

# Environmental Monitoring Report

---

Project Number: 48078-003  
Loan Number: 3419-PAK  
Semi-Annual Report: Jan-June 2022  
October 2022

## Pakistan: Second Power Transmission Enhancement Investment Program – Tranche 1

Prepared by National Transmission & Despatch Company Limited for the Asian Development  
Bank

## NOTES

- (i) The fiscal year (FY) of the Government of the Islamic Republic of Pakistan and its agencies ends on 30 June.
- (ii) In this report "\$" refer to US dollars.

This Environmental Monitoring Report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

# Environmental Monitoring Report

---

Semi-annual Environmental Monitoring Report  
January-June 2022  
Loan No. 3419

## PAK: Second Power Transmission Enhancement Investment Program Tranche 1

Prepared by AF Mercados Aries EMI (Facility Management Cell) for National Transmission & Despatch Company Limited and the Asian Development Bank.

### **CURRENCY EQUIVALENTS**

(as of 30 June 2022 )

Currency unit	–	Pakistani rupees (PKR)
PKR 1.00	=	\$0.0049
\$1.00	=	PKR 203.39

### **ABBREVIATIONS**

ADB	Asian Development Bank
CC	Construction Contractor
CPPA-G	Central Power Purchasing Agency Guaranteed
dB (A)	A-weighted Decibels
DC	Double Circuit
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPA	Environment Protection Agency
EPD	Environment Protection Department
ESIC	Environment and Social Impact Cell
FMC	Facility Management Consultant
GoP	Government of Pakistan
GS	Grid Station
HSE	Health, Safety and Environment
HV	High Voltage
IEE	Initial Environmental Examination
LCC	Local Currency Components
MFF	Multi-tranche Financing Facility
NOC	No Objection Certificate
NTDC	National Transmission and Despatch Company
PAK	Pakistan
PEPA	Punjab Environmental Protection Act
PEQS	Punjab Environmental Quality Standards
PMU	Project Management Unit
PPE	Personal Protective Equipment
PTEIP	Power Transmission Enhancement Investment Program
RoW	Right of Way
SAEMR	Semi-annual Environmental Monitoring Report
SC	Single Circuit
SSEMP	Site-Specific Environment Management Plan
WAPDA	Water & Power Development Authority

## WEIGHTS AND MEASURES

mg/Nm <sup>3</sup>	mg per normal meter cube
MW	Megawatt
mg/l	Milligram per liter
kg	kilogram
kV	kilovolt
m/s	meters per second
mg/kg	milligram per kilogram
mg/Nm <sup>3</sup>	milligram per normal cubic meter
km	kilometers
m	meter
°C	Degree Celsius
µg/m <sup>3</sup>	Microgram per cubic meter

## GLOSSARY

EIA	Environmental Impact Assessment is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural, and human-health impacts, both beneficial and adverse.
IEE	Initial Environmental Examination is a preliminary small study to see project impacts, both beneficial and adverse to the environment while the EIA is a full assessment of the effects.
NOC	No Objection Certificate is the clearance or certificate given by the authority (EPA) for the specific project after evaluation of IEE/EIA. NOC is granted with or without conditions.
EMP	Environmental Management Plan can be defined as an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation, and decommissioning of a project are prevented; and that the positive benefits of the projects are enhanced.
SSEMP	The Site-specific Environmental Management Plan is applied to the actual site where construction activities will occur.

## NOTE{S}

- (i) The fiscal year (FY) 2022 of the Government of Pakistan ends on 30 June.
- (ii) In this report, "\$" refers to United States dollars unless otherwise stated.

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

## Table of Contents

<b>1.</b>	<b>Introduction .....</b>	<b>6</b>
1.1	Preamble .....	6
1.2	Headline Information .....	6
<b>2.</b>	<b>Project Description and Current Activities .....</b>	<b>7</b>
2.1	Project Description .....	7
2.2	Project Contracts and Management .....	9
2.3	Project Activities During the Current Reporting Period.....	13
2.4	Description of any Changes to Project Design.....	14
2.5	Description of any Changes to Agreed Construction Methods .....	14
<b>3.</b>	<b>Environmental Safeguard Activities.....</b>	<b>15</b>
3.1	General Description of Environmental Safeguard Activities .....	15
3.2	Site Audits .....	15
3.3	Issues Tracking (Based on Non-Conformance Notices) .....	15
3.4	Trends.....	15
3.5	Unanticipated Environmental Impacts or Risks.....	15
<b>4.</b>	<b>Results of Environmental Monitoring .....</b>	<b>16</b>
4.1	Overview of Monitoring Conducted during the Current Period .....	16
4.2	Trends.....	16
4.3	Summary of Monitoring Outcomes .....	17
4.4	Material Resources Utilization .....	17
4.4.1	Current Period .....	17
4.5	Waste Management .....	17
4.6	Health and Safety .....	17
4.6.1	Community Health and Safety.....	17
4.7	Training .....	17
<b>5.</b>	<b>Functioning of the SSEMP .....</b>	<b>18</b>
<b>6.</b>	<b>Good Practice and Opportunity for Improvement.....</b>	<b>19</b>
<b>7.</b>	<b>Grievance Redress Mechanism.....</b>	<b>20</b>
<b>8.</b>	<b>COVID-19 Risk Assessment and Implementation Plan.....</b>	<b>23</b>
<b>9.</b>	<b>Restoration and Rehabilitation.....</b>	<b>24</b>
<b>10.</b>	<b>Summary and Recommendations .....</b>	<b>26</b>
10.1	Summary.....	26

10.2	Recommendations.....	26
------	----------------------	----

## Annexure:

Annexure I: ESIC's Environmental Safeguards Initiatives and Records

Annexure II: ..... Recorded Non-Compliances and Corrective Actions

## Figures

Figure 2-1: Project Location .....	9
Figure 2-2: Organization of PMU.....	10
Figure 2-3: Organization of FMC .....	11
Figure 4.1: Trend of Air Quality Results.....	16
Figure 4.2: Trend of Ambient Sound Levels .....	<b>Error! Bookmark not defined.</b>

## Tables

Table 2-1: FMC's Environment Safeguards Team.....	12
Table 2-2: ADB's Project Staff for E&S Safeguards .....	12
Table 2-3: Projects and Construction Contractor .....	13
Table 2-4: Tranche 1 Status of Subprojects .....	14
Table 4.1: Results of Ambient Air Quality .....	<b>Error! Bookmark not defined.</b>
Table 4.2: Results of Ambient Sound Levels.....	<b>Error! Bookmark not defined.</b>

## **1. Introduction**

### **1.1 Preamble**

1. This report represents the semi-annual environmental monitoring report for Second Power Transmission Enhancement Investment Program (PTEIP), Multi-tranche Financing Facility (MFF-II) – Tranche 1, Project Number 48078 (the project).
2. The report is the 9<sup>th</sup> Semi-annual Environmental Monitoring Report (SAEMR) for the project covering duration of January to June 2022.

### **1.2 Headline Information**

3. A summary of significant outcomes of this SAEMR and specific areas of concern are provided hereunder:
4. This report addresses findings of environmental monitoring and status of regulatory compliance of subprojects ADB-100, ADB-106 (Lot-I), ADB-108 (Lot-I & Lot-II), ADB-105 (Lot-I), and ADB-105 (Lot-II) of Tranche 1.
5. All above subprojects are physically completed and commissioned.
6. There is no change in the status and progress of the project since the previous report as all of Tranche 1 subprojects are already completed.
7. There is no pending no compliance from past period (July- December 2022) since all the Tranch-1 Subprojects are now completed.



## 2. Project Description and Current Activities

### 2.1 Project Description

8. National Transmission & Despatch Company (NTDC) Limited was incorporated on 6<sup>th</sup> November 1998 and took over all the properties, rights, and assets as well as the obligations and liabilities of the 220 kV and 500 kV Grid Stations and Transmission Lines/Network owned by Pakistan Water and Power Development Authority (WAPDA)<sup>1</sup>.

9. The Government of Pakistan (GoP) signed a loan agreement with the ADB for financial support under the multi-tranche financing facility for the construction of the Power Enhancement Projects in Pakistan.

10. The multi-tranche financing facility for the Second Power Transmission Enhancement Investment Program (MFF II) will expand and reinforce Pakistan's power transmission system, enabling the system to provide a reliable and quality service capable of meeting increasing customer demand and supporting economic growth. The physical investments will increase transmission capacity to meet growing demand, improve transmission efficiency and security, and evacuate additional sources of power. The capacity development component will focus on further improving the financial management, regulatory relations, planning, project management, and procurement capacities of both the transmission system owner and operator, the NTDC, and the sector's newly established commercial operator, the Central Power Purchasing Agency (Guarantee) Limited (CPPA-G). These investments will increase institutional efficiency, cost recovery, competition, transparency, and good governance within the sector.

11. The MFF II comprises of four tranches. Tranche 1 focuses on the rehabilitation and augmentation of 500-kilovolt (kV) transmission systems in Punjab and Sindh provinces. Through its concessional loan from the ADB, Tranche 1 provides capacity development to support the NTDC's organizational restructuring and to enhance its capacity to plan, design, operate, and manage assets throughout the second MFF. Tranche 2 will expand the 220 kV transmission systems in the provinces of Sindh and Baluchistan. It will also upgrade the supervisory control and data acquisition system across the national grid to enable the NTDC to monitor and control the grid in real-time, and to prevent network outages or reduce their duration, thereby increasing grid stability, reliability, and resilience to accommodate more intermittent renewable energy. Tranche 3 will expand the 500 kV and 220 kV transmission systems to meet demand at load centers in Punjab province. Tranche 4 will help evacuate hydropower to load centers in Islamabad and the provinces of Punjab and Khyber Pakhtunkhwa.

12. The overall objective of the project is to increase the power transmission capacity, efficiency, and coverage in Pakistan. It is also meant to increase the confidence of commercial financiers in financing long-term transmission and distribution assets in Pakistan.

13. The specific objectives are:

- Improvement in transmission infrastructure and management.
- Improvement in energy market transparency and efficiency.

14. MFF Tranche 1 projects are located in different areas of the country, as can be seen in **Figure 2-1**.

---

<sup>1</sup> <http://www.ntdc.com.pk>

15. The purpose of this report is to review the monitoring approach of the construction contractor and implementing agency, and; assess the compliance with ADB environment safeguards requirements and see if the construction activities are being carried out as per the conditions of environmental approval or No-Objection Certificate (NOC) and the requirements of initial environmental examination (IEE) and environmental impact assessment (EIA) by satisfying the provincial and national environmental regulatory requirements of Pakistan.



Figure 2-1: Project Location

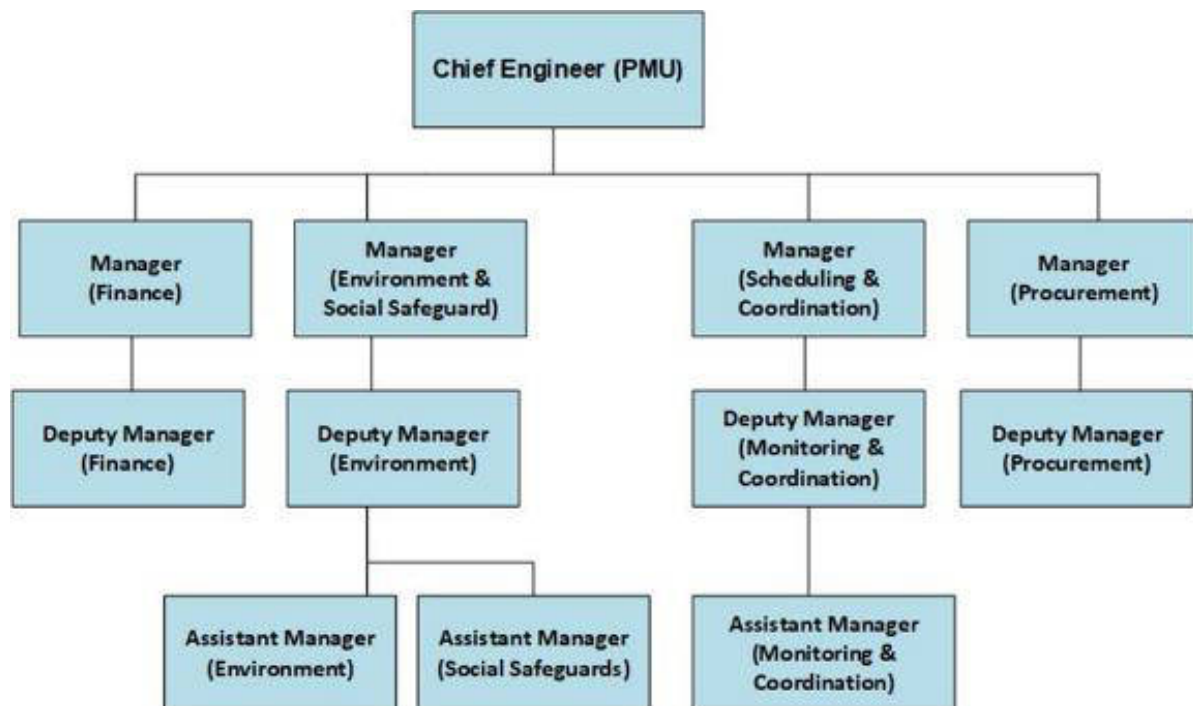
## 2.2 Project Contracts and Management

16. NTDC has established a Project Management Unit (PMU) to manage the implementation of current tranches and the preparation and implementation of future tranches.

The PMU is headed by the Chief Engineer, PMU, and responsible for day-to-day project implementation for the physical outputs relating to the transmission system and operation (as defined under their transmission license) under each tranche. The facility management consultant (FMC) supports the PMU in project implementation of Tranche 1 including social and environmental safeguards implementation.

17. PMU is responsible for complying with the safeguard's requirements and design and monitoring framework and loan covenants.

18. The organization of PMU is shown in **Figure 2-2**. FMC organization is shown in **Figure 2-3**



**Figure 2-2: Organization of PMU**

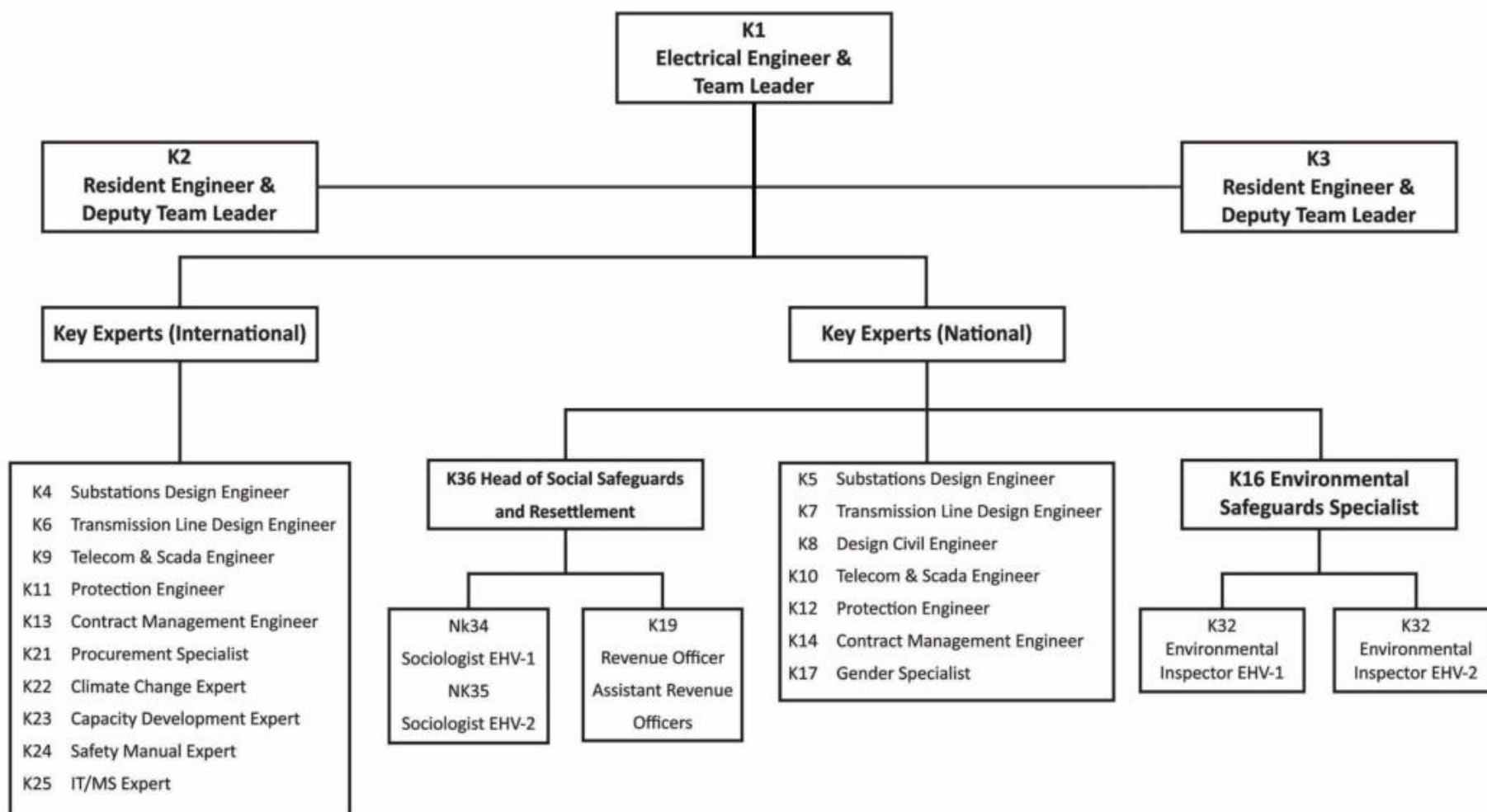


Figure 2-3: Organization of FMC

19. The names and contact details of FMC's environmental team members including Environmental Safeguards Specialist and Environmental Inspectors are provided in **Table 2-1**.

**Table 2-1: FMC's Environment Safeguards Team**

No	Name	Designation	Contact Details
1	Aziz Karim	National Environmental Safeguards Specialist	Landline: +9251 2857200-6 Cell: +92345 502 9000 Email: <a href="mailto:akarim@haglerbailly.com.pk">akarim@haglerbailly.com.pk</a>
2	Muhammad Tahir	Environmental Inspector (EHV-1)	Landline: +9251 2857200-6 Cell: +923248474108 Email: <a href="mailto:mtahir@haglerbailly.com.pk">mtahir@haglerbailly.com.pk</a>
3	Qaiser Imran	Environmental Inspector (EHV-2)	Landline: +9251 2857200-6 Cell: +923346605767 Email: <a href="mailto:Qimran@haglerbailly.com.pk">Qimran@haglerbailly.com.pk</a>

20. The names and contact details of ADB's team for Environmental and Social (E&S) Safeguards are provided in **Table 2-2**.

**Table 2-2: ADB's Project Staff for E&S Safeguards**

No	Name	Designation	Contact Details
1	Syed Asim Ali Sabzwari	Environment Specialist Portfolio, Results, Safeguards and Gender Unit Central and West Asia Department	Tel: (+632) 632-6757 Email: <a href="mailto:asabzwari@adb.org">asabzwari@adb.org</a>
2	Shazia Shahid	National Environment Specialist (Consultant)	Cell: (+92-346) 028-1336 Email: <a href="mailto:sshahid.consultant@adb.org">sshahid.consultant@adb.org</a>
3	Abdul Basit Khan	National Environment Specialist (Consultant)	Phone: (+92 333) 342 7609 <a href="mailto:abkhan.consultant@adb.org">abkhan.consultant@adb.org</a>

21. **Table 2-3** provides contact information of the relevant staff of the Construction Contractor (CC) for projects covered in this SAEMR.

**Table 2-3: Projects and Construction Contractor**

No	ADB Contract No.	Tranche	ADB Contract Name	Contact Details
1	ADB-100	Tranche 1	Procurement of plant, design, supply, installation, testing & commissioning of 500/220kV autotransformer bay at 500kV Sahiwal substation	Contractor: Siemens Pakistan Sub-contractor: NETRACON Technologies Construction Manager: Tahir Ali (+92 303 020 3679) EHS Engineer: M Yasir (+92 320 961 4061)
2	ADB-105 (Lot-I)	Tranche 1	500 kV Faisalabad West (Phase II): 500 kV D/C T/L in/out of 500 kV Multan – Gatti at 500 kV Faisalabad West (30 km)	Contractor: NETRACON - SEPCO/CWTWC JV Construction Manager: Engr. Waseem Iqbal (+92 342 218 1984) EHS Manager: Akasha (+92 323 749 8954)
3	ADB-106 Lot-I	Tranche 1	Civil works, erection, testing & commissioning of 500kV transmission line Guddu - Muzaffargarh (74KM) from Location No.1 – 199	Contractor: NEIE-AHT JV Construction Manager: Mr. Zafar Shah (+92 313 144 0111) HSE Engineer: Mr. Azam Bhatti (+92 334 201 9102)
4	ADB-108 Lot-I	Tranche 1	500 kV S/C T/L Guddu - Muzaffargarh from Location No. 597 to Location No. 664 (22.7km).	Contractor: NPCC JV HSE Engineer: Mr. Iftikhar Ali (+92 301 387 3556)
5	ADB-108 Lot-II	Tranche 1	500 kV D/C T/L In-Out of DG Khan, Multan T/L (7.6+7.6 km) and Interfacing of 500 kV circuit at Muzaffargarh	Contractor: NPCC JV HSE Engineer: Mr. Iftikhar Ali (+92 301 387 3556)

## 2.3 Project Activities During the Current Reporting Period

22. Tranche 1 subprojects include the construction of new transmission lines, extension and augmentation of existing substations, and; installation of shunt reactor, and replacement of protection equipment at 11 grid stations.

23. The status of the subprojects under Tranche 1 is summarized in **Table 2-4**.

**Table 2-4: Tranche 1 Status of Subprojects**

Loan No. 3419 Tranche 1 Subprojects Status

Date: December 2021

No	Contract No.	Estimated project cost US \$ in Million	Description	Status
1	ADB-100	10.57	Procurement of plant, Design, supply, installation, testing & commissioning of 500/220kV autotransformer bay at 500kV Sahiwal substation	• Completed and commissioned
2	ADB-101	4.2	Addition of 1x250 MVA, 220/132kV Auto Transformer at 550kV Rewet Substation & supply of one no. 250 MVA, 220/132 kV Autotransformer.	• Dropped
2a	ADB-101A	4.2	Procurement of 4 Nos. 220/132kV, 250 MVA autotransformers	• Dropped
3	ADB-102	1.962	Procurement of plant, design, supply, installation, testing & commissioning of 22 MVAR shunt reactor at 500kV Substation Dadu.	• Completed and commissioned
4	ADB-103	2.542	Procurement of plant, Design, supply, installation, testing & commissioning of Protection relays, Fault recorders, Fault locators & Event recorders at 11Nos. Substations in the South area.	• Completed and commissioned
5	ADB-105	17.726	500 kV Faisalabad West (Phase II) Lot-I: 500 kV D/C T/L in/out of 500 kV Multan – Gatti at 500 kV Faisalabad West (30 km)	• Completed and commissioned
6	ADB-106 (Lot-I)	4.355	Civil works, erection, testing & commissioning of 500kV transmission line Guddu - Muzaffargarh (75KM)	• Completed and commissioned
7	ADB-108 (Lot-I)	4.261	Lot-I: 500KV S/C T/L Guddu - Muzaffargarh from Location No. 597 to Location No. 664 (22.7Km)	• Completed and commissioned
	ADB-108 (Lot-II)	2.5	Civil works, erection, testing & commissioning of 500KV S/C T/L (i) Lot-II: i) 500kV S/C T/L Guddu – Muzaffargarh from Location No. 664 to 725 (22km, approx.) and, (ii) (ii) 500 kV D/C T/L In-Out of DG Khan, Multan T/L (7.6+7.6 km) and Interfacing of 500 kV circuit at Muzaffargarh.	• Completed and commissioned

## 2.4 Description of any Changes to Project Design

24. No changes.

## 2.5 Description of any Changes to Agreed Construction Methods

25. No changes.



### **3. Environmental Safeguard Activities**

#### **3.1 General Description of Environmental Safeguard Activities**

26. The under-construction projects of Tranche 1 were commissioned during the reporting period of September-December 2020. There is no change in the status and progress of the project since then.

27. No residual non-conformances were observed and reported in the reporting period.

#### **3.2 Site Audits**

28. There were no pending issues or nonconformances from past SAEMRs therefore no audit visit was required to be undertaken.

#### **3.3 Issues Tracking (Based on Non-Conformance Notices)**

29. Not applicable as no construction activities are underway at Tranche 1 subprojects during the reporting period.

#### **3.4 Trends**

30. Not applicable as no construction activities are underway at Tranche 1 subprojects during the reporting period.

#### **3.5 Unanticipated Environmental Impacts or Risks**

31. Not applicable as no construction activities are underway at Tranche 1 subprojects during the reporting period.

## 4. Results of Environmental Monitoring

### 4.1 Overview of Monitoring Conducted during the Current Period

32. Not applicable as no construction activities are underway at Tranche 1 subprojects during the reporting period.

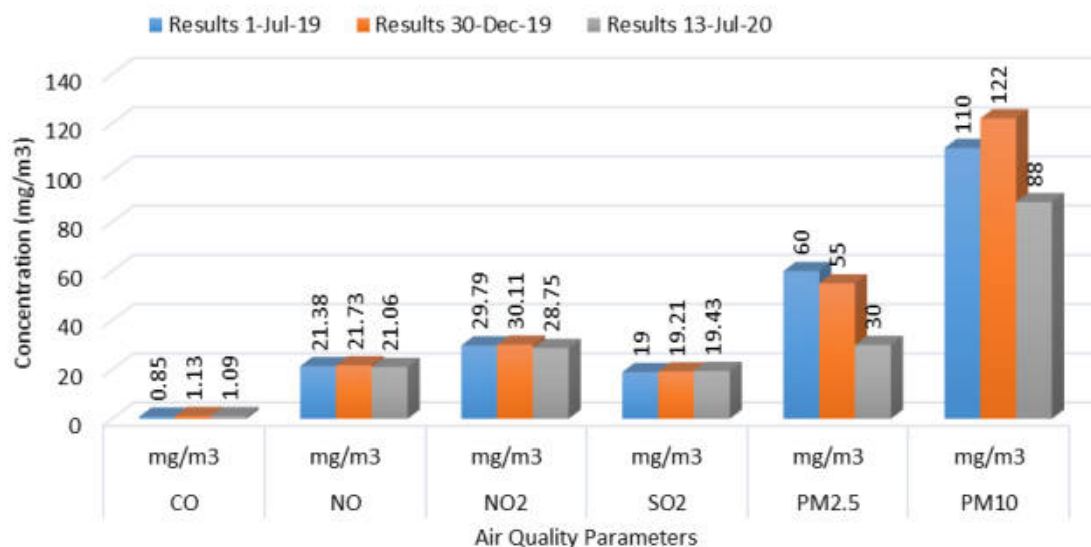
### 4.2 Trends

33. Not applicable as no construction activities are underway at Tranche 1 subprojects during the reporting period.

34. .

#### Ambient Air quality

Parameters	Unit	Results		
		01-July-2019	30-Dec-2019	13-July-2020
CO	mg/m <sup>3</sup>	0.85	1.13	1.09
NO	µg/m <sup>3</sup>	21.38	21.73	21.06
NO <sub>2</sub>	µg/m <sup>3</sup>	29.79	30.11	28.75
SO <sub>2</sub>	µg/m <sup>3</sup>	19.0	19.21	19.43
PM <sub>2.5</sub>	µg/m <sup>3</sup>	60.0	55.0	30
PM <sub>10</sub>	µg/m <sup>3</sup>	110.0	122.0	88



### Results

35. .

Location	Time	Results (dBA)		
		01-July-2019	30-Dec-2019	13-July-2020
Site Office	First	65.3	54.6	51.1
	Second	59.15	53.8	52.0
ATR Spare Foundation	First	66	57.65	56.3
	Second	60.15	59.8	57.2
Storage Area (132 kV Side)	First	57.6	55.8	52.6
	Second	54.0	57.7	52.9
1 <sup>st</sup> Gantry (500kV Yard)	First	59.85	59.3	54.3
	Second	56.15	51.7	53.6

### 4.3 Summary of Monitoring Outcomes

36. Not applicable as no construction activities are underway at Tranche 1 subprojects during the reporting period.

### 4.4 Material Resources Utilization

#### 4.4.1 Current Period

37. Not applicable as no construction activities are underway at Tranche 1 subprojects during the reporting period.

### 4.5 Waste Management

38. Not applicable as no construction activities are underway at Tranche 1 subprojects during the reporting period.

### 4.6 Health and Safety

#### 4.6.1 Community Health and Safety

39. Not applicable as no construction activities are underway at Tranche 1 subprojects during the reporting period.

### 4.7 Training

40. Not applicable as no construction activities are underway at Tranche 1 subprojects during the reporting period.

## **5. Functioning of the SEMP**

41. Not applicable as no construction activities are underway at Tranche 1 subprojects during the reporting period.

## **6. Good Practice and Opportunity for Improvement**

42. Not applicable as no construction activities are underway at Tranche 1 subprojects during the reporting period.

## 7. Grievance Redress Mechanism

43. A grievance redress mechanism (GRM) is available for all Tranche 1 Projects to allow an Affected Person (AP) appealing any disagreeable decision, practice or activity arising from land or other assets compensation. APs fully informed of their rights and of the procedures for addressing complaints through verbal or in writing communications during the consultation survey, and time of compensation.

44. As per the GRM protocols, APs/ local community enter their complaints/ concerns and issues formally including the information of date, name and address of the complainant, description of complain.

45. The Assistant Manager (social mobilization) at PIU maintain a register named "community complaint register (CCR). The register will include the information as date, name and address of the complainant, description of complaints, and enter the complaints in a date covering the minimum information of name and address of complaint, description of complaints, action taken, the status of redress of complaints and reasons in case the issue is not resolved.

46. Efforts will be made to avoid the APs/ community concerns by implementing the sub-project in accordance with the LARP, i.e., proper information disclosure, community consultations, payments as per entitlements and coordination with APs, PIU and PMU.

47. However, a Grievance Redress Committee (GRC) has been established to redress the unresolved issues.

48. GRC work at the field level, while unsettled issues will be referred to the PMU at the subproject level. The field level PIU (AM Social Mobilization) will inform the AP about GRC and its mechanism by passing the information to known places.

49. The composition of the GRC is as follows:

### *Village/District-level GRC (V-GRC)*

- Representative of NTDC or Social Mobilizers
- Local Elder/ APs

50. The Social Mobilizers (male & female) act as a focal person in their respective territorial limits to get the grievances recorded, investigated, and discussed during meetings; facilitate the APs to propose the remedial actions at their level.

### *GRC at Project Level (P-GRC)*

- Project Director
- Land Acquisition Collector
- Communication/ Social Mobilization Consultant (Male)
- Communication/ Social Mobilization Consultant (Female)
- Representatives of Affected Person Committee (APC)
- Representative of the line agency

51. Any grievances forwarded to the P-GRC are quickly resolved, preferably on the first day of the hearing or within three weeks from the date of receiving the cases. Unresolved cases are being forwarded to GRC at PIU.

*GRC at PIU Level*

Project Director, NTDC	Convener
Deputy Manager (ESIC), NTDC	Secretary
LAC/ALO	Member
Independent Consultant	Member
Consultant's Rep. (male and female)	Member
Notable of the Area appointed by Local administration	Member

52. Any grievances forwarded to the PIU-GRC should also be quickly resolved, preferably on the first day of the hearing or within three weeks from the date of receiving the cases. Unresolved cases are to be forwarded to GRC at Headquarters.

*NTDC's Headquarter Level*

General Manager Projects, NTDC	Convener
Additional Director General (ESIC), NTDC	Member
Gender Focal Point or NTDC female manager	Member
Representative of the Land Directorate	Member
Representative of the Legal Department, NTDC	Member

53. NTDC HQ will resolve the issue within 07 days after the communication of decision by the GRC at the PMU level.

54. In case of dissatisfaction of the AP, he has the right to file the case in any court of law.

55. An organogram showing the institutional arrangements for the implementation of LARP has been illustrated through a diagram presented in **Figure 7-1**.

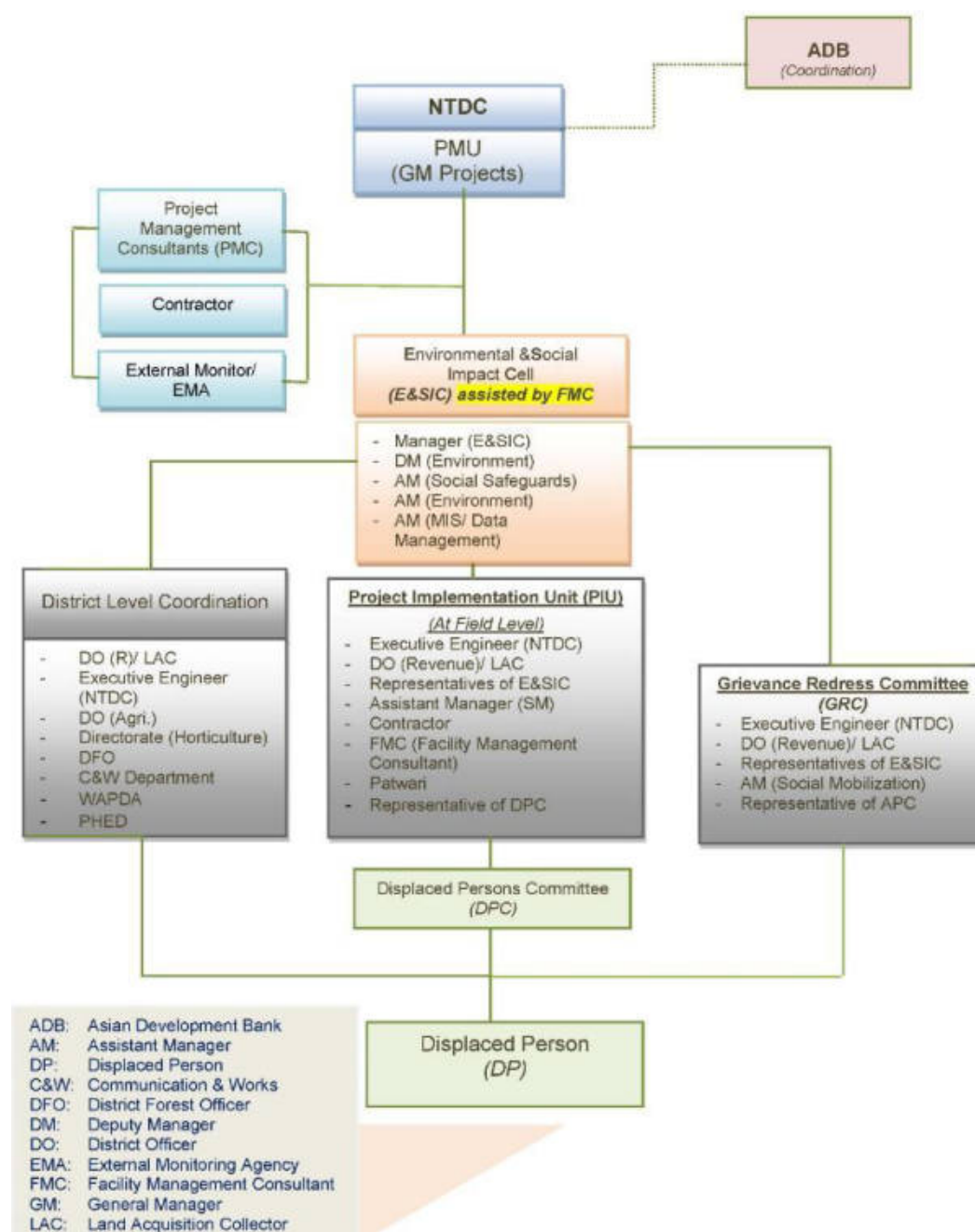


Figure 7-1: Institutional Set-up for the Implementation of LARP



## **8. COVID-19 Risk Assessment and Implementation Plan**

56. The communicable disease of most concern including COVID 19 during the construction phase, can be prevented by successful initiatives typically involving health awareness; education initiatives; training health workers in disease treatment; immunization programs, and providing health services.

57. The construction contractors to make COVID-19 management SOPs as part of their SSEMPs

58. ESIC of PMU has developed a COVID-19 Risk assessment and Implementation Plan for Contractors and shared with them for implementation. The COVID-19 Management Plan is attached as **Appendix A**.

59. However, the construction works on Tranche 1 subprojects were completed in early days of emergence of COVID-19 Pandemic (sub-projects were completed in early 2020) so no data was recorded or available for cases reporting.

## 9. Restoration and Rehabilitation

60. Using the photographs taken prior to site/camp establishment, CC to ensure that the RoW, camping area, access tracks and other construction sites are restored as far as possible after abandoning the site.
61. CC to ensure that no refuse or waste is left behind. Pick up all pin flags, signs, and refuse.
62. CC to ensure that natural drainage of the area is restored.
63. CC to install cross drainage ditches on steep slopes to divert run-off into the adjacent vegetation.
64. CC to ensure that erosion control and revegetation measures using native species are taken where required.
65. CC to ensure that all pits, holes, and sumps are backfilled. An extra cap of soil should be put on top to account for compaction.
66. CC to remove all temporary stream/canal crossings. Stabilize banks at the crossings.
67. CC to remove contaminated soil for appropriate disposal (e.g., incineration).
68. CC to implement active revegetation measures if natural growth is not considered sufficient.
69. CC to take appropriate action to discourage access to the area after completion of the construction.
70. CC to ensure that fences and gates are restored.
71. Photographs taken after completion of work shows that sites are restored and rehabilitated after completion of work.





## **10. Summary and Recommendations**

### **10.1 Summary**

72. The under-construction projects of Tranche 1 were commissioned during the reporting period of September-December 2020 and No construction activities are at site therefore no E&S activity was carried out during the reporting period.

### **10.2 Recommendations**

73. As a general practice, a copy of the approved latest SAEMR should be shared with CC of all active ADB-funded projects, so the CC is informed on the non-compliances.

74. Lessons learned in Tranche 1 should be used in improvements in future ADB financed projects. The EMP requirements should be ensured in BOQs and contract agreements.

75. Though there was a GRM provided to the CC and the CC kept a register at construction sites for record grievances. However, communities and other stakeholders did not appear during construction period for registering grievances. This indicates that there are weaknesses in disclosure of information to the stakeholders and will be improved in subsequent tranches.

**APPENDIX A: COVID-19 HEALTH AND SAFETY MANAGEMENT PLAN**

See following pages:

## COVID-19 Health and Safety Management Plan

Project Name \_\_\_\_\_

## Table of Contents

<b>1.</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Coronaviruses (CoV), COVID-19, and How It Spread? .....	1
1.2	Purpose, Scope, and Applicability of COVID-19 H&S Plan .....	1
1.3	Frequency .....	2
1.4	Distribution and Actions .....	2
<b>2.</b>	<b>Workplace Risk Assessment.....</b>	<b>3</b>
<b>3.</b>	<b>Procedures and Guidelines – Managing Risk .....</b>	<b>5</b>
3.1	Communication and Awareness .....	5
3.2	Personal Hygiene and Respiratory Etiquette.....	7
3.3	Personal Protective Equipment.....	7
3.4	Access and Movement to/from Construction Site .....	8
3.5	Compartmentalization .....	8
3.6	Site Operation.....	8
3.7	Meetings and Travelling.....	10
3.8	Equipment Cleaning and Sanitizing .....	11
3.9	Working Remotely .....	11
3.10	Cleaning Protocol .....	12
3.10.1	Cleaning/disinfection .....	12
3.10.2	On Entering the Room.....	12
3.10.3	Cleaning of Communal Areas and Staff Workspaces .....	13
6.6.4	Cleaning and disinfection of reusable equipment .....	13
<b>4.</b>	<b>Detection and Response Measures .....</b>	<b>14</b>
4.1	Screening at the Entry of Construction Site .....	14
4.2	Response Measures .....	14
4.3	Health Monitoring.....	15
<b>5.</b>	<b>Responsibilities.....</b>	<b>16</b>
5.1	Contractors and Subcontractors Management.....	16
5.2	EHS Team/ Site Managers .....	16

5.3	Employees.....	17
5.4	Corrective Actions and Response Strategy.....	18
6.	SOP Auditing and Training.....	19
7.	Key Rules during Travel and Stop Overs .....	20
8.	References.....	22

**Forms:**

Form A:	Information to Include in Leaflet
Form B:	Hand-Washing Guide
Form C:	Guidelines on Worker Accommodation
Form D:	Daily Temperature Checklist for Employees
Form E:	Daily Temperature Checklist for Visitors
Form F:	Cleaning and Disinfecting Checklist
Form G:	Nearby Covid-19 Facilities



## 1. Introduction

---

### 1.1 Coronaviruses (CoV), COVID-19, and How It Spread?

1. A large family of viruses that cause a variety of illnesses including the common cold, Middle East Respiratory Syndrome (MERS-CoV), and Severe Acute Respiratory Syndrome (SARS-CoV).<sup>1</sup>
2. In late 2019, a new coronavirus – not seen previously in humans – was identified as the cause of human illness in China and given the name 2019-nCoV. By late January 2020, the outbreak declared a public health emergency of international concern by the World Health Organization (WHO).<sup>2</sup>
3. The Coronavirus Disease of 2019 is called COVID-19.<sup>3</sup>
4. The CoV spread by human-to-human transmission via respiratory droplets. The median incubation period from exposure to symptoms onset is 4–5 days.<sup>4</sup>

### 1.2 Purpose, Scope, and Applicability of COVID-19 H&S Plan

5. The purpose of COVID-19 Health and Safety Plan (COVID-19 H&S Plan) is to guide contractors and their staff and implement procedures to slow and stop transmission, prevent outbreaks and delay spread; to minimize the impact of epidemic diseases on health systems and project operations. This SOP has been tailored considering the recent coronavirus (COVID-19) outbreak.
6. The COVID-19 H&S Plan is a guidelines document providing standard operating procedures(SOP) for undertaking construction activities at the active and plan subprojects under Second Power Transmission Enhancement Investment Program.
7. The COVID-19 H&S Plan must be adhered to by all contractors, subcontractors, and its employees, its visitors, and any person that interacts with employees.
8. This Plan applies to all epidemic diseases. The World Health Organization has now confirmed the coronavirus as a pandemic; however, this SOP will be applicable for

---

<sup>1</sup> [https://relief.unboundmedicine.com/relief/view/Coronavirus-Guidelines/2355000/all/Coronavirus\\_Disease\\_2019\\_COVID\\_19\\_#1](https://relief.unboundmedicine.com/relief/view/Coronavirus-Guidelines/2355000/all/Coronavirus_Disease_2019_COVID_19_#1)

<sup>2</sup> Ibid

<sup>3</sup> Ibid

<sup>4</sup> Ibid

all epidemic outbreaks due to its greater scope and applicability in the prevention of disease transmission.

### **1.3 Frequency**

9. The SOP in this plan must always be followed until an outbreak is no longer considered a public health emergency by WHO.

### **1.4 Distribution and Actions**

10. The COVID-19 H&S Plan will be made part of the respective health and safety plans (HSP) and emergency response plans (ERP) of the contractors and subcontractors.

11. The HSP and ERP are standard elements of the environmental management plan (EMP), and now these need to be updated addressing COVID-19 health risks.

12. Broadly, the steps in this process include:

- The contractor's HSP and ERP should be aligned with this COVID-19 H&S Plan.
- The contractors' HSP and ERP should be reviewed by the PMU.
- The recommendation of the review (i.e. approval of the updated HSP and ERP or additional strengthening required etc.) will be forwarded to PMU for clearance.
- The PMU will then advise the Construction Contractors and also ADB Project Officer to be informed.

## 2. Workplace Risk Assessment

---

13. The risk of work-related exposure to COVID-19 depends on the probability of coming into close (less than 1 metre) or frequent contact with people who may be infected with COVID-19 and through contact with contaminated surfaces and objects.

14. The following risk levels may be useful in carrying out a workplace risk assessment for exposure to COVID-19 and planning for preventive measures in non-healthcare workplaces.

15. Low exposure risk – jobs or work tasks without frequent, close contact with the general public and other co-workers, visitors, clients or customers, or contractors, and that do not require contact with people known to be or suspected of being infected with COVID-19. Workers in this category have minimal occupational contact with the public and other co-workers.

16. Medium exposure risk – jobs or work tasks with close, frequent contact with the general public, or other co-workers, visitors, clients or customers, or contractors, but that do not require contact with people known to be or suspected of being infected with COVID-19. In areas where COVID-19 cases continue to be reported, this risk level may be applicable to workers who have work-related frequent and close contact with the general public, visitors, or customers in high-population-density work environments (e.g. food markets, bus stations, public transport, and other work activities where physical distancing of at least 1 metre may be difficult to observe), or work tasks that require close and frequent contact between co-workers. In areas without community transmission of COVID-19, this scenario may include frequent contact with persons returning from areas with community transmission.

17. High exposure risk – jobs or work tasks with high potential for close contact with people who are known or suspected of having COVID-19, as well as contact with objects and surfaces possibly contaminated with the virus. Examples of such exposure scenarios outside of health facilities include the transportation of persons known or suspected to have COVID-19 in enclosed vehicles without separation between the driver and the passenger, providing domestic services or home care for people with COVID-19, and contact with dead bodies of persons who were known or suspected of having COVID-19 at the time of their death.

18. In the same work setting there may be jobs with different levels of risk, and different jobs or work tasks may have similar levels of exposure. Therefore, the risk assessment should be carried out for each specific work setting and each job or group of jobs. For each risk assessment, it is prudent to consider the environment, the task, the threat, if any (e.g. for frontline staff), and resources available, such as personal protective equipment.

19. Some workers may be at higher risk of developing severe COVID-19 illness because of age or pre-existing medical conditions; this should be considered in the risk assessment for individuals. Essential public services, such as security and police, food retail, accommodation, public transport, deliveries, water and sanitation, and frontline workers may be at an increased risk of exposure to occupational hazards for health and safety.

20. Employers, managers and EHS staff, in consultation with workers, should carry out and regularly update the risk assessment for work-related exposure to COVID-19, preferably with support of occupational health services.

### **3. Procedures and Guidelines – Managing Risk**

---

21. Health measures can slow the transmission and spread of infectious diseases. These measures can take the form of personal protective equipment, social distancing, and travel-related interventions.

22. The following areas should be given consideration:

- Communication and Awareness
- Personal Hygiene and Respiratory Etiquette
- Personal Protective Equipment (PPE)
- Access and Movement to/from Construction Site
- Compartmentalization
- Site Operation
- Meeting and Traveling
- Environmental Cleaning
- Working Remotely

#### **3.1 Communication and Awareness**

23. Clear signage is posted at entry points on the construction site and outline the commitment of the contractor to maintain health and safety measures during the COVID-19 crisis.

24. A display board at entry points of construction site showing daily statistics of COVID-19 in the locality, province, and in Pakistan using government official updates from appropriate jurisdictions' public health authorities.

25. Worksite policies as they relate to the COVID-19 crisis are communicated to workers and made available on site.

26. A clear signboard to show: All workers exercise the following recommended practices for reducing the risk of transmission:

- Avoid touching eyes, nose and mouth with unwashed hands;

- When coughing or sneezing:
    - Cough or sneeze into a tissue or the bend of your arm, not your hand;
    - Dispose of any tissues you have used as soon as possible in a lined wastebasket and wash your hands afterward;
    - Use face mask all time
    - Clean and disinfect frequently touched objects and surfaces, including all reusable personal protective equipment (PPE).
  - Do not share personal items or supplies such as phones, pens, notebooks, tools, PPE, etc.;
  - Use and remove PPE with care, being mindful of which surfaces may be contaminated. Individuals must clean their hands after handling any used PPE;
  - Avoid common physical greetings, such as handshakes;
  - Maintain a minimum physical distance of two meters from others; and
  - Wash hands often with soap and water for at least 20 seconds after using the washroom, before handling food, after blowing the nose, coughing, or sneezing, and before smoking. If hands are not visibly soiled, and soap and water are unavailable, alcohol-based hand sanitizer can be used.
- Additional sanitary measures are implemented on-site: handwashing stations with posted hand washing protocol, hand sanitizer stations, provision of disinfectant wiping products. These types of facilities are made available at site entries, exits, washrooms, living areas, offices, and any other areas with commonly touched surfaces.



28. The EHS team can develop informative handouts about COVID-19 Risk Management and distribute it among the employees and visitors (**Form A**).

Uniform signage for workers to provide clear messaging



### 3.2 Personal Hygiene and Respiratory Etiquette

29. Every employee must follow a certain standard of self-hygiene and precaution, especially when in company premises or busy areas.

30. It is the responsibility of the Employee to inform EHS Manager in case they have come in contact with a person traveling from an infected area.

31. Every employee must use hand sanitizer whenever entering office premises. These and tissue boxes can be found in numerous locations

32. Employees must use the hand sanitizer before using the biometric device.

33. Frequent and thorough hand washing is recommended and better illustrated in **Form B**.

### 3.3 Personal Protective Equipment

34. Face masks are required for all staff and those in their vicinity. Please see Govt of Pakistan's Guidelines for Mandatory use of facemask, document 17-06, 13-June-2020 on how to use mask properly.

35. [https://covid.gov.pk/new\\_guidelines/14June2020\\_20200613\\_Guidelines\\_for\\_Mandatory\\_use\\_of\\_face\\_mask\\_\(urdu\)\\_1704.pdf](https://covid.gov.pk/new_guidelines/14June2020_20200613_Guidelines_for_Mandatory_use_of_face_mask_(urdu)_1704.pdf)

36. Providing disposable gloves for service staff is mandatory at all construction sites, camps and field offices.

37. The persons who showing any symptoms include soreness of the throat, sneezing, runny nose, coughing, body aches, frequent headaches, and fever should not be allowed to go to work or public places such as kitchen, dining area, mosque, etc.

### **3.4 Access and Movement to/from Construction Site**

38. Wherever possible, workers travel to site using individual modes of transportation (e.g., personal vehicle or bicycle). Additional parking arrangements are made as required.

39. Entry and exiting of the worksite is monitored and controlled to ensure that the minimum physical distancing is not broken when shifts begin and end.

40. All non-essential individuals are not permitted access to the site.

### **3.5 Compartmentalization**

41. The construction site is to be segregated to the extent possible in zones or other methods to keep different crews/trades physically separated at all time. This promotes physical distancing and supports the containment of propagation should it arise.

42. Eating is restricted to clearly identified dedicated eating areas with handwashing stations, cleaning and disinfectant materials, and adequate space to maintain minimum physical distancing.

43. Upper limits are put on the number of people allowed in each zone and in facilities like washrooms, trailers, and eating areas at once to allow for the recommended minimum physical distancing.

44. One-way staircases are established wherever practical to minimize worker contact.

45. Freight elevators are operated/occupied by only one individual at a time or where feasible, by respecting the minimum physical distancing guidelines.

46. At residential camp sites, accommodation for workers should be provided as per the guidelines in Workers Accommodation Plan (**Form C**).

### **3.6 Site Operation**

47. The number of in-person meetings is minimized. If required, meetings should involve only necessary individuals and include six people or fewer. Minimum physical distancing is maintained, and meetings are held in open spaces when possible.



48. The worksite is rearranged to reduce high-traffic areas and allow for the minimum physical distancing.
49. Site teams are encouraged to put forward split/alternating shifts to avoid extensive intermingling. Voluntary shift offset and implementing time gaps between shifts are highly encouraged.
50. Alternate arrangements are made as necessary to ensure workers avoid breaking the minimum physical distance with others for prolonged periods. When this is not feasible, plans are made to minimize the duration of the task. For any work that ultimately must be done in close-proximity, a procedure is formalized outlining the required PPE and all steps to be taken to minimize risk.
51. Where work is done in crews, the work is planned to minimize or eliminate the crossover of workers between crews.
52. Project teams stagger break and lunch schedules to minimize the number of people in close proximity to one another. Enclosed lunchrooms are only made available during inclement weather.
53. Work schedules are adjusted to provide time for proper cleaning and disinfecting as required.
54. Delivery zones are clearly identified and limited to receivers and deliverers only.
55. When possible, nothing is passed between the deliverer and the receiver (e.g. shipment documents and pens for signatures). Deliveries are unloaded solely by receivers using proper PPE, while deliverers remain in their vehicles.
56. When working in spaces currently occupied (e.g. private residences), the minimum physical distancing with any occupants is strictly enforced. Where possible, workers and occupants are segregated in different rooms.
57. Non-emergency work should not be done in any occupied spaces where an occupant is suspected to have contracted COVID-19 or is under self-isolation (per the directions of the applicable authorities). Emergency work can be carried out provided workers are equipped with nitrile gloves, Tyvek suits or coveralls, and facial/ respiratory protection.

58. Hands and tools are thoroughly cleaned before entering the workplace and after leaving, and any surfaces or equipment in the occupied space are disinfected before work is done on them.

### 3.7 Meetings and Travelling

59. Any unnecessary meetings and traveling should be avoided. Using alternatives such as online meetings is recommended and employees should refrain from interacting with people who have been recently traveling to vulnerable areas.

60. Similarly, the travel of staff for meetings to vulnerable areas should be postponed.


61. All workers and employees are advised to maintain a minimum 1.5-meter distance from one another.

62. Workers and employees should also refrain from shaking hands or hugging anyone.

63. Dining breaks shall be rescheduled at different times, in smaller groups to avoid crowding in the dining areas.

64. It is encouraged that you keep your own mug/glass with you throughout the day and use only that.

65. See **Section 7** for more details on traveling protocols.



Social distancing during meetings outdoors

- Only absolutely necessary participants should physically attend meetings and should maintain social distancing guidelines (2m, or 1m with risk mitigation where 2m is not viable, is acceptable).
- Avoiding transmission during meetings, for example, avoid sharing pens, documents and or other objects.
- Providing hand sanitiser in meeting rooms.
- Holding meetings outdoors or in well-ventilated rooms whenever possible.
- For areas where regular meetings take place, use floor signage to help people maintain social distancing.

### **3.8 Equipment Cleaning and Sanitizing**

66. The concern will be provided rubbing alcohol, or a suitable disinfectant as well as sterile gloves to wipe down equipment and commonly touched surfaces and objects every morning.

67. All door handles, railings, ladders, switches, controls, eating surfaces, shared tools and equipment, taps, toilets, and personal workstation areas are wiped down at least twice a day with a disinfectant, such as disinfectant wipes. Individuals are responsible for cleaning and disinfecting their workstations.

68. The implementation of cleaning procedures, safety prevention measures must be conducted twice a day to prevent any contamination. This will but is not limited to the following areas:

- Commonly touched surfaces such as vehicle's steering, vehicles' gear, and door handles, tools, chairs, tables, etc.
- , Workstations including keyboards, mice, telephones, desk surfaces
- Biometric devices
- Metal surfaces including door handles, knobs in and outside the office (includes main/rear exit)
- Kitchen surfaces
- Kitchen cutlery and utensils (before washing)
- Washrooms including the soap dispenser, hand dryer dryer, and other commonly touched surfaces
- Staplers, hole punchers, remotes, headphones, and other shared equipment.

69. Additional sanitary measures are implemented on-site: handwashing stations with a posted hand washing protocol, hand sanitizer stations, provision of disinfectant wiping products. These types of facilities are made available at site entries, exits, washrooms, eating areas, offices, and any other areas with commonly touched surfaces.

### **3.9 Working Remotely**

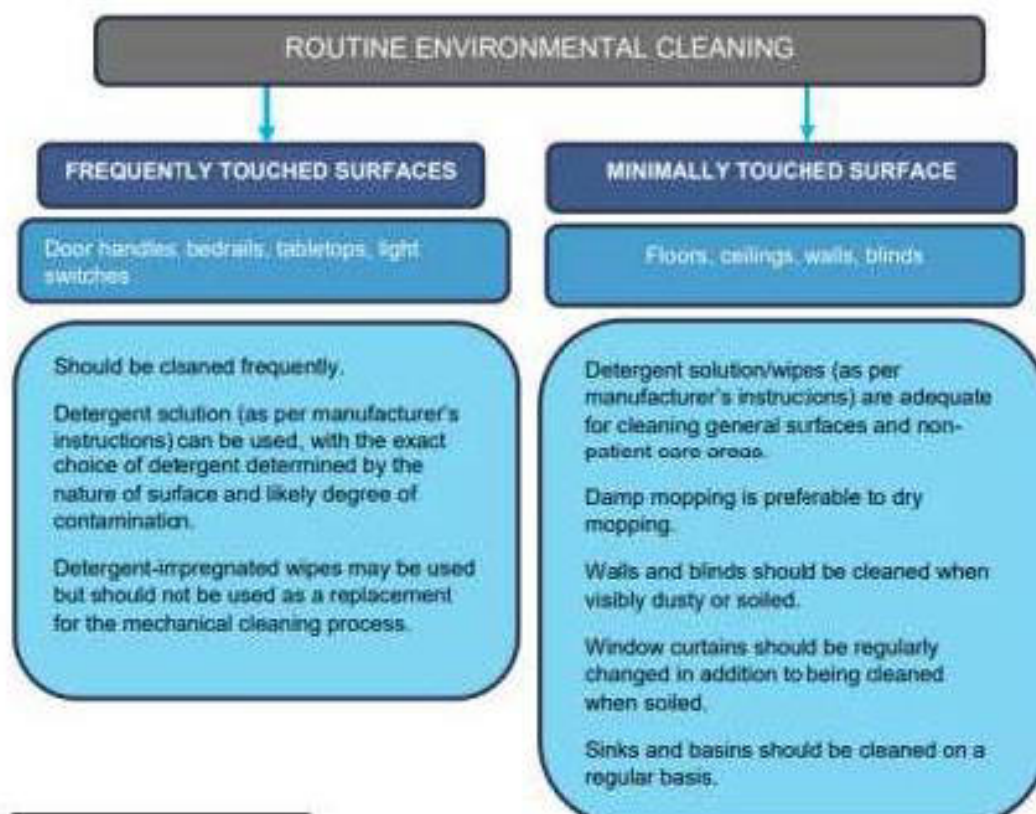
70. Where practical, all office employees supporting a project work remotely.

71. Meetings are held through teleconferencing or videoconferencing.

### 3.10 Cleaning Protocol

#### 3.10.1 Cleaning/disinfection

72. Housekeeping staff undertaking the cleaning with detergent and disinfectant.
73. Perform hand hygiene then put on a plastic glove before and cleaning disinfection task
74. Dispose of used gloves in designated place/bin only.



#### 3.10.2 On Entering the Room

75. Keep the door closed when using detergent and disinfection products, you may open a window if required.
76. All other personal items such as papers, pens, picture frames, etc. should be kept in drawers.



### 3.10.3 Cleaning of Communal Areas and Staff Workspaces

77. Wipe the surfaces with either a combined detergent disinfectant solution at a dilution of 1000 parts per million (ppm or 1 ml/l) which is equal to one-quarter teaspoon of chlorine per 4 glasses of water.

78. Commercially available chlorine or alcohol-based disinfectant spray can be used as an alternative. This applies to benchtops and chairs.

79. For equipment, disinfect with commercial alcohol-based cleaners safe for computer surfaces.

80. Use disposable cloths, paper rolls, or disposable mop heads to clean and disinfect all hard surfaces, floors, chairs, door handles, or reusable non-invasive care equipment or sanitary fittings in the room, following one of the 2 options below:

- Use a combined detergent disinfectant solution at a dilution of 1ml as described above or a commercial disinfectant spray.
- Follow the manufacturer's instructions for dilution, application, and contact times for all detergents and disinfectants.



### 6.6.4 Cleaning and disinfection of reusable equipment

81. Clean and disinfect any reusable non-invasive care equipment, such as Punch machines, staplers, pens, etc., that are in the room before their removal. Clean all reusable equipment systematically.

## 4. Detection and Response Measures

---

### 4.1 Screening at the Entry of Construction Site

82. Before entering the site, individuals must confirm that:

- They are not currently exhibiting flu-like symptoms such as fever, tiredness, coughing, or congestion;
- They have not returned from outside of Pakistan within the past 14 days;
- To the best of their knowledge, they have not been in contact with someone with a confirmed or probable case of COVID-19; and
- They have not been working on a site that was shut down due to the virus.

Responses are to be kept private and treated as sensitive medical information.

83. Individuals who are at increased risk of serious illness (due to age, pregnancy or other medical condition) are not to be permitted on site.

84. Workers who are not authorized to access the site are to be safely transported directly back home, or to a preferred location of self-isolation. When unable to do so themselves, a vehicle and driver will be arranged for them.

85. When transporting a potentially ill individual, both driver and passenger are to be given masks and nitrile gloves. The passenger is to sit in the backseat, and the driver is to open and close the doors for them.

### 4.2 Response Measures

86. Possible Case of COVID-19

- Individuals who have been potentially exposed to the virus, or who are exhibiting flu-like symptoms such as fever, tiredness, coughing, or congestion are instructed to:
  - Not come to work;
  - Contact their supervisor and/or human resources department;
  - Stay at home and self-isolate; and
  - Contact local health authorities for further direction.
- Such individuals are required to follow the directions of the local health

authority and may not return to work until given approval by the proper health authorities.

- Individuals who begin to display flu-like symptoms on site are instructed to avoid touching anything, take extra care to contain coughs and sneezes, and return home immediately to undergo self-isolation as directed by the local health authority..
- All areas on-site potentially infected by a confirmed or probable case are barricaded to keep individuals two meters away until the area is properly cleaned and disinfected.

#### **4.3 Health Monitoring**

87. An infrared thermometer should be made available, and temperatures of all people entering the offices, work areas, premises will be checked and recorded in a log every day (Form D).

88. A separate log will be kept for staff and visitors (Form E).

89. Employees should proactively communicate any concerns or symptoms they may be experiencing and not rely on the company to identify and prevent the transmission of infectious diseases.

## **5. Responsibilities**

---

### **5.1 Contractors and Subcontractors Management**

- 90. Make sure resources including financial resources required for the implementation of the plan available
- 91. Must also ensure adequate stock of hand sanitizers and face masks are present for all offices, camps, and construction sites.

### **5.2 EHS Team/ Site Managers**

- 92. Responsible for ensuring housekeeping inspections are completed following this SOP.
- 93. This includes making sure the inspection checklist is completed daily (**Form F**).
- 94. The team is also responsible for supervising housekeeping staff and making sure all equipment and areas are routinely disinfected.
- 95. Every construction project shall make proper arrangements for uninterrupted building services including but not restricted to, electricity, fuel, water supply, water disposal and sanitation, communication links, washrooms with hand hygiene and shower facility and with proper and adequate supply of soaps and disinfectants.
- 96. Workers should not use biometric attendance machines or crowd during attendance, entry or exit to the premises of the construction site.
- 97. Ensure the availability of the thermal gun at the entry and exit of the construction site and no worker should be allowed without getting his/her temperature checked.
- 98. Site manager must maintain a register of all contact details with NID number and addresses of all present at the site in case a follow up or tracing and tracking of contacts is required at a later stage.
- 99. Develop the employee roster to decrease the number of people on the site very day.
- 100. Split the shifts of the workers in morning and evening with limit of each shift to 8 working hours.



101. Every worker must change into standard working attire at the time of commencement of duty and change back to their regular dress after taking shower when their duty hours end.
102. Non-essential work trainings must be postponed avoiding gathering of people.
103. Ensure the physical distance by creating more than one route of entry and exit to the site.
104. Instruct the workers to inform the EHS manager (or authorities) if,
105. They develop any symptoms of cough, flu or fever.
106. They have been exposed to someone suspected or confirmed with COVID 19.
107. They have met someone who has a travel history of COVID 19 endemic country.
108. They have travelled in last couple of days or plan to travel soon
109. Do not allow any worker at the construction site who has the symptoms.
110. The lunch breaks and stretch breaks of the workers must be staggered to avoid the clustering of workers. Workers must not sit at less than 2 meters distance while having meals and while any other activity requiring interpersonal communications.
111. In the wake of current restrictions on transportations site managers will ensure safe transport arrangements for worker which should not be crowded and should have social distancing in place during the entire process from pickups till drops at destination.
112. A list of COVID-19 medical facilities should be kept update along the contact information in **Form G**.
113. For more details please visit Govt of Pakistan's Guidelines for Health & Safety of Building & Construction Workers during COVID-19 Outbreak, Document 11-01, 11-April-2020.  
[https://covid.gov.pk/new\\_guidelines/01June2020\\_20200411\\_Guidelines\\_for\\_the\\_health\\_&\\_safety\\_of\\_building\\_&\\_construction\\_workers\\_1101.pdf](https://covid.gov.pk/new_guidelines/01June2020_20200411_Guidelines_for_the_health_&_safety_of_building_&_construction_workers_1101.pdf).

### **5.3 Employees**

114. To follow the procedures and preventative guidelines in this SOP and to maintain a certain level of precaution.

- 115. Employees must monitor their health, wear face masks if showing signs of a compromised immune system.
- 116. Disinfect equipment underuse and living areas routinely.
- 117. Report any symptoms immediately to EHS Team.

#### **5.4 Corrective Actions and Response Strategy**

- 118. If the EHS team determines that the cleaning does not pass the examination, the cleaning procedure and inspections are repeated.
- 119. Upon daily temperature recordings (**Form D and Form E**), the following response strategy will be implemented (With consideration of a ~0.5 Degree Celsius uncertainty of measurements):
  - 120. Employees who have symptoms of acute respiratory illness are recommended to stay room/ home and not come to work until they are free of fever. The signs of a fever, and any other symptoms for at least 24 hours, without the use of fever-reducing or other symptom-altering medicines (e.g. cough suppressants).
  - 121. Employees should notify their supervisor and stay home if they are sick.
  - 122. Ensure that contractor and subcontractor sick leave policies are flexible and consistent with public health guidance and that employees are aware of these policies.
  - 123. Do not require a healthcare provider's note for employees who are sick with acute respiratory illness to validate their illness or to return to work, as healthcare provider offices and medical facilities may be extremely busy and not able to provide such documentation in a timely way.
  - 124. Contractors and subcontractors should maintain flexible policies that permit employees to stay home to care for a sick family member.
  - 125. The contractor and subcontractor should be aware that more employees may need to stay at home to care for sick children or other sick family members than is usual.
  - 126. Work from home for 2-3 days, and address fever and any other symptoms till status is more evident or symptoms subside.
  - 127. Consult with and update the EHS team regarding your bill of health. Take medical leave; get examined by a doctor and tested for the virus.

## **6. SOP Auditing and Training**

---

128. Contractors are to conduct periodic audits (frequency to be determined based on a project scale and scope) to verify that the appropriate measures have been implemented and are maintained.

129. EHS Team should arrange frequent awareness training sessions for employees and maintain a record.

130. Competence evaluations and repetition of training will be conducted as necessary to ensure the protection and continuance of this SOP.

## 7. Key Rules during Travel and Stop Overs

---

131. Avoid travelling if you have cough, fever/ flu like symptoms.
132. Persons having co morbidities (Diabetes, Heart conditions, Asthma), and persons older than 50 years of age should not travel unless very necessary.
133. Be sure to cover the mouth and nose with a mask (N-95) if not readily available, use a face mask.
134. Wash your hands often with soap and water for at least 20 seconds especially after you have been in a public place, or after blowing your nose, coughing, or sneezing.
135. Make sure distance of 2 meters between individuals.
136. Avoid mass gatherings
137. Avoid handshakes.
138. Avoid touching surfaces that may be frequently touched by other passengers, e.g. handles, seatback latches, seat belt buckles. Once touched, use a sanitizer to clean your hands as above.
139. Try using online check-in before moving.
140. Avoid touching surface, cards, machines; once touched, use a hand sanitizer to clean your hands.
141. Safety protocols should be followed at luggage check-in to ensure the safety of staff and passengers.
142. Avoid hugs and greeting styles which make you unnecessary close to each other.
143. Keep an alcohol-based hand rub in the car all time. Regularly and thoroughly clean your hands with an alcohol-based hand rub or wash them with soap and water.
144. Avoid touching surfaces such as door handle, shelf, tools, equipment, etc. unnecessarily and use disinfectant before having any food and drinks.
145. Make sure you and the people around you, follow good respiratory hygiene. This means covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Then dispose of the used tissue immediately.
146. Try to dedicate separate pairs of clothes for fieldwork.

147. Choose a hotel room which is well ventilated and well cleaned.
148. Ask the hotel services to replace the covers and blankets on arrival.
149. Try to take your towels and wipes during field visits.
150. Disinfect the doorknobs and side tables after entering the room every time.
151. Take good care of hygiene in your room and surroundings.
152. Avoid allowing any hotel staff for any room services during the stay.
153. Keep minimum interaction with other guests or staff during the stay.
154. Regularly and thoroughly clean your hands with an alcohol-based hand rub or wash them with soap and water.
155. Regularly disinfect the area of stay and your frequently used stuff like keys, door handles, etc.
156. Avoid touching surfaces such as door handle, shelf, tools, equipment, etc. unnecessarily and use disinfectant before having any food and drinks.
157. Stay informed on the latest developments about COVID-19. Follow the advice given by your healthcare provider, your national and local public health authority, or your employer on how to protect yourself and others from COVID-19.
158. Ensuring availability of disposable cups, glasses, and plates for drinks and meals and their disposable after one-time-use.
159. More details, see Govt of Pakistan's Guidelines for Health Guidelines for Domestic Air Travel During COVID 19 Outbreak, document 29-03, 30-August-2020. [https://covid.gov.pk/new\\_guidelines/31August2020\\_20200830\\_Guidelines\\_for\\_Domestic\\_Air\\_Travel\\_2903.pdf](https://covid.gov.pk/new_guidelines/31August2020_20200830_Guidelines_for_Domestic_Air_Travel_2903.pdf)

## 8. References

---

- COVID-19 - Standardized Protocols for All Canadian Construction Sites, Version4, April 16, 2020 (<https://www.cca-acc.com/wp-content/uploads/2020/04/CCA-COVID-19-Standardized-Protocols-for-All-Canadian-Construction-Sites-04-16-20.pdf>).
- World Health Organization. 2020. Considerations for public health and social measures in the workplace in the context of COVID-19. Geneva. (<https://www.who.int/publications-detail/considerations-for-publichealth-and-social-measures-in-the-workplace-in-the-context-of-covid-19>)
- Working safely during COVID-19 in construction and other outdoor work. Guidance for employers, employees, and the self-employed. (<https://assets.publishing.service.gov.uk/media/5eb961bfe90e070834b6675f/working-safely-duringcovid-19-construction-outdoors-110520.pdf>)
- Govt of Pakistan's Guidelines Social Distancing during COVID 19 Outbreak, document06/01, March 26, 2020. [https://covid.gov.pk/new\\_guidelines/01June2020\\_20200326\\_Guidelines\\_for\\_Soial\\_Distancing\\_0601.pdf](https://covid.gov.pk/new_guidelines/01June2020_20200326_Guidelines_for_Soial_Distancing_0601.pdf)
- Govt of Pakistan's Guidelines for Mandatory use of facemask, document 17-06, 13-June-2020. [https://covid.gov.pk/new\\_guidelines/14June2020\\_20200613\\_Guidelines\\_for\\_Mandatory\\_use\\_of\\_face\\_mask\\_\(urdu\)\\_1704.pdf](https://covid.gov.pk/new_guidelines/14June2020_20200613_Guidelines_for_Mandatory_use_of_face_mask_(urdu)_1704.pdf)
- Govt of Pakistan's Guidelines for Cleaning & Disinfection of Environmental Surfaces in Wake of COVID-19, document 02-04, 24-July-2020. [https://covid.gov.pk/new\\_guidelines/26July2020\\_20200724\\_Guidelines\\_for\\_Cleaning\\_\\_Disinfection\\_of\\_Environmental\\_Surfaces\\_0204.pdf](https://covid.gov.pk/new_guidelines/26July2020_20200724_Guidelines_for_Cleaning__Disinfection_of_Environmental_Surfaces_0204.pdf)
- Govt of Pakistan's Guidelines for Health Guidelines for Domestic Air Travel During COVID 19 Outbreak, document 29-03, 30-August-2020. [https://covid.gov.pk/new\\_guidelines/31August2020\\_20200830\\_Guidelines\\_for\\_Domestic\\_Air\\_Travel\\_2903.pdf](https://covid.gov.pk/new_guidelines/31August2020_20200830_Guidelines_for_Domestic_Air_Travel_2903.pdf)
- Govt of Pakistan's Guidelines for Health & Safety of Building & Construction

Workers during COVID-19 Outbreak, Document 11-01, 11-April-2020.  
[https://covid.gov.pk/new\\_guidelines/01June2020\\_20200411\\_Guidelines\\_for\\_the\\_health\\_&\\_safety\\_of\\_building\\_&\\_construction\\_workers\\_1101.pdf](https://covid.gov.pk/new_guidelines/01June2020_20200411_Guidelines_for_the_health_&_safety_of_building_&_construction_workers_1101.pdf)

#### **Form A: Information to Include in Leaflet**

---

**1. Wear Mask at Project Sites or busy areas.**

When working at the project site and moving outside, be sure to cover the mouth and nose with a mask.

**2. Avoid Shaking Hands.**

Try to avoid unnecessary handshakes especially with strangers.

**3. No Hugs.**

Avoid hugs and greeting styles that make you unnecessarily close to each other.

**4. Maintain Social Distancing (at least 2 meters/6 feet)**

Maintain at least a 2-meter distance between yourself and other personnel during unavoidable meetings and gatherings. Maintain 2 meters from anyone who is coughing or sneezing.

**5. Avoid Social Gathering.**

Avoid social gatherings of a small and large group for example meetings, family festivals, wedding ceremonies, political, religious and social gatherings, etc. Chances of spreading viruses in such gatherings are much higher.

**6. Wash Hands Frequently.**

Regularly and thoroughly clean your hands with an alcohol-based hand rub or wash them with soap and water thoroughly.

**7. Reduce outdoor/outgoing Activities.**

Reduce everyday routine activities with friends, also teach your family members and close friends these safety measures to take care of meeting outside people, especially if someone came from the virus affected city/area or country.

**8. Do Proper Disinfection.**

Regularly disinfect the area of your office and home as well as your frequently used stuff like keys, door handles, etc.

**9. Avoid Touching Stuff in Public Places Unnecessarily.**

Avoid touching surfaces such as door handle, shelf, tools, equipment etc. unnecessarily and use disinfectant before having any food and drinks.

**10. Practice Respiratory Hygiene.**

Make sure you and the people around you, follow good respiratory hygiene. This means covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Then dispose of the used tissue immediately.

**11. Seek Medical Care Early.**

Stay home if you feel unwell. If you have a fever, cough, and difficulty breathing, seek medical attention, and call in advance. Follow the directions of your local health authority.

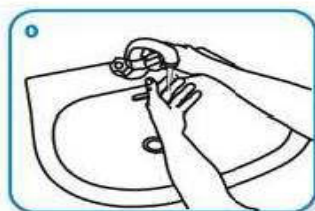
**12. Stay Informed.**

Stay informed on the latest developments about COVID-19. Follow the advice given by your healthcare provider, your national and local public health authority, or your employer on how to protect yourself and others from COVID-19.

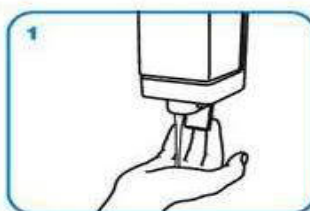


## Form B: Hand-Washing Guide

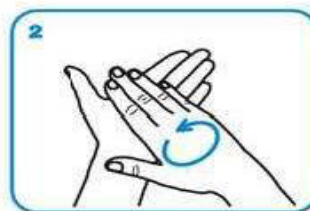
---



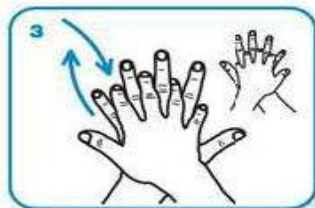
Wet hands with water



apply enough soap to cover all hand surfaces.



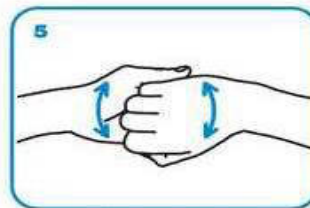
Rub hands palm to palm



right palm over left dorsum  
with interlaced fingers  
and vice versa



palm to palm with fingers  
interlaced



backs of fingers to opposing  
palms with fingers interlocked



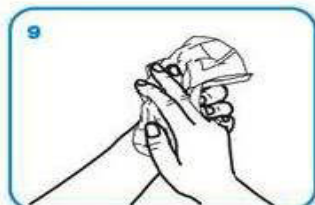
rotational rubbing of left thumb  
clasped in right palm  
and vice versa



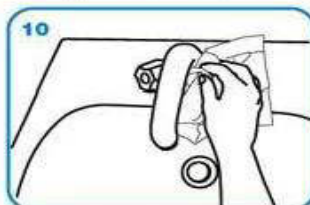
rotational rubbing, backwards  
and forwards with clasped  
fingers of right hand in left  
palm and vice versa.



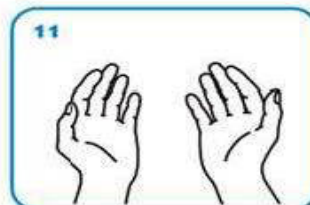
Rinse hands with water



dry thoroughly with a single  
use towel



use towel to turn off faucet



...and your hands are safe.



## **Form C: Guidelines on Worker Accommodation**

---

This document contains Worker Accommodation Plan (WAP) for the Project which covers guidelines, the standards and practices to be used in the design and management of workers accommodation by NTDC, its contractors and subcontractors.

The WAP shall largely be implemented by the Construction Contractor and sub-contractors

The scope and applicability of the WAP is limited to the design and management of the worker accommodations provided during the construction phase of the Project.

NTDC and its contractors shall ensure sufficient resources are allocated on an on-going basis to achieve the effective implementation of the worker accommodation plan.

### **Regulatory Requirements for WAP**

Laws applicable to the WAP include the following:

- Constitution of Pakistan that provides for humane conditions of work (Article 37(e)).
- Factories Act 1934 requirements for occupational health and safety at the workplace:
- Building Code of Pakistan. The Building Code of Pakistan (2008) provides the requirements for safety to be included in the design of buildings in Pakistan. The Building Code of Pakistan – Fire Safety Provisions (2016) provide the requirements for fire prevention, life safety in relation to fire and fire protection of buildings and building-like structures.

### **Accommodation Planning and Arrangement**

Worker accommodations will be located within the Project site and will be provided during the construction phase of the Project. The worker accommodations will encompass areas where it shall not interfere with the construction activities.

Alongside the construction planning, the Construction Contractor (CC) along with the Project Management Unit (PMU) of NTDC, shall conduct a space assessment of accommodations.

Average minimum space of usual standards ranges from 10 to 12.5 cubic meters (volume) or 4 to 5.5 square meters (surface) per person will be provided throughout the construction period. Minimum ceiling height of 2.1 meters shall be provided.

Other specifications including building construction standards and fire safety will be managed according to the Building Code of Pakistan.

Drinking water complying with the provincial Environmental Quality Standards shall be provided at the worker accommodations.

Sewage and waste disposal system will be provided residential facilities in accordance with the regulatory requirements. As septic tanks will be constructed for management of sewage from the residential area and grease traps will be constructed to manage sewage from kitchen/mess.

Health and hygiene facilities will be provided against cold, heat, damp, biological hazards (disease-carrying animals), noise, vibration, food security and fire.

Washing facilities are will be provided as required. For sanitation septic tanks will be constructed on the campsite as per guidelines.

Employees will be provided with first aid training to cope up with emergency situations at the camp, in addition to emergency response at the workplace. Basic health care facility at the Project site and ambulance services shall be available.

If required, the project site during construction shall be encompassed by walls to limit impact on communities and ensure camp security.

All workers will be provided with an employee identity card and no person will be allowed to enter in the worker accommodations area without identification, or prior approval through security for visitors and other employees.

Standby generators to be located away from the communities towards the backside of Project site and also away from Worker Accommodation.

#### Inspection

A standard checklist on the workers' accommodation should be developed by the CC on cleanliness of the rooms, kitchen, toilets, open areas and disposal sites. The checklist will be used for the daily compliance of the cleanliness condition.

Project Manager of the CC will conduct an ongoing assessment of the accommodation requirement and the residual requirements for upcoming staffing.

The responsible staff of HSE of the CC will prepare monthly inspection report based on the inspection checklists and keep records and submissions along with other submissions to NTDC.



Semi-annual Environmental Monitoring Report  
Second Power Transmission Enhancement Investment Program (Tranche 1)

**Form F: Cleaning and Disinfecting Checklist**

Month:		Inspected by:																		Signature:											
S #	Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Sweep and wash all hard surface flooring																														
2	Spot clean all interior glass																														
3	Clean and sanitize open desk surfaces																														
4	Clean and sanitize keyboard, mouse, and telephone																														
5	Dust computer monitors																														
6	Spot clean walls																														
7	Clean and sanitize all touchpoints																														
8	Empty and reline waste receptacles																														
9	Spot clean receptacles inside and out																														
10	Recycle paper waste																														
11	Detail floor edges, corners, and under desk																														
12	Dust all vertical surfaces																														
13	Dust window coverings																														
14	Clean all walls and glass																														
15	Clean between walls and furniture																														
12	Signature/ Initial																														

**Form G: Nearby Covid-19 Facilities**

To be updated by Contractor's EHS Manager/ Site Managers.