



Considerations for the post-MCO immediate reactivation of construction activities through the full and partial opening of sites

Suggestions by the Association of Consulting Engineers Association (ACEM)

A. Introduction

- 1) This is the response by ACEM to the request by CIDB for the construction industry stakeholders to forward ideas and suggestions for the immediate reactivation of construction activities either by full or partial opening of sites upon uplifting the Movement Control Order (MCO).
- 2) ACEM looks forward to all efforts to the reactivation the construction activities as its members and all other Engineering Consulting (ECPs) especially since the closure of sites have resulted effectively in zero productivity for their construction supervision services deliveries.
- 3) ACEM is very much aware that similar situation is also faced by all other stakeholders of the industry and threatening the survival and sustainability of the respective businesses, big or small.
- 4) Thus ACEM and the industry looks forward to the immediate yet systematic reactivation of the construction industry not only for the benefits of the stakeholders but towards revitalisation of the economy as a whole.

B. Considerations for reactivating construction sites either fully opened or partially

- 5) A sudden reactivation of construction activities is not practical as it will trigger a big surge on demands for materials, equipment, transportation, human resources and financing across the full spectrum of the supply chain. Chaos could prevail as the supply chain would not have the capacity to satisfy all the demands.
- 6) Thus, assessing and managing the capacity of the supply chain to be within its limits is are important criteria.
- 7) Next, within the limits of the supply chain capacity, some order of priority for the selection of project and site reactivation is necessary from the perspective:
 - a. National interests and security
 - b. Social needs and well-being
 - c. Balanced distribution of work opportunity across construction industry sectors and regions
 - d. Opportunity for speedy spurring and revitalising other businesses and industries
- 8) Equally important, the decision to fully or partially open a construction site would also have to seriously consider the need to manage the risk of covid-19 spread as well as the capability and achievable level of discipline of all personnel across the supply chain and on-site to adhere strict safe practices.
- 9) It is also dependent on the nature and location of the construction works and the site.
- 10) In addition, for all sites fully opened to partially, project owners shall have to provide all necessary equipment for checks and personal protective equipment to all site personnel.



C. Types construction sites that can be fully opened or partially opened

- 1) Whether fully or partially opened, the principle to apply under the covid-19 situation shall be in consideration of the need for safe distancing (social distancing) between all site staffs and workers, hygienic practices, the limits on total size of work teams and the total number of site personnel at any one time and the population density (urban/rural) of the immediate vicinity of the site.
- 2) The level of demand on resources is also an important consideration. Those project at early stage or end stage will impose less pressure on the need of resources. Also highly mechanised work operations (less labour intensive).

C1 Fully opened site

- 1) Linear projects located in sparsely populated areas. Examples are roads and highways, water supply pipelines, sewerage pipelines, telecommunication cables, irrigation canals, drains and powerlines. Sections passing through urban or rural settlement could be rescheduled later when the covid-19 situation improves.
- 2) Buildings and structures in sparsely populated locations and low human traffic.
- 3) Residential and commercial development in sparsely populated locations.
- 4) Sites where works is at early stages or end stages; low workforce and material requirement.

C2 Partially opened site

- 1) No work in confined areas. Only in well ventilated areas and in open spaces (e.g. infrastructure works in open spaces.
- 2) Sites in highly populated locations. To limit the size of workforce and selected nature of works.

D SOP for site personnel and workforce

- 1) There are already guidelines by the Kementerian Kesihatan Malaysia on hygienic practices under covid-19 situation. This can be reviewed to suit the construction site practices.
- 2) In addition there are also references from other countries that could be referred to in developing an SOP for Malaysia.

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Additional Notes

- A. This section looks at the impact on COVID of opening up sites and what effects these works would have.

The importance of the project would be one of the criteria for it to continue. Types or which project to continue will be dependent on how it affects the country's economic growth immediately post the MCO and in a short and long term run as we recover from the pandemic. Considering the multiplying effect that the construction sector has on the economy, the government and other organizations representing the construction industry (including professional services like engineering consultants) can only justify phased 'opening up' of all construction works and related activities bearing in mind that there are 2 major crisis we are facing now: the COVID-19 pandemic and the economy. Phase 1, the primary criteria for continuing the construction is the contribution of the project to the economy but in the heavy set of managing and controlling the spread of the COVID-19 virus. Phase 2 of the phased opening up of the construction sites must still predominantly consider its economic contribution whilst keeping the control/spread of the virus as a secondary consideration. Phase 3 will eventually be the total opening up.

To facilitate and achieve this phased approach effectively, formulating measurable variables relating to the spread/control of the disease and the contribution of the implemented construction to the economy to trigger Phases 2 & 3 would be necessary which must be reviewed as it progresses.

The effect on each of the construction's supply chain is another consideration. Of immediate need will be the supply of cement, steel, aggregates, fuel and provision and maintenance of construction equipment and machineries.

Malaysia is blessed with sunshine which can potentially retard the spread of the virus. Given above, the construction of open space linear infrastructure where workers are not crowded should be recommended to proceed. High-density sites might not be initially suitable to be open unless the sites limit the number of workers at any one time. It may be necessary for each site to be given a certain quota of persons to work to contain any potential relapse of the pandemic.

Manufacturing of construction materials like tiles, roofs, frames, etc should also be on 'people' quota initially, with an expectation to increase to cater for growing demand over time as the nation regains its stability from the pandemic effects.

A lot of construction work is still on-going in other countries where it is sited at non-crowded locations but under stringent SOP. For example, in India highways outside o metropolitans are progressing but not in the cities. The same applies to China, South Korea & Taiwan.

In addition to linear construction projects, other infrastructure such as hospitals, residential and healthcare facilities must continue. Maintenance of existing facilities is also still needed and many of such cannot afford to be put on hold for too long.



- B. Other physical considerations on the type of projects to be allowed to operate either partially or fully.
- i. Projects that are related to the provision of essential infrastructure e.g. upgrading of telecommunication, power, water services should be allowed to be **fully** operated;
 - ii. Projects that are already in the advanced construction stages and leaving them incomplete for long may endanger public safety e.g. road construction in built-up areas or urban areas should be allowed **fully** operational. Often they are contractually separated into packages. The ideal situation is where each package starts or terminates at or near an existing road or a proposed interchange/junction. At both at grade terminal points of each package, traffic may be diverted from the proposed highway into/from the existing road. This partial opening sequence may be repeated progressively for each package until the project is completed in its entirety.
 - iii. Projects that affect the operational side of a facility e.g. port upgrading, railway track upgrading should be **fully** allowed otherwise there will be disruption to the operation of the facilities
 - iv. Partially completed or completed works related to exposed earthworks such as embankment filling and cut slopes need to continue after MCO is lifted. Exposure to heavy rain over a prolonged period will eventually lead to embankment & slopes failures if measures are not in place to protect any exposed surface.
- C. What are the criteria needed to allow the site to operate partially or fully?
- i. Impact on the spread or containment of the virus;
 - ii. Impact on the economics and its recovery;
 - iii. Impact on immediate public safety;
 - iv. Ability to impose phased construction;
 - v. Its end-users or importance to end-users
- D. Suggesting for SOP from submission of application until approval as well as monitoring of activities. SOP needs to address health issues such as social distancing, hand washing, etc.
- First, two weeks to allow only safety and procurement to check for safety and review of material condition (effect of prolonged exposure to the elements);
 - Once this is complete, a stipulated workforce according to the quota should be allowed to be mobilized but under strict social distancing. Project Manager to decide works to be carried out based on allowable workforce;
 - No external supplies such concrete or sub cons to be allowed until another 2 weeks;
 - Screening of all construction personnel to be made mandatory daily to check their health, body temperature etc.
 - Facilities to clean/disinfect workers including PPE (masks etc) to be provided and all personnel to be disinfected upon entering and leaving the site.
 - All staff to be briefed on an orientation/training session performed to make all staff aware of the procedures to maintain cleanliness,
 - social distancing to be maintained as much as the construction activities allow.