masks must be carefully determined.**
- **The cost implications of all these must be contractually covered.**