



COVID 19 STANDARD OPERATING PROCEDURES (SOP)

**WORKING PROTOCOLS FOR TANGSIBJI HYDRO
ENERGY LIMITED**

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1. Introduction

The THyE COVID 19 Standard Operating Procedures (SOP) has been developed for carrying out the works for construction of 118 MW Nikachhu Hydropower Project by Tangsibji Hydro Energy Limited during the COVID-19 pandemic.

The SOP developed should be strictly implemented at all construction sites during the COVID-19 pandemic to ensure the safety of workers and also to minimize the risk of spreading within the work fronts and the community as a whole. The Preparedness plans are required to ensure that the business can be started smoothly and the risks posed by the COVID-19 pandemic can be mitigated effectively.

The SOP has been developed in line with various lockdown protocols issued by the Ministry of Health, Royal Government of Bhutan (RGoB) i.e. a) Local/Community Lockdown; b) Dungkhag/Dzongkhag/Thromde Lockdown and c) National Lockdown.

1.1. Scope

This SOP defines the standard procedures/protocols that should be strictly followed for carrying out/resumption of the construction activities of 118 MW Nikachhu Hydropower Project to ensure the safety of the workers at various work fronts and prevent the spread to the surrounding community during the COVID-19 crisis.

1.2. Objectives

- The objective of this SOP is to ensure that proper protocols are put in place while working during the COVID-19 Pandemic;
- To ensure the safety of workers at all times and also to prevent the possible spread to the nearby community while resuming the works at sites.
- To provide a standard protocols or measure to be followed by all Stakeholders and in addition adhere to the standard protocols of RGoB

This SOP should be strictly followed by the Employer and all the Contractors while working under the COVID-19 situation.

2. Safety Protocols to be followed

During the COVID-19 pandemic all the Employees or Workers of THyE, SMEC, Contractors (HCC, VOITH), Sub-contractors (CDCL, PES, PIL) and Quarry Suppliers should strictly exercise the recommended safety instructions for reducing the risk of transmission while resuming the works at site.

2.1 General Protocols to be followed by all

The following safety instructions for reducing the risk of COVID-19 transmission should be exercised by all:

- Wash hands often with soap and water for at least 20 seconds or using alcohol based hand sanitizers;
- Use of Face Mask is mandatory at all work sites;
- Follow cough etiquette - cough or sneeze into a tissue or the bend of your arm, not your hand;
- Avoid touching eyes, nose and mouth with unwashed hands;
- The body temperature to be monitored before entering the work sites and keep record of the workers with body temperature exceeding the threshold limit and the worker should not be allowed to go to the work front and this should be immediately reported to the focal person for further necessary action;
- Use Druk Trace App during all entry and exit by the Visitors/Management;
- Clean and disinfect frequently touched objects and surfaces, including all reusable personal protective equipment (PPE);
- Do not share the PPEs and additionally use and remove PPE with care, being mindful of which surfaces may be contaminated;
- Food should be consumed at designated areas only ensuring physical distancing;
- Post lunch, waste should be disposed of by individuals in designated bins and the area should remain clean;
- Entire construction sites including site office, workers' accommodation, mess, stores, toilets, entry / exit gates will be disinfected frequently;
- Housekeeping team should be provided with necessary PPE and equipment;
- There will be a total ban or restrictions on non-essential visitors at work sites;
- Hospitals/clinics in the nearby area, will be identified and proper contact details should be available at the site all the time;
- Appropriate signage at construction sites spelling out the safety practices in the language which is understood by all; and
- For any confusion, clarification and update, everyone should approach designated authority or rely only on an authentic source.

2.2 Protocols to be followed by Contractors / Sub-Contractors / Quarry Suppliers / Operators / Employers

- The Contractors and Sub-contractors including the Quarry Suppliers / Operators / Employer should compile the list of the workers having any health issues i.e. Non-Communicable Disease (NCD) and those that are vulnerable to COVID-19;
- Safety Officer and THyE De-suups will coordinate to take the worker for further assessment or consultation with the health workers if required;
- Only medically fit workers will be deployed at site;

- The expatriate workers coming from outside after quarantine at the point of entry should observe home-quarantine as per the guidelines issued by RGoB;
- The workers coming from the Red Zone areas within Bhutan should be quarantined / tested as per the guidelines issued by RGoB;
- Proper Attendance should be maintained for all the employees and workers at all work fronts by the Employer, Contractors and Sub-contractors or Quarry Operators on daily basis;
- Provide workers with basic personal protective equipment such as mask, gloves, safety helmet and safety gumboots;
- To make use of face mask mandatory for all at site;
- Ensure workers wash hands regularly and provide proper hand washing facilities and hand sanitizers where ever required;
- All the essential items will be made available to them at site only;
- No outside worker will be allowed to stay at site without following proper procedure and instructions;
- The workers staying outside will be relocated within the project site to resume the site works in isolation from the community;
- During attendance and tool box talk sessions, proper social distancing should be maintained;
- Screen employees for any signs/symptoms of COVID-19 at start of each shift;
- Ensure sick employees/workers stay home or immediately go home if they feel or appear sick;
- Isolate any areas/work sites where an employee/worker with probable or confirmed COVID-19 illness has worked, touched surfaces, etc. until the area and equipment is cleaned and sanitized; and
- **Random Testing** of the workers from all the sites will be carried out periodically to check any possible exposure to COVID-19 at the work sites.

2.3 Protocols for Inducting New Workers

- The expatriate workers (skilled and unskilled workers) will be recruited by the Contractor upon seeking approval from the relevant agencies of the RGOB;
- The expatriate workers engaged from outside Bhutan after quarantine at the point of entry should observe home-quarantine as per the guidelines issued by RGoB;
- The workers engaged from the Red Zone areas within Bhutan should be quarantined/tested as per the guidelines issued by RGoB;
- Medical fitness certificate along with their travel history for the past 21 days should be submitted and only the medically fit worker shall be engaged to site;
- They shall be provided with all the basic PPE's to be used at all times; and
- They shall be briefed on the safety protocols to be followed while working at site.

2.4 Protocol for Visitors and Project Management Team Visiting Sites

As a safety measure, as far as possible the visit to project site by outsiders shall be restricted and further, the visit by THyE Management shall also be undertaken under critical situation during the lockdown.

However, for visits by the Outsiders and THyE Management to site to address critical issues, the following protocols shall be strictly followed:

- Use the Druk Trace App at the entry and exit points at all times;
- Use of face mask is mandatory;
- Wash hands with soap and water during the entry and exit from the site and also ensure to carry hand sanitizers by the visitors;
- Maintain physical distance (at least 1 m apart) with the workers at site;
- Follow proper cough etiquette;
- Visit to workers mess is not permitted; and
- Body temperature to be measured at the point of entry and exit.

The vehicle of visitors coming from beyond project area shall be decontaminated before entering the project sites.

3. Entry and Exit Protocols at Site

- Security Check Posts to ensure restriction of movement of entry and exit of manpower at the respective work sites to be set up with clear **“NO ENTRY”** signage displayed at the check post;
- The check posts will be strictly monitored by HCC at all the locations and time to time the THyE De-suups shall monitor to ensure that the protocol is complied;
- Druk Trace App QR code for each of the check posts to be generated by the Safety Officer, THyE and displayed at the check points to be used by the visitors/management during the monitoring of sites;
- Temperature of all the visitors to be recorded with a temperature gun at all the check points;
- Provision for hand wash & sanitizer will be made at all entry and exit points and common areas. Everyone will be required to wash / sanitize their hands before entering the site. Same procedure to be followed after exiting the premise; and
- Awareness from time to time to shopkeepers residing near the project vicinity and below the road will be conducted by the De-suups (THyE employees) on the COVID-19 safety protocols.

4. Transportation of Materials to Site

During the COVID-19 pandemic, proper SOPs should be put in place to ensure safety of people while transporting of materials to the project site. Following measures should be followed by all at the project site to ensure everyone's safety:

4.1 Decontamination

All vehicles and machinery entering the project premises from affected areas should be disinfected.

Location for decontamination of vehicles coming to the project site are as follows:

- a. Dam site check post; and
- b. Power House site check post with entry from MHPA Dam.

Adequate stock of decontamination materials should be ensured by the Contractors and the Employer.

Keep Safety Data Sheets (SDSs) for all disinfectants on site.

Decontamination should be done at the point of entry by the Contractors for the materials originating outside of Bhutan.

Team for decontamination – Safety Officers from HCC and THyE will coordinate and identify the decontamination team for decontaminating the vehicles coming to the project area for all the material of HCC and VOITH at the identified decontamination locations.

4.2 Entry point for Equipment/Materials/Spares originating outside Bhutan

- The alternative point of entry in case of lockdown from Phuentsholing shall be Raidak-Pasakha and Gelephu which will be initiated for approval from RGoB.

4.3 Construction Materials

Cement:

The SOP developed by Dungsam Cement Corporation Limited (DCCL) with regard to production and transportation of cement to project sites under the nationwide lockdown will be followed.

Steel:

In case of lockdown/restriction of use of Rinchending – Pasakha road, the alternative of transporting steel using the old route coming from Tala-Manitar road via Pasakha will be used.

4.4 Protocol for Unloading of Construction Materials/Equipment

- The vehicle should be decontaminated;
- The drivers should not come out of their vehicle if the unloading is done immediately upon arrival at site and the vehicle should leave the site on the same day;
- In case the unloading is not possible on the same day, separate accommodation with self-cooking and toilet facility for the drivers at an isolated area will be provided by the contractor which should be disinfected frequently and kept clean;
- Contractors shall monitor and ensure that the drivers does not mingle with the community and the workers at site;
- A team of workers shall be identified for loading and unloading of cement at site;
- The team should use face masks and hand gloves at all times during the loading and unloading activity;
- The general safety protocols as mentioned in the above sections shall be followed by the loading and unloading team; and
- The workers and drivers shall be given briefings of the safety protocols to be followed by the safety officers.

4.5 Ferrules from the PES Workshop located at Samcholing

The ferrule erection works in the Top Horizontal Pressure Tunnel (THPT), following protocols will be followed to transport ferrules from workshop to site:

- Identify designated vehicle and driver by PES for transport of ferrules from Samcholing workshop to Project Site;
- The vehicle should not stop on the way and deliver the ferrules directly to the project site; and
- The drivers should be provided with face mask and hand sanitizers.

5. Delivery of Essential Services

5.1 Essential Food Items for Employees stationed at Trongsa

The employees stationed at Trongsa will continue to avail the home delivery service provided by the Dzongkhag during the lockdown.

5.2 Essential Food Items for Employees stationed at Project Sites

The respective Division Heads at site would communicate and compile the ration/essential food item requirement of all the site employees and submit to the Chairman, THyE COVID-19 Task Force Team for arranging bulk buying in coordination with the Dzongkhag COVID-19 Task Force Team.

After the goods are purchased, the De-suup coordinator representing THyE will coordinate, facilitate and deliver the essential items to the respective sites.

5.3 Essential Items for Contractors

The requirement of essential items by the contractors would be submitted to THyE COVID-19 Task Force Chairman and bulk buying arranged in coordination with the Dzongkhag COVID-19 Task Force Team. Further the delivery of their requirement will be facilitated by THyE in coordination with the Local Gewog Administration Office and Dzongkhag COVID-19 Task Force.

5.4 Waste Collection Services

The following protocols has to be ensured by the driver and the people while collecting/dumping the wastes from the site:

- The garbage compactor driver should not come out of the vehicle;
- Face masks should be used all the time by the driver and the helper;
- Hand sanitizers should be available with them;
- The people dumping their wastes should wear face masks and maintain social distance;
- All should wash their hands with soap and water after dumping their wastes and handling the wastes;
- The frequency of movement of garbage compactor for collection of waste from the project sites should be twice a week;
- All the safety protocols to avoid the spread of the disease should be followed;
- The Environment Officer should brief the garbage compactor driver and the helper on ensuring the safety protocols are followed strictly while going for collection of waste;
- Separate schedule for collection of waste shall be prepared if there is site specific transmission. When collecting waste from the affect area, the vehicle shall not go to the other areas for collection of wastes;
- The garbage compactor truck shall be decontaminated at the point of entry and exit from affected area in and out; and
- The driver and the helper should change their work clothes immediately after completing the garbage collection and dumping works before entering their house.

5.5 Ensuring Power Supply at the Project Sites

- The manpower and vehicle for catering to ensure reliable power supply to the project area has been identified;
- The team should not interact with the people residing near the area where they are working;
- In case if they have to work in an affected area the vehicle should be decontaminated during entry and exit from the area;

- The interior parts and frequently touched surfaces and objects (steering wheel, gear, key, dashboard, seat, door, door handle, indicator switch, etc) of the vehicles shall be sanitized/disinfected by the individual drivers before exiting or entering the vehicle
- If the team has to carry out the maintenance works at affected area, they shall use all the PPE's such as face mask, face shield and hand gloves to carry out the works and shall not interact with the people in that area;
- All the tools used for the maintenance works should be properly disinfected and stored properly;
- The team should carry hand sanitizers at all the time to sanitize their hands frequently after touching various surfaces/equipment/face/nose/mouth;
- Frequently wash hands with soap and water after touching anything for at least 20 seconds; and
- The people involved in the team should change their work clothes immediately after completing the works and before entering their house.

5.6 Ensure continuous Water Supply

In order to ensure continuous/uninterrupted water supply to the project sites and the community, the manpower identified for attending to the water supply issues shall follow the following protocols:

- While attending to the water supply maintenance works, the workers shall not intermingle with the community and the workers at that location;
- If the team has to carry out the maintenance works at affected area, they shall use all the PPE's such as face mask, face shield and hand gloves to carry out the works and shall not interact with the people in that area;
- All the tools used for the maintenance works should be properly disinfected and stored properly;
- The vehicle, the team is using should be disinfected from in and out before entering and exiting the vehicle;
- The team should carry hand sanitizers at all the time to sanitize their hands frequently after touching various surfaces/equipment/face/nose/mouth;
- Frequently wash hands with soap and water after touching anything for at least 20 seconds; and
- The workers should change their work clothes immediately after completing the works and before entering their house.

6. Monitoring

6.1 Symptom Monitoring

Conduct daily COVID-19 symptoms checks of employees, contractors, workers, and all visitors entering the worksite at the point of entry using temperature gun.

6.2 Incident Reporting

If there is an incident of someone showing symptoms of COVID-19, the incident should be immediately reported by the concerned work supervisor to the focal point of contact as identified from the Employer, Contractors and Quarry Suppliers side. The focal persons shall further seek advice from the Chief Medical Officer (CMO) as he is the medical advisory of Dzongkhag COVID-19 Task Force Team.

The CMO shall decide if the patient needs to be admitted to the hospital.

6.3 Transportation of Sick People

If the patient is in a very serious condition, the patient shall be taken to the hospital immediately without having to wait for approval.

The information on the conditions of the sick people from the respective sites should be reported to the respective Division Heads by the focal person of the Contractors based on the severity for follow up and thereafter reported to the safety officer/HRO to keep proper record and for further necessary actions.

The coordination for transportation of sick people from various sites shall be done by the focal point of contacts as identified in the THyE COVID-19 Task Force Team.

In addition if THyE employees become sick, the details should be communicated to any of the THyE De-suups for facilitation of movement to the hospital.

HCC's ambulance has been identified for movement of sick people to hospital for their employees and workers.

6.4 Monitoring Movement of Manpower

- Site Engineers/Officers from THyE and HCC would support the De-suups in monitoring and ensuring the workers in the colony does not intermingle with the locals/community.

6.5 Monitoring of Power House Bypass Road

The Power House bypass road is being used by the commuters to travel to and fro. During the travel by commuters, following has to be followed:

- The bypass road shall be monitored by the De-suups and THyE staff volunteers residing in the Power House colony to ensure that the commuters does not stop and associate with people residing in along the bypass road.

6.6 Site Supervision by the Employer

- Movement of THyE Employees for site supervision works will be organized by respective Heads in coordination with De-suups at respective location and upon seeking approval from the Local authority; and
- Where possible, the critical staffs will be accommodated near the respective sites to avoid movement on the national highway and association with the community.

6.7 Vehicles for Monitoring

Dzongkhag COVID-19 Task Force Team had accorded approval for deploying 16 designated vehicles for carrying out the essential services, project monitoring works and support movement of De-suups. Out of 16 vehicles, 12 vehicles including the DCM have been identified for carrying out essential services along with project area monitoring services. 4 hired vehicles have been allocated for movement of THyE De-suup team within the project area and community.

Only the designated vehicles with the designated driver and the officials will be allowed to move for monitoring the respective work fronts following all the safety protocols as listed above.

6.8 Movement of People out of Trongsa Dzongkhag

In case of emergency (personal matters e.g. Sickness/deaths in family) to the employees of THyE/Contractors/Quarry Operators, the management will facilitate all the approval required for the movement of the individual.

However, upon return to the project site, all the protocols should be followed by the individual as per the guidelines issued by the RGoB.

7. Protocols during Site Specific Transmission

In case if there is transmission of COVID-19 at a specific work front, the following protocol should be followed:

- Dzongkhag and local COVID-19 Task Force Team will be notified and containment protocols issued by RGoB be jointly implemented;
- Lock down the specific site and isolate it from the community and other work fronts;
- Complete stoppage on the movement of people from that site to other locations;
- Carry out COVID-19 test for all the people and workers residing in that location;
- Door to door delivery of the essential items for all the workers to be implemented;
- Use of face mask by all to be made mandatory; and
- Wash hand frequently with soap and water and use of alcohol based hand sanitizers where water and soap is not available.

7.1 Resumption of Site Works during Site Specific Transmission

If in case of site specific transmission, protocols have to be developed for continuing the works at other work fronts which are isolated from the affected site. So, for continuation of the works during site specific transmission following protocols will be followed based on the site:

7.1.1 Community Transmission at the Central Store Location

In case if there is community transmission at the central store location, complete lock down will be enforced at that location, whereby the movement of people will be completely restricted to the other locations.

During the isolation of such area where the central store of the contractors are located in case of community transmission, most of the material to the other work fronts will have to be lifted from the central store area. Therefore, the following protocols need to be followed for transporting of materials from the affected location to other work fronts:

- To prevent transmission of COVID-19 during the process of transporting materials from the affected area to the other work fronts, separate drivers shall be identified for the vehicles commuting to and from affected area to other work fronts;
- Signage/markings for physical distancing and cordoning shall be in place at the strategic locations to avoid mixing of the drivers commuting from affected area and other work fronts;
- Identify isolated accommodation and toilet for the driver transporting the materials from affected site to other work front;
- Identify isolated accommodation and toilet for workers lifting the materials from the store area to avoid mixing with others;
- Disinfect the vehicle at the entry point of the affected area while leaving for the other work fronts and also disinfect the vehicle at the entry point of delivery site;

- Hand washing facility to be made available at the entry points;
- Druk Trace App QR code will be displayed at the entry locations and used by all the officials, drivers and relevant stakeholders involved;
- All officials, drivers and workers involved in the shifting of materials shall compulsorily wear face masks, face shields, practice hand hygiene, cough etiquette and physical distancing at all times;
- Any officials, drivers and workers having fever and other flu-like symptoms should report to the concerned official for further necessary action;
- All the delivery vehicles will be parked at the designated areas;
- The interior parts and frequently touched surfaces and objects (steering wheel, gear, key, dashboard, seat, door, door handle, indicator switch, etc) of the vehicles shall be sanitized/disinfected by the individual drivers before exiting or entering the vehicle;
- Food for the drivers and the workers involved in transporting the materials should be given at isolated area maintaining social distancing;
- All the wastes shall be dumped in the designated waste bins and the area should be kept clean at all times;
- The responsible officials on duty shall ensure compliance with the safety protocols at all times; and
- The work fronts not affected by COVID-19 shall continue to work in isolation from the community and highway upon seeking approval from the relevant COVID-19 Task Force Team.

7.1.2 Identification of Stock Yards

During site specific transmission and if the affected area is where there is major stock yard for storing of construction materials, spares, EM equipment and HM equipment then alternative stock yards at other location will be identified for the storage.

8. Protocols for Transport from Red Zone Areas

The materials for continuity of work at the project site will need to be transported from Red Zone areas. During the transportation of materials from the Red Zone areas a clear protocol should be followed by the concerned parties to ensure safety of the people and avoid transmission of COVID-19.

Ministry of Health (MOH), RGoB has developed a SOP for switching of drivers at Rinchending, Phuentsholing, which will be followed by THyE and the Contractors (HCC/VOITH) during the transport of materials from Red Zone areas. In addition following protocols will be followed by the Project team (Employer and Contractors) during transport of material from Red Zone areas:

8.1 Decontamination

The vehicles coming from Red Zone areas should be mandatorily decontaminated using disinfectant spray at Rinchending, Phuentsholing as per the SOP issued by MoH, RGoB.

Decontamination at Project Site:

All vehicles and machinery entering the project premises should be disinfected by disinfectant spray mandatorily.

Location for decontamination of vehicles coming from Red Zone areas at the project site are as follows:

- a. Dam site check post; and
- b. Power House site check post with entry from MHPA Dam.

Adequate stock of decontamination materials should be ensured by the Contractors and the Employer.

Keep Safety Data Sheets (SDSs) for all disinfectants on site.

Decontamination should be done at the point of entry by the Contractors for the materials originating outside of Bhutan.

Team for decontamination – Safety Officers from HCC and THyE will coordinate and identify the decontamination team for decontaminating the vehicles coming from Red Zone areas.

SOP for Drivers coming from the Red Zone areas

- Drivers have to stay in the vehicle while the decontamination of the vehicle and unloading is ongoing and food for the driver will be provided in disposable plates;
- Toilet facilities for drivers for the vehicles requiring decontamination shall be identified at a designated area to avoid mixing with the others;
- Unloading of the vehicles to be done as fast as possible and the vehicles to immediately leave the project premises;
- Hand gloves should be used by the workers who are handling material coming from outside;
- Record movement of materials / supplies to the site / premises;
- Measure and record temperature of driver transporting materials / supplies;
- Provide and ensure use of hand sanitizers;
- Wash hands frequently with soap and water ;
- Follow proper cough etiquette by the drivers.

8.2 Movement of Material

The materials coming from the Red Zone area should be disinfected at the identified check point by the relevant authority.

The materials upon reaching the site will be disinfected at the identified decontamination points by the decontamination team following the SOP as issued by the MOH, RGoB for disinfection.

9. SOP for Operation of Stone Quarry and Crushing Plant

Following are the details of each quarry and crusher plant operators:

Description	Yurmung Quarry	Yurmung Crusher Plant	Razawog Quarry	Tsachhugang	HCC Crusher Plant
Location	Yurmung, Langthel, Trongsa	Yurmung, Langthel, Trongsa	Jorona, Nyesho, Wangdue Phodrang	Dungdung-Nyesa, Dangchhu, Wangdue Phodrang	Chhuserbu, Wangdue Phodrang
Nearest Community	Endocholing	Endocholing	Bja- 2 Households	Dundungnyesa	Chazam, Rukhubji
Distance from nearest community	5 km from the working sites	5 km from the working sites	0.5 to 1 km from the quarry	1.5 km from the quarry	2.7 km from the crusher plant

Description	Yurmung Quarry	Yurmung Crusher Plant	Razawog Quarry	Tsachhugang	HCC Crusher Plant
Materials supply Destination	Yurmung Crusher Plant	Powerhouse till Adit-2 - Nikachhu	HCC Crusher Plant	HCC Crusher Plant	Dam site till Adit-2 - Nikachhu
Distance between source & destination	1 km	42 to 55 km	54 km	29 km	11 to 20 km
Required Manpower					
Manager	0	1	1	1	1
Mines Manager	0	0	0	1	0
Accountant	0	0	0	1	0
Dispatch/Office Assistant	0	1	1	0	0
Excavator Operator	0	3	3	4	2
C.Plant operator	0	2		0	
Helper	0	8	1	2	5
Ele/ Mechanical Foreman	0	1	0	0	1
Electrician	0	0	0	0	1
Mechanic	0	1	0	0	3
Welder	0	1	0	0	1
Weigh Bridge Operator	0	0	0	0	1
Rigger/Khalasi	0		0	0	7
Boulder Loading Driver	0	2	0	0	2
Transportation/ Driver	0	15	0	0	20
Total	0	35	6	9	42
Machineries					
Crusher Plant	0	1	0	0	1
Excavator	1	1	3	3	3
Compressor	0	0	0	1	0
Jackhammer	0	0	0	2	0
Trucks/Dumpers		32	0	0	10

****Note:** The manpower required for operation of the Yurmung Quarry is met from Yurmung Crusher Plant

9.1 Stone Quarry Operating Protocol

Almost all the quarries are isolated from the local community and most of the workers involved are stationed at the quarry site.

Further, following safety measures shall be implemented:

- Quarries shall be operated on daily basis and the respective management shall ensure that all the workers are stationed in a particular designated area, isolated from the local community;
- The respective management of the quarries shall ensure that workers are made aware and restricted from going to National Highway and also keep safe distance from commuters/ local community;
- The operator shall setup hand washing facilities at appropriate locations of their workplace and camp area;

- iv. The operator shall make Hand-sanitizers available for all the workers;
- v. Face Mask shall be made mandatory at all workplaces;
- vi. The quarry operator shall install a gate at the entry of the quarry and permit only the authorized vehicles/person to enter;
- vii. The quarry operator shall display Druk Trace App QR code at the entry points and ensure it is being used by all;
- viii. Boulder transportation drivers shall not come out of vehicle at all times and strictly refrain from associating with quarry workers;
- ix. The operator shall maintain a log book whereby arrival time, loading time, departure time along with personal information shall be recorded for proper monitoring of the vehicles;
- x. All the workers shall be briefed by qualified professional (Safety Officer) on safety protocol and related information on regular basis;
- xi. Workers having travel history of travelling from/to COVID-19 red zone area shall strictly follow the safety protocol set by MoH and complete their mandatory quarantine duration; and
- xii. The operator shall maintain other Occupational, Health & Safety measure for the workers at the site as per the Labour and Employment Act-2007.

Aforementioned safety protocols shall be implemented and monitored strictly by the management of quarry operator. A cross-functional inspection team from the Employer and the Contractor side shall be formed to inspect and monitor the sites on fortnightly basis to ensure that the works are carried out as per the SOP and MOUs signed and also all the protocols issued by the RGoB is followed.

The required materials for the extraction of boulders shall be coordinated and facilitated to the quarry operators by THyE through respective agencies in conformity with the protocols in respective jurisdiction, which would include the following items:

- i. Fuel/HSD
- ii. Explosives
- iii. Lubricants for Machineries
- iv. Spares for the Machineries
- v. Rations

The delivery of the HSD to the quarries shall be made in barrels by the boulder/aggregates transportation trucks who shall follow the safety precautions listed in this document.

THyE shall facilitate the supply of other required materials to the quarry operators as per the protocol of the concerned agencies.

Rations are made available to each camp area by the respective Dzongkhag/Gewog COVID-19 Task force.

Spares requirement, HSD, Explosives and rations should be adequately stocked to ensure that the situation of shortages are avoided in case of further lockdowns to last for 21 days.

9.2 Boulders & Aggregates Transportation Protocol

Quarry and Crusher Plant operators shall follow the following procedures during the National Lockdown period.

9.2.1 Boulders from Tsachhugang & Razawog Quarry and Aggregates from HCC Crusher Plant

Boulders extracted from Tsachhugang & Razawog Stone Quarry shall be transported to HCC Stone Crusher plant which is located at Chhuserbu, Wangdue Phodrang. Transportation of the boulders from the quarry shall be restricted to only those authorized vehicle which shall be approved by competent authority.

There shall be designated vehicles with each permitted drivers for the transportation of boulders from quarries to HCC Crusher plant. However, to minimize the movement of vehicles on the national highway, proper planning for the movement of vehicles in convoy will be done.

Crushed materials (different sizes of aggregates) from the HCC crusher plant shall be transported to Dam site till Adit-2 of Nikachhu Hydropower project. Only designated vehicles of HCC shall be engaged in the transportation of aggregates to the project sites.

Drivers who are responsible for the transportation of boulders and aggregates shall follow the following precautions:

- i. All the authorized vehicles shall move in convoy and the lead driver shall ensure that there are no stoppages along the highway, near to human settlement;
- ii. Only the designated drivers shall be authorized to operate the vehicles;
- iii. Drivers shall completely restrict themselves from coming out of the vehicles during loading, unloading and shall not make any stop on the way;
- iv. The drivers should not give lift to anyone travelling on the highway and should not interact with people along the way;
- v. The drivers should carry their own packed lunch during the transport of the boulders and aggregates to/from sites and stoppages for lunch should be in areas where it is isolated from the community;
- vi. The drivers shall make compulsory entries at all the checkpoints along the way including scanning of Druk Trace QR code;
- vii. During any breakdown of the vehicle along the way, drivers shall inform immediately to the Transportation firm, HCC and THyE;
- viii. Log book shall be maintained whereby loading time, unloading time, and transportation duration for each vehicle shall be recorded for proper monitoring of the vehicles/drivers;
- ix. Drivers shall be stationed at HCC Crusher Plant camp and shall be isolated from other workers/community;
- x. Drivers shall take their meals only at their isolated designated area;
- xi. Drivers shall use mask all the time and wash hand/use hand sanitizers;
- xii. Handling of challans - physical handling of challans shall be avoided, instead whatsapp shall be used to avoid physical contact. The physical challan shall be put into a box and shall be handled only after a minimum hours as specified by WHO scientific brief;
- xiii. Covering after the loading at the quarry site should be done after the exit from the entry gate and uncovering to be done prior to reaching the entry gate;
- xiv. All the workers shall be briefed by qualified professional (Safety Officer) on safety protocol and related information on regular basis;
- xv. Workers having Travel History of travelling from/to from COVID-19 red zone shall strictly follow the safety protocol set by MoH and complete their mandatory quarantine duration; and
- xvi. Authorized vehicle drivers who fails to follow the aforementioned protocol shall be replaced immediately.

9.2.2 Boulders from Wachichhu Shoal and Aggregates from Yurmung Crusher Plant

Boulders from Wachichhu Shoal shall be transported by M/s. YSQ to their crusher plant which is at a distance of 1 km and the area is away from any local community.

Aggregates produced from their crusher plant shall be transported by the operator and shall supply the materials to their designated area at Nikachhu Project area.

Quarry & Crusher plant operators and drivers responsible for the transportation of boulders and aggregates from Yurmung shall follow the aforementioned protocol under clause 9.2.1.

A cross-functional inspection team from the Employer and the Contractor side shall be formed to inspect and monitor on fortnightly basis to ensure that the transportation of boulders are carried out as per the SOP and MOUs signed and also all the protocols issued by the RGOB is followed.

9.3 Crusher Plant Operating Protocol

9.3.1 Yurmung Crusher Plant

Yurmung crusher plant is located at Yurmung, Langthel under Trongsa Dzongkhag near the Tail Race Tunnel of MHPA. The nearest local community is situated at the place of Eundocholing which is 5 km away from the quarry and crusher plant.

Further, following safety measures shall be opted:

- i. The Crusher Plant shall be operated in shifts (Day and Night) on daily basis and all the workers shall be stationed in a particular designated area isolated from the local community;
- ii. The respective management shall ensure the workers are made aware and are restricted from moving out to the National Highway to keep safe distance from commuters/ local community;
- iii. The operator shall setup hand washing facilities at appropriate locations of their workplace and camp area;
- iv. The operator shall make Hand-sanitizers available for all the workers;
- v. Mask shall be made mandatory at all workplaces;
- vi. The operator shall install a gate at the entry of the quarry and permit only the authorized vehicles/person to enter;
- vii. The operator shall display Druk Trace App QR code at the entry points and ensure it is being used by all;
- viii. All the workers shall be briefed by qualified professional (Safety Officer) on safety protocol and related information on regular basis;
- ix. The operator shall maintain a log book whereby arrival time, loading time, departure time along with personal information shall be recorded for proper monitoring of the vehicles;
- x. Workers having Travel History of travelling from/to from COVID-19 red zone shall strictly follow the safety protocol set by MoH and complete their mandatory quarantine duration; and
- xi. The operator shall maintain other Occupational, Health & Safety measure for the workers at the site as per the Labour and Employment Act-2007.

9.3.2 HCC Crusher Plant

HCC crusher plant is located at Chhuserbu under Wangdue Phodrang Dzongkhag and it is located near the national highway. The nearest local community from the plant would be

Chazam, Rukhubji which is at the distance of 2.7 km approximately. All the workers stays at a camp which is located 900 m away from the crusher plant under Trongsa Dzongkhag.

For the operation of the crusher plant, vehicles needs to move along the National highway around the plant to feed the boulders into the hopper which would be around 200 m. For the purpose of feeding the boulders to the plant, particular vehicles shall be identified and shall be confined to the vicinity of crusher plant only including 200 m of national highway.

HCC shall follow all the protocols as per clauses under 9.3.1 including the following:

- i. Only designated vehicles for feeding of boulders to the plant shall be permitted for the work and restricted to the vicinity of the crusher plant including 200m of national highway;
- ii. Only the designated drivers shall be authorized to operate the vehicles;
- iii. All the workers staying at the camp shall only travel on the national highway twice in a day (To & fro from the camp) and completely restrict from interacting with any local community/commuters; and
- iv. HCC shall provide lunch for the all the worker at the crusher plant to limit the movement on the national highway.

It is the responsibility of the Management of Crusher Plants to ensure that the SOP and the safety protocols as mentioned above are strictly implemented and closely monitored at all times.

The essential materials for the operation of crusher plant shall be coordinated and facilitated by THyE through the respective agencies in conformity with the RGOB protocols under respective jurisdiction.

Template of Log Sheet for the Transportation of Boulders and Aggregates during National/Local Lockdown should be maintained as given below:

SN	Date	Vehicle No.	Driver's Name	Location		Challan No.	Arrival Time	Loading Time	Departure Time	Return Time
				From	To					

10. Work From Home System

The Work from Home System for the THyE Employees who are not involved in the day to day site works shall be continued and/or implemented. Under the current COVID-19 Pandemic all Employees are expected to inculcate self-discipline and ensure that works are timely attended to.

Further, all meetings will be held virtually through online and the information will be shared through email or text messaging.

CFO shall coordinate with the Banks for all payments or fund transfers as required for THyE and the Contractors/Suppliers. Further, CFO shall co-ordinate and facilitate monetary assistance to the needy employees and also to those employees who are stranded outside Trongsa Dzongkhag due to Lockdowns.

11. Quarantine Facilities

Trongsa Dzongkhag has 8 hotels identified as designated quarantine facility at Trongsa. As the workers are reluctant to keep the people returning from the outside in home quarantine facility at the site area, THyE would request Dzongkhag to allow the use of their quarantine

facilities for accommodating the workers requiring home quarantine for the designated period and the cost for the quarantine to be borne by THyE.

12. THyE COVID-19 Task Force Team

THyE has identified a COVID-19 Task Force Team to streamline the process and also maintain strict vigilance during this period of pandemic. The Task Force Team consists of representative of THyE and the Contractors and Suppliers under 118 MW Nikachhu Hydropower Project to oversee the implementation of SOP for execution of works under the COVID-19 pandemic.

The communication protocol and the focal point of contact under the COVID-19 Pandemic of all the concerned parties as identified are as follows:

Office	Focal Point of Contact
THyE	1. Sujan Rai, Deputy Managing Director (17668982) - Chairman, Overall Coordinator 2. Lungten Jamtsho, Safety Officer (17716750) 3. Chimi Wangchuk, Environment Officer (17843879) 4. Sonam Tobgyel, Chief Administrative Officer (17650060) 5. Gaki, Legal/Company Secretary (17946513) 6. Thinley Dorji, THyE De-suup Coordinator
HCC	Safety Officer and P&A Department
Powerhouse	1. Chitta Mahato (77104512) 2. Jigme Sherab (17469620)
Dam	1. Debasish Chakraborty (77109125) 2. Anubhav Kumar (77107034) 3. Dilip Surdas (17896950)
HRT	1. Vimal Vir Singh (77104539)
VOITH (E&M)/PES (HM)	1. Rajesh Singh, Safety Officer for both E&M and HM works (77307762)
CDCL	1. Kinzang Lhendup, Geologist (17391192)
Quarry Suppliers	1. Mine Manager of Yurmung Quarry: 17616836, 2. Tsachugang Quarry Manager: 77160145 3. Project Manager, BECPL & ASQ: 17417582 4. Manager, Razawog Stone Quarry

*Mr. Dorji Gyeltshen, Dzongkhag Health Officer (DHO) and Dr. Yeshe Jamtsho, Chief Medical Officer (CMO) are the focal point of contacts for Trongsa Dzongkhag.

The THyE COVID-19 Task Force Chairman is responsible to take up all matters requiring external support for the project with the Dzongkhag COVID-19 Task Force Team of Trongsa.

The SOP and the safety protocols as mentioned above should be strictly followed by all parties (i.e. THyE, HCC, VOITH, PES, PIL, CDCL, Quarry Operators) and it should be strictly monitored by the Safety Officers of the Employer and the Contractors including the respective Head of Divisions at the respective work fronts.